Cumulative Disadvantage in the American Criminal Justice System

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Abstract
Research on inequality in punishment has a long and storied history, yet the overwhelming focus has been on episodic disparity in isolated stages of criminal case processing (e.g., arrest, prosecution, or sentencing). Although theories of cumulative disadvantage exist in criminology, they are seldom adapted to account for treatment in the criminal justice system. We provide an overview of the concept of cumulative disadvantage in the life course and review evidence on the development of cumulative disadvantages across stages of the criminal justice system. In doing so, we appraise the empirical research on policing, prosecution, and the courts and consider how these largely separate bodies of scholarship are inherently connected. We conclude with a call for future research that focuses more explicitly on the ways that life-course disadvantages shape contact with the criminal justice system and how these processes work to perpetuate patterns of disadvantage within the system and in subsequent life outcomes.
INTRODUCTION
In 1968, Robert Merton published a seminal paper in Science describing how some scientists are afforded special opportunities early in their careers that catapult them to scientific prominence while others with similar intellectual contributions remain relatively obscure. He described this phenomenon as the Matthew effect in reference to the above quotation from the Bible. From Merton’s perspective, some scientists were provided special opportunities early in life that contributed directly to the development of cumulative scientific advantages over time. In contrast, contemporary theories of social inequality maintain that negative events early in life can similarly trigger cascading effects that produce cumulative disadvantages in society. Although theoretical perspectives on cumulative continuity are well established and have clear implications for the study of crime and justice, scholars have only recently begun to unravel the complex web of interconnections through which early life events shape contact with the justice system and feed into inequalities across stages of criminal case processing. A passel of studies exists that investigate various sources of inequality in specific criminal justice outcomes including arrest, charging, and sentencing. However, little scholarship links this research or considers the inherent ways that sequential processing decisions are mutually dependent and interrelated. Some recent scholarship has begun to tackle this important issue, but studies of this ilk remain all too rare in criminology.

In this article, we provide a conceptual framework that draws connections between the theoretical roots of cumulative disadvantage, its unfolding over the life course, and its ultimate role in impacting treatment in the American justice system. We begin by reviewing the existing theoretical literature on cumulative disadvantage, emphasizing how diverse processes relate to both individual and systemic detriments across the life course of individuals. We then apply these ideas to research on the criminal justice system, considering the ways that disadvantages accrete across successive stages of case processing. We review extant work that examines inequalities at various points in the justice system and describe in detail the limited work that explicitly considers cumulative disadvantages across multiple system stages. We argue that future research requires a more holistic approach that explicitly considers how early life events shape contacts with, and responses within, the justice system, how early decisions in the system shape later punishment outcomes, and how these processes coalesce to reproduce and reaffirm divisions in society. We conclude by offering recommendations for ways that future empirical research can advance our understanding of cumulative disadvantages within the American criminal justice system.

THEORETICAL PERSPECTIVES ON CUMULATIVE DISADVANTAGE
Cumulative disadvantage can be defined as a process that encompasses the cumulative impact of a specific form of disadvantage over time and/or the accumulation of multiple, interactive forms of disadvantage, both within and across time points. The idea is commonplace within a variety of social-scientific research literatures (DiPrete & Eirich 2006), although it has yet to be fully developed in relation to research on the criminal justice system. The core notion is that the relative positions of specific groups or individuals diverge as preferential treatment, economic, social, and political resources and other tangible and intangible rewards or punishments differentially accumulate over time.
The extant literature offers two distinct approaches to understanding these processes. In the first, building upon the cumulative advantage literature begun by Merton (1968) and extended by others (Allison et al. 1982, Blau & Duncan 1967, DiPrete & Eirich 2006), cumulative disadvantage refers to temporal growth in inequalities that magnify preexisting differences between individuals or groups. It is thus distinct from simple inequality because it emphasizes the escalation of disparities over time in which preexisting levels of disadvantage are fundamental in determining future life chances. According to this perspective, disadvantage has an exponential form that compounds over time, the same way that interest on a credit card debt might grow in relation to the balance owed, the debt becoming harder and harder to pay off as the amount due increases each month.

In the second approach, cumulative disadvantage is envisioned as more of an additive and interactional process, comprising the persistent direct and indirect effects that status variables exert over the life course. This definition places greater emphasis on static group differences rather than pathways of growth in disadvantage over time. For example, race and ethnicity may have both direct and indirect impacts on life chances and have been shown to be directly related to discriminatory treatment (Blank et al. 2004, Korver-Gleen 2018, Pager & Shepherd 2008) but are also indirectly tied to other factors, such as wealth and socioeconomic status, health and nutrition, family structure, educational and employment opportunities, and neighborhood factors, including crime (Blau & Duncan 1967, Conley 1999, Loury 2003, Moynihan 1965, Sampson & Laub 1993, Walker et al. 2012, Wilson 2009). In this way, deprivations accumulate to magnify group differences. To return to the credit card example, in this context owing debt on multiple cards increases aggregate financial pressure, whereas the interest rate itself might depend on other exogenous factors like one’s credit score.

Combined, these approaches suggest cumulative disadvantage is a process that begins with early status differentials that affect future life chances, making them less optimal over time. In this way, structural sources of disadvantage can intensify subsequent inequalities in ways that systematically produce less favorable outcomes for certain individuals or groups in society. It is a progression that involves both stable individual differences, such as gender and race (Loeb 1982, Nagin & Paternoster 1991), and interactional exchanges and transitions over the life course (Elder 1985, Sampson & Laub 1993). For example, racial minority status increases the likelihood of experiencing poverty (Massey & Eggers 1990), which in turn is correlated with poor nutrition, impaired development, substandard schools, and exposure to violence (Duncan et al. 1998). These all represent pathways through which existing inequalities can be exacerbated such that the whole becomes greater than the sum of its parts. The stigma attached to multiple forms of disadvantage can also accumulate in this way, with outcomes becoming especially unfavorable for individuals who share multiple markers of disadvantage, such as young, male minorities from poor communities (Spitzer 1975, Tonry 2011, Wilson 1987).

Distinctions in the definitional conceptualization of cumulative disadvantage are important because they have important implications for how we measure it and for how likely we are to uncover evidence of its importance, both within and across stages of contact with the criminal justice system. If we define it strictly as temporal growth in inequality, longitudinal data are needed that track changes in individual and aggregate disparities over time and across stages of the system. If we believe it to involve time-specific, accumulated forms of overlapping disparity, then models examining indirect and interactive effects become paramount. If both of these processes are conjointly operant, alternative analytical approaches may be required. The different functional forms that cumulative disadvantage can take have been elucidated in detail elsewhere (Bask & Bask 2010, DiPrete & Eirich 2006) and applied to a variety of social-scientific questions, ranging from economic (Crystal & Shea 1990) and health (Krieger et al. 1997) disparities to the success of recording artists (Fox & Kochanowski 2004) and scholarly citation counts (Allison et al.
Empirical application in the field of criminology and criminal justice remains fairly limited, however, and has been focused primarily on developmental perspectives related to criminal offending.

**Developmental Perspectives on Cumulative Disadvantage**

Existing theoretical treatments of cumulative disadvantage in the criminological literature tend to integrate personal, social, and environmental influences into a fluid narrative of dynamic development that allows for direct, indirect, and reciprocal influences on crime and social control (Lemert 1951; Sampson & Laub 1993, 1997; Thornberry 1987). These perspectives can also be useful for understanding cumulative disadvantage in the criminal justice system by borrowing key constructs, like trajectories, transitions, and turning points (Caspi & Moffitt 1993, Elder 1985, Rutter & Rutter 1993, Sampson & Laub 1993), and applying them to treatment within the justice system. Trajectories involve the direction of one’s life course and are set in motion early in life. Over the life course, however, the individual navigates multiple transitions with each transition having the potential to be a turning point—for better or worse—that fundamentally changes a person’s individual trajectory. In the same way, the trajectory of criminal cases is shaped by factors experienced early in life and by key decision points that represent potential turning points in the life course of a criminal case.

Given the roots of these ideas in developmental theories, it is not surprising that Sampson & Laub (1997, p. 3) propose that the “idea of cumulative disadvantage draws on a dynamic conceptualization of social control over the life course integrated with the one theoretical perspective in criminology that is inherently developmental in nature—labeling theory.” Indeed, hints of cumulative disadvantage can be found in the work of early labeling theorists. For example, Lemert (1951) argued that social reactions to primary deviance could lead to secondary deviance, in part because it creates problems of prosocial adjustment. Sampson & Laub (1997) build these ideas directly into their age-graded theory of informal social control, suggesting that societal reactions to deviance begin early in life and accrue over time in ways that produce cumulative disadvantage.¹

As they suggest, deviant behavior can produce cascading effects on school performance, peer delinquency, and contact with the justice system—all of which increase the probability of future crime and punishment (Tittle 1988). Initial deviance can contribute to negative turning points by creating structural impediments, limiting future opportunity structures, increasing subsequent surveillance, weakening ties to conventional society, and initiating stigmatizing labeling processes that facilitate future delinquency (Liberman et al. 2014, Paternoster & Iovanni 1989, Sampson & Laub 1997). As these processes accumulate, more serious sanctions, such as stints of incarceration, can represent criminal snares that lead to the knitting off of future opportunities (Caspi & Moffitt 1993, Moffitt & Caspi 2001). Research further suggests that these patterns are intergenerational, with the sins of the father being paid by the child (Hagan & Palloni 1988, Sharkey 2013, Thornberry et al. 2003). Furthermore, the impact of these negative life events can be especially deleterious for groups who are already marginalized or disadvantaged in society, with criminal

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¹Two distinct pathways through which disadvantages can accumulate are interactional continuity and cumulative continuity. Interactional continuity is defined by Caspi et al. (1987, p. 309) as “interactional styles that evoke maintaining responses from others.” For example, perceived disrespect toward a police officer may engender less favorable treatment that further reduces initial levels of respect. Cumulative continuity is the accumulation of negative consequences over time, which places limitations on future choices and restricts opportunities for change (Sampson & Laub 1993). For example, a criminal record can reduce employment opportunities and restrict legitimate opportunities in ways that lead to future crime (Apel & Sweeten 2010; Pager 2003, 2008).
sanctions interacting with structural barriers to exert more serious effects on lower-class individuals who have fewer resources to escape deviant labels (Hagan 1991, Paternoster & Iovanni 1989).

Indeed, although there are many studies that demonstrate childhood misbehaviors are associated with myriad adult antisocial outcomes (Caspi et al. 1987, Hirschi & Gottfredson 1993, Robins 1966), rather than attributing such correlation to an underlying propensity to commit crime (Osgood & Rowe 1994), developmental theory suggests these connections are largely illusory (Farrington 1986, p. 373), reflecting instead the interactional and structural processes set in motion by early life experiences. It is therefore essential to consider the many ways that early life experiences shape the likelihood of coming into contact with the justice system in the first place, as well as how they condition the individual response to and reaction from the criminal justice system.

Early Life Course and Precursors of First Contact

Theoretically, cumulative effects begin with the earliest life events and follow individuals throughout the life course and even into future generations. According to the age-graded theory of crime (Sampson & Laub 1993), individuals start life with differing socio-structural characteristics, including family socioeconomic status, race, gender, and even birth order, that set their life trajectory in motion. These differences can lead to disparity in the likelihood of contact with the justice system both through differences in the prevalence of delinquent behaviors and through unique interactions in different social environments, such as schools and communities that are more likely to be subject to formal social control. Therefore, to properly conceptualize cumulative disadvantage in the life course, it is necessary to acknowledge the diverse range of factors that are potentially implicated, not only within the criminal justice system but across a broad range of varied spheres, including but not limited to health, nutrition, education, employment, income, marriage, and neighborhood contexts (NRC 2004).

Although a comprehensive treatment of all these factors is beyond the scope of the current review, we begin with an acknowledgment of their importance because they provide the backdrop for understanding how early contact with the criminal justice system can set the gears of (in)justice in motion. As pointed out by Tonry (2015), individuals who experience contact with the system have much in common. Specifically, he notes social ills such as poverty, history of child abuse and/or unstable homes, school failure, and drug and alcohol abuse. Hence, the life trajectory is already troubled. Furthermore, social ills are not equally distributed in society but often cluster together in predictable patterns that can interact in reciprocal ways to produce compounding disadvantages over the life course as individuals come in contact with institutions of formal social control. As an example, the school is the first formal structure of social control encountered by most youths outside of the family setting. It sets the stage for many later life outcomes, yet youths from disadvantaged backgrounds may enter school ill-suited to live up to the middle-class standards by which they will be judged (Cohen 1955). Academic failures, truancy, disciplinary actions such as suspension and expulsion, and the presence of police in schools can directly affect a youth’s probability of a first contact with the criminal justice system. Children who are disciplined in school, for example, experience lower school performance (Gottfredson et al. 2005) and higher dropout rates (Sweeten 2006), and early labeling experiences increase delinquent peer associations (Wiley et al. 2013) and contact with the justice system (Liberman et al. 2014, Mowen & Brent 2016). Indeed, race and school discipline have become so intertwined that for some the process has been deemed the school-to-prison pipeline (Wald & Losen 2003), with studies showing that a young African-American male has a greater likelihood of going to prison than graduating high
school or going to college (Pager 2007). Although the school experience is just one small piece of the life-course puzzle in which early disadvantages shape future life chances, it provides an illustrative example of how intertwined various realms of social life can become with the criminal justice system.

**Cumulative Disadvantage in the Criminal Justice System**

Although extant theories of cumulative disadvantage acknowledge the potential importance of contact with the criminal justice system, they provide little discussion of the underlying processes that can lead to cumulative disadvantage within the criminal justice system. Just as critical events at different developmental stages of the life course can redirect individual life trajectories, key decision points within the justice system can alter the case-processing trajectory in ways that produce accumulated disparities across sequential steps in the punishment process. As such, there is special utility in applying a life-course approach to the study of criminal case processing (Johnson 2015, Kutateladze et al. 2016, Wooldredge et al. 2015). This suggests a broader investigation that explicitly considers how earlier decisions shape later outcomes, how relatively minor inequities can build over time, how individual disparities are often mutually conditioned by other case and defendant characteristics, and how inequalities can be explicitly built into existing legal structures in the justice system. From this perspective, cumulative disadvantage in the criminal justice system specifically refers to the potentially discriminatory effects that accrue across criminal justice domains and over time, where the emphasis is on dynamic and systemic processes that accentuate unequal treatment and disparate outcomes in criminal punishments (NRC 2004).

Traditionally, theoretical explications of disparate criminal justice outcomes have focused on understanding the decision-making processes of individual system actors or broader societal forces that shape patterns of punishment. Extant perspectives tend to focus on the capacity of specific actors to make discrete decisions that lead to the unequal treatment of similarly situated defendants in isolated domains of the justice system, such as law enforcement (Black & Reiss 1970, NRC 2003, Smith & Davidson 1984, Worden 1989), prosecution (Albonetti 1986, Shermer & Johnson 2010, Spohn et al. 2001), sentencing (Hogarth 1971, Steffensmeier et al. 1998, Ulmer & Johnson 2004), and corrections (Lin et al. 2010, Poole & Regoli 1980).

Existing perspectives emphasize that punishment decisions are the result of a complex information gathering process that draws upon social attributions grounded in past experience, situational and environmental cues, and societal stereotypes in ways that can exacerbate and compound the disadvantage of some groups over time (Albonetti 1986, Bridges & Steen 1988, Skolnick 1966). Conflict perspectives, for example, emphasize that legal decision-making systematically favors politically powerful members of society and disadvantages members of the lower social classes (Chambliss & Seidman 1971). Similarly, Black (1976) argues that the exercise of law increases with the social distance of actors. From this vantage point, less empowered groups are expected to receive less favorable outcomes across all stages of the justice system. Therefore, these mechanisms serve to perpetuate existing inequalities and may lead to feedback loops that contribute further to cumulative disadvantages in other life domains (NRC 2004).

Although the conflict tradition suggests a purposeful disadvantage of marginalized groups in society, organizational perspectives offer a slightly different explanation in which system actors, operating under time and information constraints (Simon 1959), rely on decision-making short-cuts, or cognitive heuristics, to assess culpability and dangerousness. Defendant characteristics, such as race, gender, and social class, may in this way be implicitly rather than explicitly linked to evaluations of social harm, blame, and perceived risk of future offending (Albonetti 1987, 1991; Hawkins 1986; Steffensmeier et al. 1998). To the extent that stereotypical attributions tie certain
types of defendants to enhanced perceptions of culpability, danger, and future risk, they are also likely to produce systematic disadvantages across stages of the justice system.

However, the relative salience and interpretation of individual and situational considerations can vary across different actors in the justice system. For example, police may be especially concerned with suspect demeanor and the threat of danger (Black & Reiss 1970), probation officers with individual life circumstances, such as employment and housing stability (Fine et al. 2017), prosecutors with likelihood of conviction and strength of evidence (Eisenstein 1978), and judges with relative blameworthiness and deservedness of punishment (Frase 2005, Hogarth 1971). Our contention is not that the same decision-making criteria hold equal salience for all actors but rather that net of these criteria, certain qualities of defendants can lead to systematic patterns of inequitable treatment. This reflects the fact that decision-makers at different points in the system tend to share similar stereotypes about defendants (NRC 2004).

Furthermore, because system actors have shared objectives, face overlapping resource constraints, and are often dependent on one another to achieve organizational goals, disparities that arise at one stage may be replicated at other stages, resulting in a consistent pattern of disadvantage in decision-making. At the same time, earlier decisions also serve as important signals to downstream actors. In this way, early sources of disparity can have compounding effects that increase inequalities across stages of the punishment process. As such, expectations about not only the behavior of the offender but also the likely behavior of other system actors often shape case-processing decisions in important ways (Bibas 2004, Eisenstein & Jacob 1977, Skolnick 1966).

The available research implies that input from earlier justice actors has powerful influences on later decision-making processes. For example, judges often rely on sentencing recommendations from other court actors when making sentencing decisions (Alschuler 1976, Johnson et al. 2010, Leiber et al. 2011). At the same time, expectations about future case outcomes can also shape the decisions of earlier actors. Police officers may limit arrests for crimes that they know a prosecutor will not charge, prosecutors may not charge cases they think a judge or jury will acquit, and judges will be reticent to impose sentences that are likely to be reversed on appeal (Bibas et al. 2009, Eisenstein & Jacob 1977, Spears & Spohn 1997). The interdependent nature of the different stages of the criminal justice system means that even seemingly small inequalities at incremental stages can generate sizeable disparities in aggregate punishment. This, in turn, suggests the need for statistical models that can capture the joint and interactive effects of defendant characteristics across sequential outcomes as well as potential nonrecursive influences and feedback loops in the accumulation of cumulative disadvantages in the justice system.

Furthermore, specific constellations of defendant characteristics have been shown to work in concert to accentuate disparate outcomes. To the extent that some defendants are treated more punitively because of specific combinations of background characteristics, this represents another form of cumulative disadvantage (Zatz 1987). For example, research indicates that young black or Hispanic males are often singled out for the harshest treatment (Steffensmeier et al. 1998, US Sentencing Comm. 2017), especially when unemployed (Spohn & Holleran 2000) or charged with drug or weapons offenses (Shermer & Johnson 2010, Steffensmeier & Demuth 2000). This suggests that cumulative disadvantage must be explored not only across system stages but also among constellations of key defendant characteristics as well.

Theoretically, there are several distinct ways that cumulative disadvantages can accrue in the criminal justice system. First, justice actor decisions may reflect individual assessments of dangerousness and culpability that are grounded in shared stereotypes and past experiences with individuals who come into contact with the system (i.e., static status effects). Second, initial appraisals of dangerousness and culpability may send signals to later system actors, setting into motion a dynamic pattern of cascading disadvantage (i.e., compounding effects). Thus, certain
defendant and case characteristics are likely to exert influences across decision-making domains in which even small impacts at individual stages accumulate to create consequential differences in aggregate punishments (NRC 2004). Third, individual inequalities may be further exacerbated when considered in combination with other defendant or victim characteristics (i.e., interactive effects). Finally, cumulative disadvantages may also reflect systemic biases in criminal justice policy rather than the behaviors of individual justice system actors (Bushway & Forst 2013), and this also represents an important and underappreciated source of cumulative inequalities in punishment (i.e., structural effects).

Although scholars have long recognized the potential for cumulative disadvantages to shape outcomes in the criminal justice system, empirical scholarship investigating these effects remains surprisingly rare. As the National Research Council (2004, p. 224) on racial discrimination recently concluded, “Very little research has attempted to model or estimate cumulative effects,” and this is especially true when it comes to the criminal justice system. Most of the existing empirical literature focuses only on episodic disparity in one system point of contact and on direct rather than indirect, additive, or cumulative effects (Baumer 2013, Blumstein et al. 1983, Kutateladze et al. 2016). The scholarly literature on social inequalities in the punishment process is voluminous and precludes a comprehensive review of all relevant work on the topic. With this caveat in mind, the following sections summarize some of the key findings on inequality and punishment across stages of the justice system, highlighting the ways that sequential processes can contribute to cumulative disadvantages over the life course of criminal cases for different criminal defendants.

POLICE DISCRETION AND SOCIAL DISADVANTAGE

Most often the first encounter a citizen has with the criminal justice system is a police officer, which may or may not result in an arrest. Police officers, like other justice actors, are often called on to make consequential decisions in a limited timeframe with incomplete information (Smith & Visher 1981). Much of the early work on policing began with the study of juvenile offenders. One of the first influential studies of police contact with citizens was conducted by Piliavin & Briar (1964) and addressed the characteristics of juvenile offenders that influenced the probability of an arrest. These researchers found that key characteristics of the offender influenced the police officer’s decision to arrest. Although offense seriousness mattered for the most heinous transgressions, in less serious offenses officers relied heavily on interactional cues to assess the youth’s character and culpability, including their race, dress, grooming, group affiliations, and demeanor. Similarly, Black & Reiss (1970) found that much of the racial disparity they observed in juvenile arrests was explainable by external factors, including offense seriousness, citizen requests for an arrest, and, importantly, the youth’s interpersonal demeanor.

These early studies were among the first to shine the spotlight on the role of extralegal and contextual factors in determining legal outcomes. As summarized by Skolnick (1966, p. 45), “the policeman...develops a perceptual shorthand to identify certain kinds of people as symbolic assailants.” This description is in line with criminal justice theories that emphasize the need to make important decisions with incomplete information, although it does not directly address the question of how these perceptions shape developmental and structural patterns of cumulative disadvantage.

Other research addresses this issue more directly. Jacob (1971) found that African Americans were more likely to view the police as unfair, corrupt, and harsh—a finding that has been since replicated in a great deal of research (Decker & Smith 1980, Frank et al. 1996, Thomas & Hyman 1977) and linked to issues of procedural justice and police legitimacy (Gau & Brunson 2010, Tyler & Waksal 2004). If preconceived attitudes impact the demeanor of suspects when they encounter
the police, and prior research has shown demeanor to be a key factor in arrest decisions, then these interactional patterns are likely to impact arrest decisions. Indeed, Black (1971) finds that although black youth are more likely than white youth to experience arrest, the difference disappears after accounting for demeanor, suggesting that it reflects situational responses on the part of the police rather than overt racial discrimination.

The fact that cues to arrest are also taken from an individual’s grooming and dress further suggests that it is not only race but other conditions related to poverty and neighborhood context that disadvantage certain youth. Furthermore, because American society is stratified and segregated by race and social class, police tend to respond differently to situational cues in different neighborhood contexts (Smith 1986). For example, an officer patrolling a neighborhood with high gang activity is more likely to view dress (e.g., colors) and tattoos as context cues for gang association. With many jurisdictions adopting aggressive policing and arrest tactics to address gang activity (Decker 2003, White 1995), any such cues, whether real or not, could significantly impact arrest decisions. In line with this, Smith (1986, p. 337) found that police initiate more contacts with suspects in racially mixed neighborhoods and that neighborhood factors shape their perceptions of suspicious behavior in important ways, leading him to conclude that “police patrol both people and place.”

It is also telling that citizens request an arrest more often when a suspect belongs to a minority group. Early work by Black (1971) reported that the probability of arrest is highest when the citizen has the most social distance from the alleged offender, suggesting these relations shape the exercise of formal social control. Additional studies suggest that the police themselves may in fact be “more responsive to white victims of crime” (Smith et al. 1984, p. 234). An important and underappreciated implication of this work is that any potential bias in police arrest behaviors (e.g., Kochel et al. 2011) contributes directly to the greater accumulation of arrest records, and criminal history is one of the most important predictors of downstream punishment decisions. Both prosecutors’ charging decisions and judicial sentencing decisions are explicitly tied to assessments of prior criminal history (Kutateladze & Lawson 2017, Spohn 2000), and most sentencing guidelines systems use criminal history as one of the two primary axes for setting presumptive punishments (Frase 2012). Bias in police practices can therefore contribute indirectly and substantially to cumulative disadvantages through the impact that criminal history exerts on later stages of the punishment process.

It is also important to note that not all individuals have an equal probability of coming into contact with law enforcement. This fact, although long realized (Klinger 1997), has come to the forefront in recent years with Supreme Court rulings that have expanded the stop-and-frisk powers of the police (Florida v. Bostick 1991) as well as the ability to initiate traffic stops based on minor rule violations (Harris 1999, Lundman & Kaufman 2003). A number of studies find that stop, question, and frisk practices contribute to disparities in the criminal justice system (Alpert et al. 2005; Gelman et al. 2007; Weisburd et al. 2014, 2015; Goel et al. 2016; but see Neil & Winship 2019). Goel et al. (2016), for example, reported that the overall likelihood of finding a weapon was quite low even though blacks and Hispanics were disproportionately stopped and searched. The authors suggest that officers may have lower thresholds for stopping racial and ethnic minorities relative to similarly situated whites, especially in high-crime, low-income areas. Related work also reports evidence of disparate traffic stops (Alpert et al. 2005, Engel & Calnon 2004, Rojek et al. 2004) and differential treatment following traffic stops (Alpert et al. 2007, Ridgeway 2006, Rojek et al. 2012, Tillyer et al. 2012), although some have questioned the validity of these findings (Engel 2008, Grogger & Ridgeway 2006, Neil & Winship 2019).

Research also suggests that arrest disparities may result from differential police deployment and enforcement in some communities. Hot-spots policing, for example, is designed to target
neighborhoods, blocks, or even intersections known to be common locations for crime, particularly when it comes to illegal drug markets (Braga 2001, Weisburd & Telep 2014). However, this means that individuals who live in or near one of these areas are at increased risk for police intervention in their lives. As stated by Bishop (2005, p. 40), “neighborhood characteristics structure the exercise of police discretion in ways that make youths of color more vulnerable.” Beckett et al. (2006) similarly show that minority overrepresentation in drug arrests at least partially reflects the differential targeting of outdoor drug markets by police, and qualitative interviews confirm that “because of the more public, highly visible nature of drug markets in inner city communities, arrests are much easier to make than in suburban areas” (Barnes & Kingsnorth 1996, p. 43). To the extent that some suspects are more likely to come into contact with the police or experience differential treatment at the hands of the police, this can affect how they are processed through subsequent stages of the justice system.

CHARGING, GUILTY PLEAS, AND CONVICTION

One of the most important and least understood stages of the justice system involves the initial intake and charging decisions of criminal prosecutors. American prosecutors have enormous discretionary power. Most scholars agree that their influence has increased substantially in recent decades as sentencing reforms have targeted the sentencing discretion of judges (Bibas 2001), yet relatively little empirical work investigates prosecutorial decision-making or its consequences for cumulative disparities in punishment (Johnson et al. 2016, Kutateladze et al. 2014, Sklansky 2018).

There are persuasive reasons to expect that charging decisions are important for shaping patterns of inequality in criminal justice outcomes. In most jurisdictions, prosecutors have unbridled discretion to accept cases for prosecution, alter or dismiss charges, and negotiate plea agreements that substantially determine sentencing outcomes. Because the overwhelming majority of criminal convictions are the result of a guilty plea (Reaves 2013), charging and plea-bargaining decisions are highly consequential. Furthermore, the charging decision often constrains the sentencing options available to the judge, lending intrinsic power to sculpt the contours of sentencing disparity. If a prosecutor elects to decline a case for prosecution, it is effectively removed from the system (Davis 2007). Prosecutors have free rein to dismiss charges or alter them during plea bargaining (Sklansky 2018), and they also control various sentencing enhancements, including mandatory minimum and career offender statutes (Crawford et al. 1998, Ulmer et al. 2007), as well as various pretrial diversion options (Albonetti & Hepburn 1996, Schlesinger 2013). All of these decisions can have direct implications for the accumulation of disparities in the later stages of the justice system. In some cases, such as the discretionary decision to withhold adjudication of guilt, defendants escape the label of convicted felon altogether (Bontrager et al. 2005).

Empirical evidence for inequalities in charging outcomes is found in numerous studies (Johnson et al. 2016, Kutateladze et al. 2012, Wu 2016). In addition to establishing the seriousness of the initial charges, prosecutors also control various discretionary charging options. Some research suggests that they offer less favorable plea deals to minority defendants (Kutateladze et al. 2014, Piehl & Bushway 2007) and are less likely to divert them into alternative programming (Schlesinger 2013), and that male and minority defendants are more likely to receive mandatory minimum enhancements, particularly in drug cases (Caravelis et al. 2011, Crawford et al. 1998, Ulmer et al. 2007). Certain types of defendants are therefore subject to substantially lower floors and higher ceilings of criminal punishment based on charging decisions (Starr & Rehavi 2014).

However, it is also not uncommon for research to find limited or no evidence of discrimination in charging outcomes (e.g., Franklin 2010, Holmes et al. 1987, Kingsnorth et al. 1998, Wooldredge et al. 2005). For select outcomes, like case dismissals, some studies even find that
minority defendants fare better than white defendants, although scholars often point out that this likely reflects prosecutorial corrections to bad arrests or other problems with the quality of case evidence (Barnes & Kingsnorth 1996, Gelman et al. 2007). This finding overlaps with policing research that suggests police stop, search, and arrest minorities with less evidence (Coviello & Persico 2015), and it highlights the necessity of examining multiple stages of the charging process, including initial case acceptance, dismissals, and subsequent plea negotiations. Although disadvantages may accrue across these successive decisions, disparities at one point can also be partially mitigated or offset. Overall, summary reviews of racial disparities in prosecution imply that “it is not always blacks or Latinos and Latinas who are treated more punitively” (Kutateladze et al. 2012, p. 7).

Only rarely has research considered more than one charging decision or attempted to more formally assess the impacts of prosecutorial discretion on downstream punishment processes (Barnes & Kingsnorth 1996, Kutateladze et al. 2014, Shermer & Johnson 2010). Research in this vein demonstrates the fundamental importance of charging decisions in the determination of sentencing outcomes. Studies of charge bargaining consistently show that negotiated pleas produce notable discounts in sentence severity. Piehl & Bushway (2007), for example, demonstrated that charge bargains substantially reduced expected sentences, especially when felonies were downgraded to misdemeanors, and that these effects were especially pronounced in states with more structured sentencing systems. In the federal courts, Shermer & Johnson (2010) estimated that the receipt of a charge reduction reduced average sentence lengths by nearly 20%.

What this implies is that the charging and plea-bargaining decisions of prosecutors can have ripple effects on the accumulation of punishment disparities. Substantial work indicates that defendants who do not plead guilty are subject to a trial penalty in sentencing (Johnson 2003, King et al. 2005, Ulmer et al. 2010). King et al. (2005, p. 959) investigated this issue for multiple offense types across five states and found that although none of the states explicitly “authorizes judges to vary sentences based upon whether or not a defendant waived his right to a jury trial... a significant plea discount was evident for most offenses in all five states.” Because defendants who received the most favorable plea offers were most likely to plead guilty and subsequently enjoy the ameliorative impact of plea discounts, disparities in plea bargaining can translate into significant disadvantages in sentencing. In line with this, research findings indicate that minority defendants are less likely to plead guilty, and may plead less quickly, placing them at greater risk for experiencing trial penalties in sentencing (Albonetti 1990, LaFree 1980, Metcalfe & Chiricos 2018, Tonry 2012).

**JAIL OR BAIL? PRETRIAL DETENTION DECISIONS**

In addition to charging decisions, another critical pretrial outcome is the gatekeeping mechanism of the decision to hold the accused in jail pending trial (Goldkamp 1979). This decision is critical not only because it is the first stage in which one’s liberty can be taken but also because pretrial detention substantially conditions other punishment decisions (Stevenson 2017).

Pretrial detention is utilized for two reasons: to avoid flight of the defendant before trial and to prevent harm to the community (Bail Reform Act; 18 USC §§ 3141–31–50). Early bail reform movements lobbied for decreased reliance on financial release mechanisms, in part because pretrial detention was associated with unwarranted economic disparity. Research by the Vera Institute of Justice, for instance, demonstrated that most defendants showed up for trial and argued for increased use of release on recognizance, with community ties being used as a proxy for flight risk. Although the goal of reducing financial bail was laudable, replacing it with community ties
produced similar potential biases because factors like education, employment, and residential mobility are all correlated with socioeconomic disadvantage (Goldkamp 1977).

Today, American courts rely heavily on financial release procedures. Not surprisingly much of the research reports vast racial, ethnic, and socioeconomic disparities in pretrial release status (Chiricos & Bales 1991, Demuth 2003, Demuth & Steffensmeier 2004, Schlesinger 2005, Spohn 2009), with black and Hispanic defendants more likely to be detained than similarly situated white defendants. This work demonstrates not only biases in bail amounts but also important socioeconomic differences in the ability to pay bail or post bond. For example, Albonetti (1989) examined stratification resources that included race, income, and education. She found that even though race had a negligible impact on its own, when considered with socioeconomic factors, bail produced stark racial differences in release, leading her to conclude that white defendants receive a better return on their financial resources in pretrial hearings.

A substantial research literature also finds consistent evidence that bail status exerts important influences on other case outcomes, including guilty plea decisions, case dismissals, charge reductions, and sentencing determinations (Hagan 1975, Schlesinger 2008, Spohn 2009, Stevenson 2017, Wooldredge et al. 2015). Studies find that defendants who are detained prior to trial are more likely to be convicted and that they receive significantly harsher sentences. For example, Schlesinger (2008) examined bail amounts, ability to pay, and the use of nonfinancial release in felony drug cases and reported that race not only exerted direct impacts on later sentencing outcomes but also operated indirectly through pretrial outcomes. Similarly, Wooldredge et al. (2015) uncovered important indirect effects of race on sentencing that operated through pretrial detention and bail amounts as well as the ability to hire a private attorney, and Stevenson (2017) showed that these effects also impact the probability of conviction, in part because detained individuals are more likely to plead guilty.

THE SENTENCING PROCESS: PRISON AND ITS ALTERNATIVES

Since the early observations of Thorsten Sellin (1928, p. 59) that black defendants are not only convicted more frequently than whites but also receive heavier sentences, academic attention has been focused on differential treatment in sentencing. Although some early work questioned the evidence for inequality in sentencing (Zatz 1987) and researchers continue to debate the substantive magnitude and practical significance of these inequalities (Kleck 1981, Spohn 2000, Wilbanks 1987), most agree that the weight of the evidence suggests individual defendant characteristics continue to shape judicial sentencing decisions in important ways. Recent meta-analyses confirm this conclusion for gender (Bontrager et al. 2013) and race/ethnicity (Mitchell 2005) but not for age (Wu & Spohn 2009). In general, female defendants are sentenced less severely than male defendants and white and Asian defendants are sentenced less harshly than other racial minority groups, particularly when it comes to the incarceration decision (Baumer 2013, Johnson & Betsinger 2009, Koons-Witt 2002, Spohn 2000, Ulmer 2012). Research on other correlates of social disadvantage, including socioeconomic status, poverty, and income, is surprisingly rare in the literature, which reflects the fact that they are seldom captured reliably in public sentencing data (Chiricos & Waldo 1975, Spohn 2000). Furthermore, sentencing inequalities often vary considerably across jurisdictions and may also differ among court actors within jurisdictions (Johnson 2006, Ulmer & Johnson 2004). Although research findings remain inconsistent, some studies suggest that sentencing disparities are more pronounced in the context of large or growing minority populations (Johnson et al. 2010, Wang & Mears 2010). Research suggests that many of the aggregate, raw disparities in sentencing are attributable to relevant legal and case-processing factors, although residual race and gender differences typically remain (Ulmer et al. 2016).
Given the evidence for social disadvantage at various stages of the justice system, disparity estimates from any given stage are likely to underestimate the full impact and importance of various punishment inequalities. This is especially true for sentencing decisions because they represent the final stage of the formal punishment process and are therefore subject to the conditioning influences of multiple prior decisions. Police arrest behaviors, prosecutors’ charging decisions, pretrial detention status, presentence investigations, and sentencing recommendations from multiple court actors can all sway a judge’s sentencing behavior in consequential ways (Johnson et al. 2010, Leiber et al. 2011, Pruitt & Wilson 1983, Shermer & Johnson 2010, Stevenson 2017). Johnson et al. (2010), for example, found that the ability to explain sentencing decisions in homicide cases more than doubled once prosecutor recommendations were considered. Most sentencing research, however, merely controls for the influence of presenencing processes, which means that standard estimates of disadvantage fail to capture the accumulating effects of earlier processes on final punishment outcomes. If police disproportionately arrest, prosecutors dissimilarly charge, or magistrates unequally detain certain classes of criminal defendants, statistically controlling for prior records, current charges, and pretrial detention obviates rather than illuminates the aggregated impacts of these factors in final sentencing estimates. In this way, important cumulative disadvantages typically remain uncaptured in most extant sentencing research.

Another limitation of current sentencing research involves the limited focus on incarceration as the primary outcome of interest. Other judicial decisions receive far less attention, although they may be even more important for understanding cumulative disadvantages. With the promulgation of sentencing guidelines, judicial decisions to conform to, or deviate from, guideline recommendations have emerged as an important form of sentencing disparity, with studies demonstrating that defendant characteristics are often significantly related to these highly discretionary decisions (Johnson 2005, Kramer & Ulmer 1996, Spohn & Fornango 2009). Judges also decide the eligibility and suitability of various alternative sentencing options. In some states, judges can discretionarily substitute intermediate punishments for terms of incarceration, and although few studies investigate the issue, the available research indicates this represents another important source of social stratification in sentencing (Engen et al. 2003, Johnson & DiPietro 2012). Recent work also argues persuasively for the importance of financial penalties in sentencing that include fines, fees, and restitution (Martin et al. 2018). Although relatively little empirical work focuses specifically on monetary penalties (Gordon & Glaser 1991), they are among the most common judicial sanctions (Ruback & Bergstrom 2006) and hold considerable power to exacerbate economic inequality in ways that systematically disadvantage indigent defendants. Judges also maintain carte blanche over other consequential details of defendant sentences that are seldom scrutinized, such as the number, type, and restrictiveness of probation conditions in noncustodial sentences. Restrictive terms of probation are important because they lead to higher scrutiny of the individual and are likely to result in revocation, thus cycling the offender back into the criminal justice system (Janetta et al. 2014).

In addition to inequalities that can build across multiple sentencing decisions, another important type of cumulative disadvantage involves the interactive effects of specific constellations of individual defendant characteristics (Doerner & Demuth 2010, Spohn & Holleran 2000, Steffensmeier et al. 1998). Studies commonly report that the main effects of age, gender, and race are magnified when examined in concert. Steffensmeier et al. (1998), for example, show that young, male minorities are singled out for the harshest punishments, and Spohn & Holleran (2000) demonstrate that these effects extend to Latinos and are even more pronounced for unemployed defendants. Furthermore, certain victim characteristics can also aggravate punishment disparities. In particular, cases that involve female or white victims often result in more severe sentences (Curry et al. 2004, LaFree 1980, Stewart et al. 2018), effects that are especially pronounced in
capital punishment cases (Baldus et al. 1990, Eberhardt et al. 2006, Kramer et al. 2017, Paternoster & Brame 2008). Finally, there is also some evidence that inequalities are more pronounced among certain crime types. Racial disparities in federal sentencing, for example, tend to be exacerbated in drug and weapons offense cases (Johnson & Betsinger 2009, Starr & Rehavi 2014, Steffensmeier & Demuth 2000).

Relative to the voluminous literature on sentencing disparity, less empirical work focuses on the role of postsentencing outcomes in the accumulation of disadvantage. Early research showed that prison infractions were more likely to be officially reported when they involved black rather than white inmates and suggested this served to amplify racial biases in subsequent sanctioning decisions (Poole & Regoli 1980). More recently, Lin et al. (2010) reported substantial disparities in parole revocations, with male and minority defendants being significantly more likely to be reimprisoned after a parole violation. Furthermore, related work suggests the revocation process often has significant consequences on other life outcomes, such as financial earnings (Harding et al. 2017). Finally, recent research exploring judicial determinations to seal or not seal a criminal record indicates the potential for racial disparities as well (Kurlychek & Washington 2017). As the visibility of a criminal record has implications that reach far beyond the boundaries of the criminal justice system, this decision has the potential to further amplify inequalities in employment, income, housing, and other postrelease outcomes.

One final and underappreciated source of potential cumulative disadvantages in punishment involves structural sources of inequality that are built directly into the criminal law itself. Bushway & Forst (2013) make distinctions between two types of discretion: first, the everyday decisions of police, prosecutors, and judges; second, the discretionary power of legislators and policy makers who establish the formal legal rules that guide actors in the justice system. The second type of discretion is immensely important, although it often goes omitted from treatments of inequality in justice. Most empirical research focuses on individual court actor discretion rather than considering the many ways that sentencing (and other criminal justice) policies work to reproduce inequalities in society.

The infamous 100:1 federal punishment ratio for crack versus powder cocaine provides an illustrative example. Defendants had to have 100 times more powder cocaine, a drug used disproportionately by white defendants, to invoke the same mandatory minimum sentencing requirements as crack cocaine, a drug associated more frequently with African-American defendants (Tonry 1995). This policy institutionalized racial disparities in federal drug sentencing. Congress eventually recognized this fact and reduced but did not eliminate the disparity (Pub. L. 111–220, 124. 16. Stat. 2372, 111 U.S.C. § 1789). Researchers interested in investigating cumulative disadvantages in the justice system typically begin with the assumption that legal criteria offer legitimate starting points for assessing unwarranted disparity, without considering the possibility that legal factors themselves can create systemic biases. In many ways, structural sources of discrimination in the criminal law have far more power to shape patterns of cumulative disadvantage than the decisions of individual actors, although they are seldom critically appraised.

**UNIQUE ASPECTS OF YOUTH PROCESSING: HEIGHTENED STAKES OF DISADVANTAGE**

Although many of the same mechanisms that contribute to potential disparities in criminal justice outcomes apply equally to juvenile and adult offenders, there are a number of aspects that are unique to the juvenile courts. The juvenile courts were founded on principles of rehabilitation and treatment rather than punishment, with the goal being to provide services in the best interests of the child rather than punishments to fit the crime. Such an approach naturally requires a
more individualistic application of justice. Although the goal is benevolent, the realization is a potentially heightened capacity for bias as extralegal considerations take central significance. Although a comprehensive treatment of inequality in juvenile justice practices is beyond the scope of the current review, a number of aspects are noteworthy for their distinct potential to contribute to cumulative disadvantage.

First, following a police contact, juvenile case processing differs from adult case processing. Special rules apply to how long police can hold juveniles before releasing them to a parent or guardian, so the availability and cooperation of a parent or guardian can be a key factor in the outcomes of juvenile arrests. Studies document that police are less likely to make a formal arrest of a juvenile when a parent is available, cooperative, and viewed as able to control the youth (Bishop & Frazier 1995, Bynum & Wordes 1995). With officers more likely to view single mothers as less able to control their sons (Bishop & Frazier 1995), and African Americans being more likely than other social groups to have single-parent households (US Census 2013), this is one way that social disadvantages in family circumstances can contribute to broader patterns of inequality in the juvenile justice system.

Second, once an arrest is made, an intake probation officer typically reviews the case and decides whether to handle it informally or formally petition the case to court. An important aspect at this stage is that the probation officer’s investigation includes not only accumulation of evidence (as might a prosecutor’s in adult court) but also a social history of the youth, including family circumstance and school performance. In this manner, factors such as academic success and family circumstances that are typically considered extralegal factors in adult court become legitimate determinates of early case outcomes in the juvenile justice system.

Furthermore, these early decisions are important for later outcomes. First, the decision to petition determines whether or not the youth has a formal juvenile record. Second, as in adult court, the youth can be detained prior to his/her hearing, but, unlike adult court, bail is rarely an option. Being detained prior to adjudication has been shown to have severe negative impacts on later case outcomes (Kempf-Leonard & Sontheimer 1995, Leiber & Fox 2005, Rodriguez 2010). Research also suggests that these early decisions are influenced by other markers of disadvantage such as race, family circumstance, and school performance. For instance, Bishop & Frazier (1988) found that blacks were more likely to be recommended for formal handling rather than for diversion, and other work suggests race may interact with other markers of social disadvantage, such as school failure (Leiber & Jamieson 1995) or family difficulties (Kirk & Griffith 2008), to lead to minority overrepresentation in the juvenile justice system.

Third, the juvenile sentencing process differs from adult court in its philosophical emphasis on rehabilitative dispositions tailored to the best interests of the child. This corresponds to greater judicial discretion in the individualization of juvenile sentencing dispositions. Compared to the adult court, relatively less empirical research focuses on juvenile sentencing outcomes; however, the studies that do exist suggest that African Americans generally receive harsher sentences (Bishop et al. 2010, Fader et al. 2014, Leiber & Johnson 2008, Leiber & Mack 2003). Furthermore, similar to what is found in studies of adult court, Leiber & Fox (2005) report that race does not only impact juvenile sentencing decisions directly but also interacts with other status characteristics such as gender, type of crime, family status, and pretrial detention.

Finally, perhaps the most unique aspect of the juvenile justice system involves its direct relationship to the adult system. In all fifty states, legal provisions exist for transferring youth to criminal court (Feld 2017). In many states, prosecutors can discretionarily request a case be waived to adult court, and in fifteen states the prosecutor has sole authority to decide in which system the charges are filed for designated felonies. This represents a potentially stark form of disadvantage,
as adult court outcomes can be significantly more severe than juvenile court options (e.g., most juvenile courts have authority over a juvenile only until their twenty-first birthday, limiting the length of a sentence). Statistics show that African-American youth are up to 18 times more likely than white children to be sentenced as adults; they represent 58% of children sentenced to adult facilities despite being only 12–13% of the overall population (Poe-Yamagata & Jones 2007). Even after accounting for other legally relevant factors, race has direct and interactive effects with gender and crime type (particularly for drug offenses) on the probability of transfer (Hamparian et al. 1982; Fagan et al. 1987; Feld 1987, 1999; Feld & Bishop 2012; Poe-Yamagata & Jones 2000). Finally, it is worth noting that inequalities that emerge in the juvenile justice system may hold special salience because negative experiences early in life have the greatest potential to alter life trajectories.

MULTISTAGE STUDIES OF CRIMINAL PUNISHMENT

Despite the growing prominence of life-course theories in criminology and human development and widespread recognition of patterns of cumulative disadvantage in other disciplines of study, relatively little research explicitly investigates cumulative disadvantages within the justice system (Kutateladze et al. 2014, NRC 2004, Steffensmeier et al. 1998). One early exception to this rule is work by John Hagan (1974, 1975) that examined multiple pathways through which defendant characteristics impacted punishment. This research showed that part of the effect of defendant race operated through socioeconomic disadvantages and prior records, which, in turn, shaped intermediate outcomes like initial charging decisions and sentencing recommendations. These early processes had strong proximal effects on later sentencing dispositions. Despite the seminal nature of this early work, only a small number of contemporary studies have attempted to follow samples of criminal defendants across multiple decision-making stages, and fewer still consider the ways that earlier decision points mediate, moderate, and potentially compound social disadvantages at sentencing.

Unfortunately, much of this work focuses on specific offense types, such as sexual assaults or partner violence (e.g., Kingsnorth et al. 1998, LaFree 1980, Spohn & Tellis 2018, Wooldredge & Thistlethwaite 2004) or, less commonly, drug offenses (Kutateladze et al. 2016), whereas other work is limited to specific punishments, such as the death penalty (Baldus et al. 1990, Paternoster & Brane 2008), which limits the generalizability of these findings. Some more recent work has begun to address these issues by examining multiple case-processing stages using larger and more diverse samples of criminal defendants. For example, Sutton (2013) calculated predicted probabilities of various case-processing outcomes, conditional on decisions made at prior stages. He focused on pretrial detention, guilty pleas, and final sentence severity, and found that overall, black and Hispanic defendants experienced a 26% increased rate of disadvantage compared to white defendants. Using a similar conditional probability framework, Kutateladze et al. (2014) investigated whether minority defendants were at enhanced risk of specific combinations of unfavorable outcomes across stages of the punishment process. They reported that black and Latino defendants were more likely than white defendants to be detained and to receive custodial plea offers, which translated into harsher sentences. However, similar to other prior work (e.g., Barnes & Kingsnorth 1996), they also found minority defendants were more likely to benefit from early case dissmissals. Although these studies represent a significant advance in the field, it is important to note that they tend to control for prior decisions or group them into broad classifications rather than identify specific causal pathways through which earlier case outcomes exacerbate later punishment disparities. Furthermore, extant work has yet to specify and test the various functional forms through which cumulative disparities can build over time.
In another multistage analysis, Wooldredge et al. (2015) utilize a path analysis to investigate the direct and indirect effects of race on punishment. They found that African Americans experienced greater disadvantage across decision-making stages that included pretrial release, guilty pleas, and incarceration decisions. In particular, they determined that much of the observed racial disparity in sentencing operated in a cumulative fashion through effects on pretrial detention status, such that minority defendants were more likely to be detained, which increased their odds of incarceration. Similar findings have been reported in related work examining female misdemeanants in state courts (Brennan 2006) and criminal defendants in the federal justice system (Spohn 2009). Collectively, these results highlight the importance of considering cumulative pathways that can exacerbate inequalities in sentencing and contribute to cumulative disadvantages across sequential stages of case processing.

Finally, Stolzenberg et al. (2013) utilized a different approach to investigate cumulative effects in punishment, relying on meta-analytical techniques that treated each decision-making stage as an independent effect and then combining effect sizes across decision points. Their results suggested a total overall disadvantage for blacks compared to whites even though individual race effects produced null findings at several individual decision points. This last study is important because it suggests that focusing on individual stages of the system can mask broader patterns of cumulative disparity; even when defendant characteristics have small or negligible effects on specific outcomes, they can have a significant impact on aggregate disadvantages across multiple stages of criminal case processing.

ADVANCING RESEARCH ON CUMULATIVE DISADVANTAGE IN THE JUSTICE SYSTEM

In a recent review of research on cumulative disadvantage as a key mechanism of social inequality in society, DiPrete & Eirich (2006, p. 272) note that despite the obvious theoretical and policy importance of cumulative disadvantage, “sustained development and testing...has been more the exception than the rule.” This observation is especially relevant for research on the criminal justice system. Despite increased academic discourse on the theoretical significance of cumulative disadvantage and growing calls for empirical research focusing on it, extant research in this area remains underdeveloped and limited in several key ways.

Standard approaches to investigating inequality in the justice system involve a number of common limitations that often make it difficult to capture cumulative effects in punishment. These include (a) a narrow focus on episodic disparity in individual outcomes at singular stages of criminal case processing, (b) a primary emphasis on main effects tied to specific individual defendant characteristics like race, ethnicity, and gender, and (c) a general failure to theorize and test specific causal mechanisms that lead to different forms of cumulative disadvantages in punishment. We discuss each of these in turn, with a focus on how future research can address these shortcomings to provide improved estimates of cumulative forms of inequality in the American system of justice.

First, the overwhelming majority of research on inequality in punishment is limited to singular outcomes of interest, usually at a specific stage of criminal case processing. Policing research tends to focus on outcomes such as arrests (Smith 1986), street or traffic stops (Gelman et al. 2007), or use of force (Terrill & Reisig 2003), but seldom does it consider prior arrest patterns or postarrest outcomes. Research on prosecution often examines initial charging, case dismissals, or plea outcomes but only infrequently considers how arrest shapes charging (Kutateladze et al. 2015, Spohn & Tellis 2018) or how charging affects punishment (Piehl & Bushway 2007, Shermer & Johnson 2010, Wright & Engen 2006). Similarly, sentencing research focuses primarily on judicial use of incarceration (Steffensmeier et al. 1998) or related outcomes like guidelines departures or
intermediate sanctions (Engen et al. 2003, Johnson 2005), but it rarely includes information on earlier arrest or charging processes, and only a small body of literature focuses on the effects of sentencing on postrelease outcomes like recidivism (Green & Winik 2010). In general, our review of the literature suggests that although countless research studies have investigated inequality in specific stages of the punishment process, few attend to the accumulation of disadvantage across the multiple, interrelated stages of criminal case processing.

Furthermore, research that does include prior stages typically treats these earlier processes as control variables rather than independent measures of interest (Spohn 2009, Wooldredge et al. 2015). Although this can be an appropriate strategy depending on the research question at hand, it risks obfuscating important sources of cumulative inequality. This is what Ayres (2002) labeled “included variable bias,” in which estimates of disparity are conditioned on prior pathways through which cumulative disparities may be operative. For example, research on sentencing disparity often controls for pretrial detention status, but existing work clearly shows that status characteristics shape detainment decisions (Demuth 2003, Schlesinger 2005) and pretrial detention is an important indirect pathway that increases sentence severity (Wooldredge et al. 2015).

Future work is clearly needed that develops and tests broader conceptualizations of the punishment process that allows for the various indirect influences that shape final sentencing outcomes. Analytical models need to be developed and specified to explicitly account for the cascading effects of earlier decisions on later outcomes as well as the possibility that expectations about later outcomes can shape earlier case outcomes. This requires new models that allow for the possibility of temporal lags, feedback loops, and dynamic interactions over time. Although the early work by Hagan (1974, 1975) provides an example of this type of analysis, using path models to investigate how intermediate case characteristics affect subsequent punishment decisions, relatively little recent work has since adopted or attempted to expand upon this analytical approach (Brennan 2006, Wooldredge et al. 2015).

Second, much of the extant research on inequality and punishment is limited to specific defendant characteristics, often focusing on race, ethnicity, age, or gender in isolation. This ignores the fact that cumulative disadvantages may be hidden in the complex associations of specific constellations of defendant and case characteristics. In addition, even though contemporary scholarship increasingly acknowledges the importance of intersectionalities in punishment (e.g., Metcalf & Chiricos 2018, Spohn & Holleran 2000, Steffensmeier et al. 1998), administrative data often fail to capture important indicators of social disadvantage. Variables such as socioeconomic status, education, and employment tend to be infrequently available to researchers. Other measures such as victim characteristics, situational cues, demeanor, dress, skin tone, and physical appearance (Black & Reiss 1970, Hagan 1975, Johnson & King 2017, King & Johnson 2016, Klinger 1994, Spohn & Spears 1996) may also prove important but are rarely captured in available data or investigated empirically. Researchers must therefore not only account for possible interaction effects of variables typically available in administrative data but must be creative and tenacious in developing new sources of data that allow for the inclusion of additional sources of important variation.

Future research should also pay greater attention to sources of inequality that are built into existing legal structures, including criminal history records, guideline severity scores, mandatory minimum laws, and other structural determinants of punishments (Bushway & Forst 2013). This is a relatively new frontier in research on cumulative disadvantage that requires greater attention in future work. For example, studies consistently find criminal history to be a major determinant of punishment (Spohn 2000, Ulmer 2012), yet little work examines the differential accumulation of criminal history among different types of defendants. Prior work suggests that organizational decisions can create institutionalized forms of disadvantages, such as when police departments selectively deploy their resources in high-crime, minority neighborhoods or when they
concentrate resources on persons with existing prior records. The legislature may also play an important role in these processes by passing laws that differentially target and impact certain types of defendants (Tonry 1995). In this way, legally relevant variables may be capturing important extralegal influences.

Furthermore, to the extent that legal factors interact with defendant characteristics, this intersection can also work to institutionalize racism, sexism, and classism in the criminal justice system. Criminologists must delve deeper into the meanings of such variables rather than taking them at face value as legitimate indicators of criminality, dangerousness, and culpability. Additional work is also needed that ties together the mechanisms through which inequalities are shaped by broader community and ecological contexts, such as levels of neighborhood disadvantage, demographic and crime factors (Wang & Mears 2010), and organizational resources of the police, prosecutors, and courts (Eisenstein & Jacob 1977, Ulmer & Johnson 2004).

Although some theorists have long maintained that decisions in the criminal justice system represent a microcosm of broader patterns of inequality in society (Chambliss & Seidman 1971), future work needs to better link patterns of existing inequalities to broader stratification processes in society. DiPrete & Eirich (2006, p. 278) note the salience of prior "exposure to treatments such as living in a poor neighborhood, living in a single-parent family, being in a high or low academic track in school, or attaining a particular education level." These various indicators of disadvantage can affect both absolute levels and trajectories of punishment over time and may condition the salience of stable defendant characteristics, such as when incarceration is especially pronounced for young male minorities who are unemployed (Spohn & Holleran 2000) and/or from poor neighborhoods (Wooldredge 2007).

Finally, extant work on the criminal justice system often fails to clearly define what it means by cumulative disadvantage, it rarely theorizes or tests for different types of compound inequality, and it has yet to fully account for a number of common pitfalls that can plague statistical analyses (DiPrete & Eirich 2006, Neil & Winship 2019). Different models of cumulative disadvantage necessarily imply different underlying theoretical mechanisms and different functional forms for those relationships. It is therefore essential for future work to be more explicit about the definitional operationalization of cumulative disadvantage, the theoretical reasons for its existence, and the underlying empirical relationships that characterize it.

Neil & Winship (2019) provide a valuable review of many of these issues in the context of policing research. They argue for the importance of defining key concepts, acknowledging critical assumptions, and matching appropriate methods to specific research questions. In particular, they point out that studies comparing similarly situated individuals need to define what qualifies as equivalent circumstances. They also emphasize the importance of investigating conditional effects, like interactions between race, prior record, and offense severity, and they observe that decisions made at the margin often differ from outcomes averaged across all cases. Importantly, these observations have direct implications for not only the study of policing but also the investigation of cumulative disadvantage across stages of the criminal justice system.

DiPrete & Eirich (2006) additionally emphasize the need to develop more formal theoretic models that specify and test for different possible functional forms of cumulative disadvantage.

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2This is known as the inframarginality problem. In the context of sentencing, it suggests that the average probability of imprisonment between two groups can differ from their probabilities at the margin. For example, in states with sentencing guidelines, some cells entail no possibility of nonincarceration (without a guidelines departure). Therefore, if minority defendants commit more crimes in which there is less opportunity for nonincarceration sentences, their average likelihood of prison is greater, but this does not mean that they are necessarily treated more severely in guideline cells where judges have the discretion to opt for nonincarceration sentences.
They provide an accessible treatment vis-à-vis a variety of sociological outcomes, many of which have direct parallels in criminology and criminal justice. As they suggest, cumulative disadvantages can emerge through distinctive theoretical processes that entail different causal mechanisms and involve different empirical distributions, including additive, multiplicative, and exponential effects.

These effects can also differ across units of analysis and are conceived as both individual- and aggregate-level phenomena. For example, at the individual level, defendant status characteristics may have additive effects across successive case outcomes (Kutateladze et al. 2016), and they can also be moderated by other legal and extralegal factors (Steffensmeier et al. 1998). At the aggregate level, intergroup inequalities might grow exponentially or curvilinearly over time (Allison et al. 1982). As such, we concur with DiPrete & Eirich (2006, p. 292) that “there is a need for more explicit attention to mechanisms, more formal theorizing, and greater attention to methodological issues in the specification and testing” of cumulative disadvantage as it relates to the criminal justice system.

CONCLUSION

Despite a wealth of extant research on inequality and punishment, criminological scholarship on cumulative disadvantage in the justice system remains in its infancy. In general, the lack of clarity surrounding model specification, underlying theoretical mechanisms, and appropriate empirical tests often makes it difficult to know whether patterns of observed disparities are indicative of cumulative inequalities in justice. It can be challenging to separate the effects of prior treatment in the system from other sources of unmeasured heterogeneity that may lead to differential outcomes. As intimated above, future research is needed to expand scholarship in this area, incorporating broader perspectives on inequality and punishment, expanding from single to multistage studies of criminal case processing, working to clearly define and test theoretically derived research questions, and developing improved statistical models to investigate the different forms of cumulative inequality that can occur in the criminal justice system.

To tackle these challenges, researchers and policy makers must work together to substantially improve available sources of data. More than a quarter century ago, a National Research Council panel on sentencing was convened to make recommendations for advancing research on criminal punishment (Blumstein et al. 1983). The panel concluded that to truly understand the nature of cumulative disadvantage what was needed were longitudinal data that would follow specific individuals across contact points with the criminal justice system to assess both the nature and magnitude of discrimination at specific points and throughout the entire process. This review suggests that efforts in this area need to be redoubled and intimates a need for greater exploration of additional sources of disadvantage, deeper thinking about causal pathways and processes across system stages, and development of alternative statistical models to better capture the potential forms of cumulative disadvantage over time.

Taking on these challenges is essential because so much is at stake. As Sampson & Lauritsen (1997) note, existing inequalities in various stages of the life course are likely to be significantly amplified by the criminal justice system. Prison populations have roughly quintupled over the past forty years (Carson 2015), with poor people of color dramatically overrepresented in mass incarceration (Alexander 2012). Young minority males from disadvantaged neighborhoods are particularly affected, being more likely to go to prison than college (Pager 2007), and remain

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3DiPrete & Eirich (2006) identify four distinct forms that cumulative disadvantage can take. These include situations in which (a) the growth rate of an outcome depends directly on the current level of that outcome, (b) small disadvantages grow larger over time, (c) growth rates in an outcome vary by status characteristics, and (d) inequality in populations or between group differences grows larger over time as a consequence of these other factors.
two to three times more likely than whites to experience violence—both as victims and offenders (Stewart et al. 2017). Although there are clear racial differences in criminal behavior and arrest rates, especially for crimes of violence (Hindelang 1981), research suggests these differences only partially account for stark racial disproportionalities in prison populations (Blumstein 1982). For these and many other reasons, increased attention to sources of cumulative disadvantages in the justice system is both timely and essential in contemporary America.

Ultimately, these influences must also be tied to broader patterns of inequality outside of the criminal justice system. Kirk & Wakefield’s (2018) review on the collateral consequences of punishment illustrates how criminal justice involvement often has deleterious repercussions over a diverse range of social and economic outcomes, including health, employment, housing, socioeconomic status, and family and community environments long after system contact has expired. As such, experiences with the criminal justice system can serve as a key turning point that alters one’s life trajectory. A more holistic conceptualization of cumulative disadvantage is required that connects disparities in the justice system to larger patterns of stratification and inequality in society.

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