

ANATOMY OF RISK: CUMULATIVE DISADVANTAGE AND RISK
ASSESSMENT INSTRUMENTS

by

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DEDICATION

This thesis is dedicated to the memory of Scharlette Holdman (1946-2017).

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ABSTRACT

ANATOMY OF RISK: CUMULATIVE DISADVANTAGE AND RISK ASSESSMENT INSTRUMENTS

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One significant critique of the United States criminal justice system is the disproportionate rate at which people of color and people living in poverty are represented. Proponents of the use of risk assessment instruments in criminal justice system decision-making claim the tools are likely to reduce the effects of implicit biases and stereotypes in decision-making. On the other hand, critics have suggested that the use of risk assessment instruments in sentencing may increase the racial and socioeconomic disparities that they are ostensibly positioned to address. This integrative literature review examines risk domains commonly measured in risk assessment instruments and the potential for these tools to capture the effects of cumulative disadvantage.

Seven risk domains are identified based on analysis by the Pennsylvania Sentencing Commission of 29 risk assessment instruments comprising a total of 125 risk factors. These domains include demographic factors, psychosocial factors, mental health,

substance abuse, antisocial/psychopathic traits, criminal history, and dynamic factors. Research that assesses the effects of race/ethnicity and/or socioeconomic status in these domains is reviewed to examine the differential outcomes related to these statuses. In addition, research is analyzed and integrated as the risk domains relate to one another. This analytical approach is chosen based on suggestions that negative outcomes related to race and socioeconomic status are often cumulative in nature, thereby suggesting cumulative disadvantage models can provide insight into the odds ratios of various combinations of risk factors based on group membership.

Extensive research in each of the identified risk domains highlights the frequently disadvantageous effects of race and socioeconomic status on domain-relevant outcomes (e.g., educational achievement, employment). Some research evidence also indicates that disadvantage in one domain often predicts negative outcomes in other domains. For example, mental health problems increase the likelihood of substance use disorder, and both of these exhibit negative effects on educational achievement and employment outcomes. The research in each of the seven domains is reviewed in a linear fashion as they might be expected to become relevant and salient over time and across the life course.

The analysis and discussion of the research findings suggest that the accumulation of risk factors across time can occur independent of individual characteristics, in accordance with cumulative disadvantage theory. The magnitude of the effects of these disadvantages likely varies among groups. Further, the differential exposure to risk factors between groups suggests minorities and the poor are more likely to be

disadvantaged in multiple risk domains, thereby increasing the likelihood they will encounter disadvantages that also increase the likelihood of (re)offending.

The current research applies a cumulative disadvantage framework to clarify the intersectionalities of race, socioeconomic status, and recidivism risk factors, as well as the interactive relationship risk factors have with one another. The differential distribution of risk factors among groups suggests that the use of risk assessment categorizations in a punitive context may exacerbate racial and socioeconomic disparities in the justice system. Research evidence suggests policymakers should avoid the use of risk to increase punishment.

Future research should focus on identifying constructs underlying each risk domain, apply empirical testing utilizing cumulative disadvantage models, and assess the variance in likelihood ratios of multiple risk factors by racial/ethnic group membership and socioeconomic status. Given the lack of research currently addressing the potential impacts of criminal justice decisions based on risk scores, policymakers are well-advised to use caution in the widespread implementation of risk assessment tools, particularly in contexts that are likely to increase the severity of punishment based on risk.

CHAPTER 1: INTRODUCTION

One of the most frequently expressed critiques of the United States criminal justice system is the disproportionate rate at which people of color and people living in poverty are represented. Particularly for young black men (aged 18-19), the rate of incarceration has increased over the past several years to a level currently almost twelve times that of their white counterparts (Carson, 2018). Black adults comprise about 13 percent of the population in the United States, but make up about 40 percent of the prison population (Sakala, 2014). Disproportionate minority contact (DMC) is also recognized as a significant issue in the juvenile justice system (Office of Juvenile Justice and Delinquency Prevention (OJJDP), 2014; Pope, Lovell, & Hsia, 2002). There is evidence that socioeconomic inequality, particularly for racial minority groups, further exacerbates the incarceration gap (Lewis, 2018; Zaw, Hamilton, & Darity, 2016). Key decision points from arrest, to charges, to bail and pretrial release, to sentencing, and access to treatment and reentry programs and services disadvantage offenders who are poor (Subramanian, Delaney, Roberts, Fishman, & McGarry, 2015). Racial and socioeconomic disparities in the criminal justice system are longstanding and seemingly intractable, despite decreases in imprisonment rates for all races over the past decade (Carson, 2018).

Criminological explanations for racial disparities in the justice system generally take two forms: differential treatment (see Appendix A) or differential rates of offending.

Evidence of differential treatment of minorities and the poor in the justice system suggests that these offenders are treated more harshly than white or wealthy offenders by criminal justice actors (Piquero, 2008). On the other hand, there is some evidence that minorities commit (and are the victims of) certain types of offenses more frequently than whites (for example, homicide) (Piquero, 2008). However, criminological research suffers from underdeveloped theories to explain variations in criminal involvement related to race (Piquero, 2008). Yet, some research suggests structural factors and social disadvantages have a strong influence on minority involvement in criminal activity beginning in adolescence (Peeples & Loeber, 1994; Sampson, Morenoff, & Raudenbush, 2005) and continuing into adulthood (Bellair & Kowalski, 2011; Kubrin, Squires, & Stewart, 2007; Reisig, Bales, Hay, & Wang, 2007). Some research also indicates that racial disparities in the criminal justice system are not solely the result of decisions at discrete points in case processing, but rather are the result of cumulative effects of decisions made throughout the life cycle of a criminal case (Kutateladze, Andiloru, Johnson, & Spohn, 2014; Stolzenberg, D'Alessio, & Eitle, 2013; Sutton, 2013; Wooldredge, Frank, Goulette, & Travis, 2015). Regardless of the shortfalls in explanations of offending or racial disparities in the system, the overarching question in the criminal justice system seems to have become: who is likely to reoffend? Increasingly, policy-makers are therefore turning to the use of risk assessment to inform criminal justice decision making.

Broadly speaking, risk assessment in both the adult and juvenile criminal justice system involves using an actuarial risk assessment instrument (RAI) to estimate the

likelihood an individual will engage in a particular behavior - committing a new offense, for example, which is usually referred to as “recidivism.” Actuarial risk assessment instruments are based on statistical models of weighted factors that are empirically linked with criminal behavior (e.g., criminal history, level of education, family configuration). Actuarial models provide a probability estimate that, given identified factors, a particular behavior will occur (Grove & Meehl, 1996). Risk assessment tools are, therefore, considered useful for their ability to make predictions about the potential for recidivism based on combining and weighting certain factors that are correlated with criminal behavior (Hart & Cooke, 2013). Risk factors included in the statistical models to create RAIs include personal characteristics and life circumstances of offenders that are statistically correlated with criminal behavior (Andrews, Bonta, & Hoge, 1990). An estimated 44 jurisdictions in the United States use RAIs in the pre-adjudication stage of a criminal case (Mayson, 2018), and more than twenty states use RAIs at sentencing (Starr, 2014). Risk assessment tools are also used in corrections case planning and management (Schwalbe, 2008). Additionally, risk assessment is a key component of the civil commitment process to confine sex offenders, and in some jurisdictions, risk assessment is used to determine the registration and notification requirements with which convicted sex offenders must comply (Krauss & Scurich, 2013).

The use of risk assessment instruments in criminal justice decision-making, particularly for sentencing, is at the forefront of discussions regarding criminal justice reform. Proponents of the use of RAIs claim the tools are likely to reduce the effects of implicit biases and stereotypes in decision-making (S. D. Gottfredson & Moriarty, 2006).

They also argue that these tools will result in low-risk offenders being diverted from pretrial confinement and incarceration, thereby promoting more efficient and economical use of limited criminal justice resources (Hannah-Moffat, 2013; Kroner & Mills, 2001). Finally, proponents cite Andrews, Bonta, and Hoge's (1990) Risk-Needs-Responsivity (RNR) model (of which risk assessment is a key component) as reducing the likelihood of recidivism by providing appropriate interventions based on individual offenders' criminogenic needs.

On the other hand, critics of the use of risk assessment tools cite concerns about the fairness of using demographic factors (such as socioeconomic status, education, and gender, among others) for the purpose of criminal sentencing and intensive supervision conditions (Starr, 2014). Relatedly, critics dispute the validity of applying group-based statistical predictions to individuals (Hannah-Moffat, 2013; Hart, Michie, & Cooke, 2007). Critics are also concerned that perceived "dangerousness" (i.e. risk for re-offending) is being used as a justification for preventive detention in contravention of Constitutional principles (Monahan & Skeem, 2016; Robinson, 2001; Simon, 2005; Starr, 2014). Perhaps most concerning is the suggestion that risk assessment instruments will increase the racial and socioeconomic disparities that they are ostensibly positioned to address (Defender Association of Philadelphia, 2017; Holder, 2014). While both sides have set forth credible arguments, research to date is inadequate to more definitively address the likely impact of RAI use on criminal justice decision-making regarding minorities and the poor.

Indeed, research regarding RAIs has primarily focused on the overall predictive validity of these instruments without giving sufficient consideration to their differing impacts between racially-diverse groups (Rembert, Henderson, & Pirtle, 2014; Whiteacre, 2006). Predictive validity is a measure of how well an RAI correctly predicts the likelihood of offender recidivism. Predictive validity studies are important for establishing how well a particular instrument predicts recidivism, but such research does not address underlying differences between racial groups with respect to the importance or prevalence of specific risk factors. The limited research evaluating the predictive accuracy of RAIs across racial/ethnic groups is conflicting. Some studies indicate black offenders are likely to be classified as higher risk than offenders of other racial/ethnic groups (Schwalbe, Fraser, Day, & Cooley, 2006; Whiteacre, 2006). In contrast, other studies find no difference in predictive accuracy across racial groups for the specific RAIs selected for evaluation (Edens, Campbell, & Weir, 2007; Guy, Edens, Anthony, & Douglas, 2005; Olver, Stockdale, & Wormith, 2009). To complicate the discussion further, a third line of research suggests the potential for RAIs to negatively impact minority offenders specifically because minorities are more likely to be overclassified with respect to risk level than are their white counterparts (McCafferty, 2018; Rembert et al., 2014; Whiteacre, 2006). Investigation of this issue has been carried out in only a few studies (Rembert et al., 2014). Overall, however, research regarding race and risk assessment instruments tends to focus on examining the predictive validity of the tools, with almost none addressing the potential for a disparate impact on racial or ethnic minorities. There is scant published research that attempts to evaluate racial/ethnic or

socioeconomic differences in the accumulation of risk factors contained in risk assessment instruments (however, see Moore & Padavic, 2011) or that proposes a theory for understanding how this might occur.

Therefore, the concept of cumulative disadvantage may be helpful both to identify the causal connections between risk factors and recidivism and to assist scholars in studying how race and socioeconomic status conditions the accumulation of risk factors predictive of recidivism. Cumulative disadvantage, as is suggested by the term, is a process by which unfavorable circumstances tend to cluster together (Merton, 1973), and the negative effects of those factors tend to accumulate over time (DiPrete & Eirich, 2006). Cumulative disadvantage theory posits that divergent outcomes between groups can be explained as the result of a process of interactions over time (Dannefer, 2003). The theoretical framework of cumulative disadvantage is frequently utilized to study the combined effects of various factors as they relate to disparate outcomes such as health problems, aging, and negative career trajectories (DiPrete & Eirich, 2006). Substantial sociological and health sciences research suggests that cumulative disadvantage models are useful for examining complex relationships between groups of adverse factors that help to predict and explain individual outcomes.

Although research is fairly limited, some researchers have applied cumulative disadvantage statistical models to examine the effects of race, among other factors, on decision-making at various points in criminal case processing (Baumer, 2013; Bushway & Forst, 2013; Kutateladze et al., 2014; Rehavi & Starr, 2014; Stolzenberg et al., 2013; Sutton, 2013; Ulmer, 2012). The evidence from this body of research suggests that

decisions early in the process of adjudicating a criminal case (e.g., criminal charging decisions, bail determinations) appear to disadvantage certain groups of people accused of a crime (Kutateladze et al., 2014; Rehavi & Starr, 2014; Wooldredge et al., 2015). Research that examines cumulative effects of decisions early in criminal case processing indicates these decisions condition later outcomes (e.g., defendants who are held pretrial are more likely to be convicted – therefore, if the poor and minorities are less likely able to pay bail, and are therefore held in pretrial detention, they are at a greater disadvantage in the case outcome). In the context of criminal case processing, then, the cumulative disadvantage framework may offer new insights regarding the effects of race and socioeconomic status because of its capacity to analyze “a sequence of undesirable events whereby the occurrence of earlier negative events increases the odds of subsequent negative events” (Wooldredge et al., 2015, p. 189). Similarly, it would be instructive to evaluate how race and socioeconomic status condition the cumulative effects of risk factors in evaluations of RAIs as predictive measures of recidivism.

Thus, the current study is undertaken as a comprehensive and integrative review of the relationship between race, socioeconomic status, and the factors measured in RAIs, and the potential for RAIs to capture the effects of cumulative disadvantage. Specifically, the review will focus on the seven “risk domains” most commonly measured by risk assessment instruments used in criminal justice applications. The concept of a “risk domain” in this study is modeled on the approach taken by the Pennsylvania Sentencing Commission (2011) in which they reviewed the specific risk factors measured in 29 validated risk assessment instruments (see Appendix B), and then grouped those factors

(125 in total) into seven categories (see Appendix C). I now refer to these categories as “risk domains,” a term which is modeled after Blank et al.’s (2004) use of “domains” in their scholarship examining the accumulation of the effects of discrimination more broadly. The risk domains, or categories of factors identified by the Pennsylvania Sentencing Commission, are as follows: 1) demographics; 2) psychosocial factors; 3) mental health; 4) substance abuse; 5) antisocial/psychopathic traits; 6) criminal history; and 7) dynamic predictors. Further definition of each domain and of the specific risk factors that fall within particular domains will be discussed within chapter four. The purpose of the integrative review to be conducted in this thesis is to examine the extent to which research evidence currently exists relating each risk domain to race and socioeconomic disadvantage via a path that may be explained by cumulative disadvantage.

As discussed above, most existing research regarding disparities in criminal case outcomes does not account for a cumulative disadvantage process either within criminal case decision-making or with respect to involvement in criminal behavior. Failing to account for cumulative disadvantage present in the life course of individuals may limit a complete understanding of the effects of race and socioeconomic status in the justice system and on criminal behavior. In other words, studies that examine racial disparity by looking at a single outcome (e.g., length of sentence) are likely to mask the disadvantaging effects of race and poverty that accumulate from one decision to subsequent decisions. Similarly, focusing solely on the predictive validity of RAIs between racial/ethnic groups is also likely to obscure the disadvantages of race and

poverty contained therein. Elaboration of these mechanisms — and the integration of existing literature relevant to them — may lead to a clearer picture of the disparities between racial/ethnic and socioeconomic groups in exposure to risk. Revealing the cumulative effects of exposure to negative risk factors beginning early in the life course may help identify causal connections between risk factors and criminal recidivism. Furthermore, greater recognition of the causal connections between risk factors and recidivism can inform risk reduction strategies that should be effective in the reduction of recidivism.

The remainder of the thesis proceeds as follows: chapter two is a literature review of the research on risk assessment, race and risk assessment, and cumulative disadvantage; chapter three details the methods used to locate and select the literature in the thesis, as well as the limitations; chapter four comprises the substantive analysis of the interrelationship of risk domains with one another and with minority status and socioeconomic status; chapter five is a discussion of the overall findings of the research; and chapter six covers policy implications and the conclusion.

CHAPTER 2: LITERATURE REVIEW

Risk assessment instruments are not a new phenomenon in the justice system, but their use is increasingly gaining attention as these tools become more pervasive in the daily functions and decisions within justice institutions (Hannah-Moffat, 2015). After decades of laws and policies that have resulted in levels of incarceration in the U.S. not seen anywhere else in democratic western countries (Brewer & Heitzeg, 2008), there is growing interest in finding tools that will reduce incarceration without compromising public safety (Koepke & Robinson, in press; Starr, 2014). Additionally, the ongoing need to reduce racial and socioeconomic disparities in the criminal justice system, in part, has led to widespread support for the use of risk assessment instruments to inform criminal justice decision-making, particularly in bail and sentencing decisions (Koepke & Robinson, in press; Monahan, 2017; Monahan & Skeem, 2016).

The ongoing racial disparities in the criminal justice system, and the failure of sentencing guidelines to eliminate racial disparities has likely brought renewed attention to risk assessment instruments as a means of further shaping judicial decision-making and limiting discretion (Demuth & Steffensmeier, 2004a; Schlesinger, 2005; Spohn & Holleran, 2000; Steffensmeier & Demuth, 2000; United States Sentencing Commission, 2017). Present day criminal justice reform efforts and advancements in statistics to create “predictions” have breathed new life into using risk assessment instruments and other

types of algorithms for crime detection and crime prevention. From policing decisions made using CompStat (Bureau of Justice Assistance, 2013) to correctional management decisions based on the Correctional Offender Management Profiling for Alternative Sanctions (COMPAS; Northpointe, 2015), statistical models are increasingly seen as a non-discriminatory way to manage an overburdened - and what many perceive as unfair - criminal justice system.

Nevertheless, concerns about the potential that the use of RAIs in criminal justice decision-making will have a disproportionately negative impact on minorities and the poor are not being ignored. Yet the field of research regarding risk assessment tools tends to be focused on a particular paradigm - that is, predicting risk. Although useful, such analyses appear to be limited in what can be learned about the potentially disparate impact of these tools. Therefore, to evaluate the impact of these tools, a different approach will be applied to risk factors based on the theoretical framework of cumulative disadvantage.

Risk assessment and risk assessment instruments

There are a number of reasons why proponents of RAIs are in favor of their use in the justice system. Proponents of RAIs argue that decisions informed by risk assessment may help mitigate racial and socioeconomic disparities, particularly with respect to bail determinations and severity of sentences (see, e.g., Demuth & Steffensmeier, 2004a, 2004b; D. M. Gottfredson, 1987; Hoge, 2002; Schlesinger, 2005; Spohn & Holleran, 2000; Steffensmeier & Demuth, 2000; United States Sentencing Commission, 2017).

However, very few studies have examined the potential for racial bias in the use of RAIs in sentencing decisions (Lowder, Morrison, Kroner, & Desmarais, in press).

In part, racial disparities are believed to be the product of judicial discretion in decision-making, which can be influenced by explicit or implicit bias on the part of the judge (Albonetti, 1991, 1997; Bridges, Crutchfield, & Simpson, 1987; Fischman & Schanzenbach, 2012; Rachlinski, Johnson, Wistrich, & Guthrie, 2009; Spohn, 2000; Steffensmeier, Ulmer, & Kramer, 1998). In fact, RAIs are not the first attempt to reduce judicial discretion. In the early 1980s, lawmakers came to view questionable variations in sentences for similar crimes (not only those in which race appeared to be a factor) as the result of too much discretion on the part of judges (Fischman & Schanzenbach, 2012; Howell, 2004) and parole boards. The United States Parole Commission also became concerned about the potential for a racially disparate impact on black offenders of factors such as family characteristics, education, employment status, and residential stability (Hoffman, 1983) considered in the Salient Factor Score (SFS), a recidivism risk tool developed by Hoffman and Beck (1974) and adopted by The United States Parole Commission in 1972 for use in federal parole decision-making (Hoffman, 1994).

In an effort to curb judicial and parole board discretion, and the use of suspect factors in parole decisions, Congress passed the Sentencing Reform Act of 1984 (SRA), which mandated the creation of a Sentencing Commission and abolished federal parole (Sentencing Reform Act of 1984, 1988). The task of the Sentencing Commission was to develop sentencing guidelines with the objective of standardizing criminal sentences in the federal system (Oleson, 2011). The Federal Sentencing Guidelines (1984) were

intended to limit the discretion of judges, increase certainty in sentencing, and reduce racial disparities believed to be the result of judicial discretion (Feinberg, 1993; Kramer & Ulmer, 1996; Petersilia & Turner, 1987; Spohn, 2009, 2009; Stith & Cabranes, 1997). Yet the Guidelines were also intended, in part, to reduce the use of risk assessment instruments in parole board determinations about much time an offender would spend incarcerated for an offense (Tonry, 2014; Wroblewski, 2015). Despite an apparent decrease in variations in sentencing between similarly-situated offenders, most research since enactment of the Federal Sentencing Guidelines indicates racial disparities still exist (Fischman & Schanzenbach, 2012; United States Sentencing Commission, 2017).

In the present day, actuarial RAIs based on statistical models of risk are seen by many as a rational and objective means by which to limit judicial discretion that may be influenced by bias (Hannah-Moffat, Maurutto, & Turnbull, 2009). This belief is based in part on findings related to clinical forensic mental health practice that risk assessment tools are better at predictions (Acklin, Fuger, & Gowensmith, 2015; S. D. Gottfredson & Moriarty, 2006). In fact, over 50 years of research has demonstrated that risk assessment tools are more accurate in predicting the future likelihood of violence or recidivism than professionals (Ægisdóttir et al., 2006; Dawes, Faust, & Meehl, 1989; Grove, Zald, Lebow, Snitz, & Nelson, 2000; Hanson & Morton-Bourgon, 2009; Hart et al., 2007). For example, in a meta-analysis comparing both clinical and statistics-based predictions from 136 studies across a variety of applications, Grove, Zald, Lebow, Snitz, and Nelson (2000) found that predictions based on statistical methods were as accurate, or substantially more accurate (by about 10%), than clinical predictions. Therefore, although

there are important distinctions between the uses of risk assessment instruments in clinical settings versus criminal justice decision-making, there is a common thread in the desire to utilize the tools to improve the accuracy of predictions about future behavior.

Risk assessment tools have grown in popularity and ubiquity over the past several decades, due in part to issues related to the prediction about the likelihood of future violent behavior. In one highly influential and often-cited study, Monahan (1981) reported on the predictive accuracy of clinicians in a series of five studies on the violent behavior of mentally ill ex-prisoners who were held in civil confinement, but then released subsequent to three court decisions (*Baxstrom v. Herold*, 1966; *Dixon v. Pennsylvania*, 1971; *Jackson v. Indiana*, 1972). Monahan found that the highest rate of correct predictions by mental health clinicians for any criminal behavior (not limited to violence) was 46 percent. Therefore, based on the predictive accuracy of the psychologists and psychiatrists in those studies, Monahan concluded that a fair estimate of accuracy in predicting *violent* behavior was about one out of three cases (Monahan, 1981). The questionable accuracy of clinical judgments about future violent or criminal behavior of mentally ill offenders, therefore, spurred researchers to develop actuarial risk assessment instruments based on empirically-validated factors associated with the risk of criminality or violence (Simon, 2005).

RAIs utilize statistical methodologies that are purported to distinguish between individuals at high risk of future dangerousness, and those at low risk (Hamilton, 2015a, 2015c). Supporters of risk prediction argue for its utility in incapacitating high-risk offenders and avoiding over-punishing low-risk offenders (e.g., Smith & Smith, 1998,

citing Chaiken, Chaiken, and Rhodes, 1994; Gottfredson & Gottfredson, 1986, 1994; Morris & Miller, 1985). The desire to reduce mass incarceration has also fostered support among many constituencies for incorporating RAIs more extensively into the criminal justice system (see, e.g., Sidhu, 2015; Stevenson, in press), and particularly in sentencing decisions (Monahan & Skeem, 2016; Sidhu, 2015; Skeem & Lowenkamp, 2016).

Criminal justice reform advocates often support the use of risk assessment as a route to reduce incarceration; the idea being that risk assessment will be used to divert offenders assessed as low risk who may otherwise be incarcerated, rather than to increase the sentence of those determined to be “high risk” (Starr, 2014). In this way, RAIs appear to be a method to reduce incarceration rates, assuming low risk offenders are diverted from jail or prison. Additionally, though, more typically conservative groups and those concerned about the financial burden of incarceration also tend to support the use of RAIs because they expect identification of high risk offenders to promote more efficient allocation of criminal justice resources to those offenders most likely to recidivate (Warren, 2009). Therefore, as a consequence of the scope of the problem of mass incarceration, the issue has garnered the attention of both reform advocates, as well as typically more conservative policy-makers. The seriousness of the issue of mass incarceration, therefore, has allowed normally ideologically disparate groups to find increased opportunities for common ground in addressing the problem.

Despite their widespread support in certain contexts, critiques of the use of RAIs in criminal justice system decision-making are not receding. Critics have highlighted, for example, the potential for RAIs to actually *intensify* negative impacts on racial minorities

and the poor, rather than to reduce inequality in the administration of justice. In fact, in 2014, former Attorney General Eric Holder expressed doubts about the use of RAIs in sentencing decisions, arguing that "... basing sentencing decisions on static factors and immutable characteristics – like the defendant’s education level, socioeconomic background, or neighborhood – ...may exacerbate unwarranted and unjust disparities that are already far too common in our criminal justice system and in our society” (Holder, 2014). This concern echoes that expressed by the U.S. Parole Commission regarding the SFS81 (Hoffman, 1983). The key point expressed here is that - if RAIs are based on “static factors and immutable characteristics” - these elements are largely beyond an individual’s control and are reflective of longstanding life circumstances.

Thus, it is not surprising that the Director of Policy and Legislation at the Department of Justice wrote in a letter to the United States Sentencing Commission (hereinafter, Sentencing Commission) that using RAIs to determine prison sentences “will have a disparate and adverse impact on offenders from poor communities already struggling with many social ills” (Wroblewski, 2015). Comments like these from people who are acutely aware of the need for criminal justice reform suggest that - although facially “neutral”- risk assessments may have unintended negative consequences for racial minorities and the poor because these instruments may tend to assess pre-existing and longstanding life circumstances that have already been influenced by inequality. However, there is little research to date that attempts to answer what impact RAIs may have on people who are members of minority groups or who are of a low socioeconomic status.

Race and risk assessment

Critics of the use of RAIs in sentencing suggest that the use of information related to criminal history, family structure, neighborhood factors, and socioeconomic factors function as proxies for race in practice (Hannah-Moffat, 2013; Harcourt, 2015; Silver & Miller, 2002; Starr, 2014; Tonry, 2014). In this way, these critics argue that the use of this kind of information is a form of “statistical profiling,” meaning that statistical factors correlated with a particular group are automatically or unfairly ascribed to individuals within that group (Blank, Dabady, & Citro, 2004; Sidhu, 2015). Furthermore, statistical profiling need not be based specifically on race to have a disparate impact on different racial groups (Blank et al., 2004). In such circumstances, where characteristics or qualities are unequally distributed between racial groups, decisions relying on those characteristics or qualities may result in disadvantaging or advantaging one racial or ethnic group over another (Blank et al., 2004).

For example, Harcourt (2007) suggests that criminal history, a significant predictor variable in RAIs, is a proxy for race. The reason for this, Harcourt asserts, is that — relative to their white counterparts engaging in similar criminal conduct — minorities are profiled and subjected to harsher sanctions for similar behavior (Harcourt, 2015). Therefore, according to Harcourt, in a sentencing regime that focuses primarily on criminal history in sentencing determinations, a disproportionately negative impact on groups already over-represented in the system is almost inevitable. Starr (2014) echoes this sentiment by arguing that variables that are correlated with race are likely to exacerbate disparities when included in criminal justice decisions. Such critiques are

likely to apply not only to risk assessment instruments, but to sentencing guidelines and enhanced sentencing penalties (e.g., mandatory minimum sentences) based on criminal history and other race-correlated factors as well.

In addition to the use of factors which may be proxies for race or otherwise increase racial disparities, critics of RAIs argue that these tools exacerbate these issues by lending a veneer of credibility and scientific objectivity to what is, essentially, racial profiling (Maurutto & Hannah-Moffat, 2006). Etienne (2009), for example, argues that sentencing based on RAIs is a form of “sentencing profiling.” In other words, rather than reducing the use of heuristics in decision-making, sentencing based on RAIs might actually promote the use of heuristics by encouraging judges to apply group-based statistics in making individual sentencing determinations. Similarly, Hannah-Moffat and colleagues (2009) argue that practitioners (e.g., judges) will accept apparent limitations on their discretion when they perceive that the use of RAIs offers them a mechanism by which they can reduce their own risk by making their decisions appear objectively defensible. In other words, there is the real possibility that judges may be willing to consider input from RAIs in sentencing decisions; yet this does not mean that the problem of racial bias in sentencing will ultimately decrease.

Despite these concerns, existing studies of race and risk assessment instruments have focused not on impacts, but have primarily examined the issue of predictive validity for different racial or ethnic groups. Predictive validity, in simple terms, is how well a test or score (for example, the risk score generated by an RAI) predicts an outcome (for example, criminal recidivism) (Mislevy & Rupp, 2010). Predictive validity does not,

however, tell us anything about the distribution of risk factors between different racial/ethnic groups or the extent to which racial inequalities may be reduced or exacerbated by the use of these tools. What it does tell us is that certain factors associated with criminal recidivism, as measured by the RAI, are correlated with the outcome measure of “recidivism,” as it has been defined by the studies’ authors. Predictive validity, although a powerful and important measure for instrument developers, is not a measure which allows us to evaluate the extent to which risk factors might be proxies for race.

However, a clue to the relationship between RAIs and race may be seen in the findings from some predictive validity studies demonstrating that risk estimates are not equally accurate for all racial groups. For example, three out of eight meta-analyses of studies investigating how ethnicity affects the predictive validity of RAIs find evidence that a higher proportion of white participants in a study tends to increase the predictive validity of an instrument (Gendreau, Little, & Goggin, 1996; Leistico, Salekin, DeCoster, & Rogers, 2008; Leistico et al., 2008; Singh & Fazel, 2010). For example, the Level of Service Inventory-Revised (LSI-R) is the most commonly-used general recidivism RAI in states that have not developed and adopted their own (Starr, 2014). In a meta-analysis of 68 studies of nine risk assessment instruments, Singh et al. (2011) concluded that the predictive validity of the LSI-R was the lowest out of the nine instruments. In addition, the predictive validity of all the instruments, including the LSI-R, was higher in samples of white, older subjects (Singh, Serper, Reinharth, & Fazel, 2011). In other words, higher numbers of non-white subjects in the sample were associated with a finding of a weaker

relationship between the score and the accuracy of the recidivism prediction. The evidence from these meta-analyses about predictive validity suggests that certain combinations of risk factors may be more predictive of recidivism for whites than for other racial groups. This evidence raises questions about the distribution of risk factors and also suggests that our understanding of the relationship between these risk factors and race is far from complete.

Blank, et al. (2004) suggest in their recommendations on studying racial discrimination that — where factors are unequally distributed among groups — decisions based on those measures may result in racial disparities. In addition, criminological studies indicate that when race/ethnicity is taken into account along with other factors — such as education level, socioeconomic status, gender — the magnitude of sentencing disparities between whites and minorities increases (Berk, Li, & Hickman, 2005; Bushway, Johnson, & Slocum, 2007; Bushway & Piehl, 2007; Doerner & Demuth, 2010; Franklin, 2013; Hagan, 1974; Mitchell, 2005; Steffensmeier et al., 1998; Wooldredge, 2012).

A number of researchers have also suggested that the typical approaches to measuring racial disparities in the criminal justice system may be insufficient methods to detect the true magnitude of racial disparities or the sources of those disparities (e.g., Baumer, 2013; Blank et al., 2004; Blumstein, 1982; Mitchell, 2005, in press). Research in the area of race and sentencing frequently uses categorical operationalization of variables (e.g., race as Black or White; in/out decisions with respect to incarceration), which may fall short of fully explicating the role race plays in criminal justice decisions (Baumer,

2013). Therefore, evaluating the potential impacts of RAI use on racial/ethnic minorities and the poor may require a theoretical approach not typically taken in research regarding the predictive value of RAIs.

Cumulative disadvantage theory

Thus, a different approach may be necessary to study the effects of RAIs on disadvantaged groups. One possible approach is to utilize the theoretical framework of cumulative disadvantage. Cumulative advantage/disadvantage (CAD) is the result of a process of interactions over time that lead to divergent outcomes between groups and is not simply due to individual differences of the members of a group (Dannefer, 2003). CAD, therefore, helps to explain the tendency of particular groups to vary in outcomes over time, which often occurs *independent of the individual merit* of group members (Merton, 1968, 1988) (emphasis added). Whether the process is referred to as cumulative advantage or cumulative disadvantage is generally related to whether the outcome measured confers to the group either a benefit or a deficit (DiPrete & Eirich, 2006).

Cumulative disadvantage is also a process in which disadvantages tend to cluster together (Merton, 1973), and the negative effects of these disadvantages tend to accumulate over the life course (DiPrete & Eirich, 2006). Merton's formulation of CAD suggests that cumulative processes contribute to inequalities which may increase over the course of an individual's life (DiPrete & Eirich, 2006). However, another formulation of CAD theory by Blau and Duncan (1967) suggests that the inequality produced by CAD does not necessarily increase over time. Instead, inequality may persist despite the fact that there is no measurable increase in magnitude. The Blau and Duncan model also

suggests processes within institutions that can increase levels of inequality between groups over time (Backman & Nilsson, 2011), regardless of whether a discriminatory intent exists or not. Both Merton's (1968) and Blau and Duncan's (1967) formulations of the theory suggest that CAD processes ultimately create measurable inequality among individuals and between groups. In addition, cumulative disadvantage theory and research indicates that inequalities early in life significantly influence life-course trajectories (Blau & Duncan, 1967; DiPrete & Eirich, 2006).

Substantial sociological and health sciences research suggests that cumulative disadvantage models are useful for examining complex relationships between the effects of adverse factors that help predict and explain individual outcomes. Researchers have tested theories of cumulative disadvantage in a number of fields including education, health, the life course and race (DiPrete & Eirich, 2006). An extensive body of research regarding characteristics of the family of origin has demonstrated the connection between these characteristics and poorer outcomes for children when they reach adulthood (e.g., Almquist, 2016). Poverty, in particular, is associated with a range of negative outcomes in adulthood (Duncan, Yeung, Brooks-Gunn, & Smith, 1998). Overall, there is widespread support for the proposition that access to resources in childhood is largely determined by parental resources, which in turn predicts the likelihood of outcomes in adulthood in terms of employment, economic well-being, mental health issues, and educational attainment. In other words, children from disadvantaged socioeconomic backgrounds are at increased risk for more negative outcomes in various aspects of life.

In criminological theory, there are two primary examples of the cumulative disadvantage process applied to criminal behavior. One of those is Moffitt's (1993) theory of life-course persistent and adolescent-limited criminal offending. Moffitt's (1993) life-course theory of criminal behavior focuses on early individual differences that act as determinants of delinquency that will end after adolescence (i.e., adolescence-limited offending) versus continued criminal behavior in the adulthood (i.e., life-course persistent offending) (DiPrete & Eirich, 2006). The other is Sampson and Laub's (1993) conceptualization of labeling theory and cumulative disadvantage. Sampson and Laub's (1997) application of cumulative disadvantage to crime and delinquency proposes that negative "labeling" early in life has long-lasting effects on an individual's ability to achieve success in a variety of life spheres, thereby contributing to criminal behavior over the life course (Sampson & Laub, 1993, 1997). Additionally, numerous studies also provide strong evidence of the intergenerational transmission of criminal behavior (for a review of the research, see Besemer, Ahmad, Hinshaw, & Farrington, 2017), suggesting the influence of social and familial contexts on involvement in crime. These applications of cumulative disadvantage theory represent efforts to explain mechanisms regarding the inception and continuance of criminal behavior.

Recognizing that criminal case outcomes are the result of a series of decision points, Hagan (1974) suggested that the cumulative effects of those decisions could work to disadvantage minority defendants. Likewise, Baumer (2013) highlights the fact that the predominant approach in criminology to studying race and sentencing fails to account for disparities that occur throughout the various stages of the criminal justice system. Some

sentencing researchers have expressed the view that current models for measuring the impact of race in the criminal justice system are lacking and, therefore, have applied a “cumulative disadvantage” approach to study criminal case processing (Baumer, 2013; Bushway & Forst, 2013; Kutateladze et al., 2014; Rehavi & Starr, 2014; Stolzenberg et al., 2013; Sutton, 2013; Ulmer, 2012). Yet relatively little research has examined the intersection between cumulative disadvantage and minority status in criminal case processing (Kutateladze et al., 2014).

Although existing research regarding cumulative disadvantage and criminal case processing is limited, it already suggests that decisions early in the process (e.g., criminal charging decisions, bail determinations) can disadvantage certain groups (Kutateladze et al., 2014; Rehavi & Starr, 2014; Wooldredge et al., 2015). Rehavi and Starr (2014) found that in the federal system, black defendants received sentences which were almost ten percent longer than white defendants, largely due to prosecutors’ decisions to pursue charges against black defendants that carry a mandatory minimum sentence. Kutateladze, Andiloro, Johnson, and Spohn (2014) were unable to analyze charging decisions but found that race and ethnicity had a direct effect on pretrial detention, custodial plea offers, and type of sentence in New York County. Pretrial detention significantly predicted whether a defendant received a plea offer involving some prison time and the likelihood of incarceration. Therefore, Kutateladze and colleagues and colleagues find that race and ethnicity has an indirect effect on these two outcomes, but the effect is mediated by the pretrial detention decision.

Similarly, Wooldredge, Frank, Goulette, and Travis (2015) analyzed the effects of cumulative disadvantage in a large U.S. city using a sample of black non-Latinos and white defendants who had been indicted on a felony charge. They found that black suspects were significantly more likely to be held on pretrial detention, regardless of the bond amount. In addition, consistent with previous research (e.g., Demuth, 2003), there was an observed interaction effect of race, sex, and age, in that black males aged 18 to 29 were significantly more likely to be given a higher bond amount and to be held in pretrial detention (odds for young black men were 0.68 compared to 0.22 for all other suspects).

Wooldredge et al. (2015) also found that pretrial detention strongly predicted the likelihood of receiving a prison sentence for both racial groups (i.e., black and white), yet there was no significant difference by race among those sentenced to prison. However, given the significantly higher likelihood of black suspects to be held in pretrial detention, and the significant effect of pretrial detention on the likelihood of being sentenced to prison, a cumulative disadvantage process can be seen through the indirect effects of race (Wooldredge et al., 2015). In addition, having a prior history of imprisonment increased the likelihood a suspect would be held in pretrial detention. Because the black suspects were more likely to have a prison history, this showed another indirect effect of race. These indirect effects of race accounted for a 75 percent increase in the odds of a black offender being detained pretrial relative to a white offender (Wooldredge et al., 2015). This finding is consistent with a number of other studies that have found an increased likelihood that minority suspects are subject to pretrial detention (Demuth, 2003; Demuth & Steffensmeier, 2004a; Kutateladze et al., 2014; Spohn, 2009; Sutton, 2013).

Studies that utilize a cumulative disadvantage analytical approach provide evidence of how race can have indirect effects on various outcomes that significantly disadvantages minority group members. Yet, these studies might also help to explain conflicting studies involving race that fail to find significant effects on a single, individual outcome (e.g., sentence length). By evaluating decisions made early in the criminal case process (e.g., charging decisions, bail amount, pretrial detention) and their relationship to race, the indirect effects of race became more clear in subsequent decisions than simply measuring the effects of race on a single outcome (e.g., length of sentence). In addition, the studies by Wooldredge and colleagues (2015) and Kutateladze et al. (2014) suggest that racial disparities may be due to the indirect effects of race rather than improper exercise of discretion or bias on the part of judges. Therefore, in the context of case processing, cumulative disadvantage may offer additional insights because it “reflects a sequence of undesirable events whereby the occurrence of earlier negative events increases the odds of subsequent negative events” (Wooldredge et al., 2015, p. 189). To date, no researchers have attempted to formulate a methodical approach to studying the impact of risk assessment instruments in criminal case processing. The body of cumulative disadvantage research lends support to the idea that this analytical framework may be helpful in uncovering racial disparities in RAIs that may be obscured by other approaches. Similarly, the mechanisms and measures of cumulative disadvantage provide a useful framework for illustrating the extent to which risk factors in risk assessment instruments (RAIs) may also aggregate disadvantage, thereby also allowing measures of disadvantage to influence sentencing decisions.

CHAPTER 3: METHODS

Objectives

The objectives of this thesis are to: 1) discuss research related to the effects of race and/or socioeconomic status within the seven domains of risk identified as common to many recidivism risk assessment instruments; and 2) to discuss research related to the interrelationship between risk domains. One way in which we might examine the question of whether RAIs have a disproportionately negative impact on racial minorities and those of low socioeconomic status is to evaluate the state of the research in each of the various risk domains that provides evidence of the interrelationship between the risk domains. Therefore, the research question addressed in this study is: what evidence is there to suggest that risk assessment instruments may capture the effects of cumulative disadvantage in differential exposure to risk factors?

There are over 120 risk assessment instruments in use in the United States (Singh, Grann, & Fazel, 2011), and there is wide variation in the specific risk factors that are measured. As an illustration of the wide range of risk factors, consider the MacArthur Violence Risk Assessment Study in which over 1,100 admissions to civil inpatient facilities in three cities were evaluated with the purpose of identifying the most salient risk factors with which to develop a violence risk assessment instrument for use in mental health settings. Researchers measured 134 risk factors, of which more than half (70) were

found to be statistically significant (MacArthur Research Network on Mental Health and the Law, 2001). Some of the significant risk factors identified in this research are those used in many RAIs, including gender, prior violence, childhood experiences, neighborhood, and race.

RAIs all tend to vary slightly in the specific factors selected for determination of a risk score. Therefore, for purposes of this study, a determination was made that those factors commonly assessed in RAIs would prove most useful in analyzing RAIs within the framework of cumulative disadvantage. In 2011 the Pennsylvania Commission on Sentencing undertook research pursuant to a legislative mandate to include risk and needs assessments into sentencing (Pennsylvania Commission on Sentencing, 2011). They reviewed 29 risk and needs assessments designed to assess for general recidivism, violent recidivism, and psychopathy and dynamic risk and needs factors, and identified over 125 risk factors, the most common of which are static factors (i.e. historical factors that cannot be changed) (Pennsylvania Commission on Sentencing, 2011, p. 1). The instruments reviewed by the Pennsylvania Commission on Sentencing are outlined in Appendix B. The most commonly cited static factors include criminal history, employment history, and current educational attainment (Pennsylvania Commission on Sentencing, 2011, p. 1). The Commission then categorized the 125 risk factors into specific domains including: demographics, criminal history, psychosocial factors, mental health, antisocial/psychopathic traits, substance abuse, and dynamic predictors (Pennsylvania Commission on Sentencing, 2011, p. 4). The identified risk factors are outlined in Appendix C.

The seven domains identified by the Pennsylvania Commission on Sentencing (2011, pp. 4-5) include risk factors in each category as follows:

1) Demographics: most frequently cited is current age, gender

2) Psychosocial factors (i.e. the individual characteristics and environmental context that exert combined effects on an individual's psychological well-being): current employment, criminal associates or friends, current level of education, social support/quality of relationships, residential stability

3) Mental Health: serious mental illness (e.g., psychotic disorders, bipolar disorder, major depressive disorder), emotional state, interpersonal anxiety

4) Substance abuse (factors within this domain include: history of illegal substance use or abuse; current substance use or abuse; and negative consequences associated with current illegal substance use) (Pennsylvania Commission on Sentencing, 2011, p. 5)

5) Antisocial/psychopathic traits: intimidating/controlling/manipulative personality, lack of remorse or guilt for offenses, history of early childhood maladjustment

6) Criminal history: prior adult convictions, age at first arrest, history of probation/parole violations, history of incarceration, history of violence, history of victimization

7) Dynamic predictors: pro-criminal attitudes (i.e. having attitudes supportive of offending behavior, such as believing it is permissible to steal from people who are wealthy), impulsivity, responsibility for actions, anger management deficits.

To accomplish the two objectives of this thesis, research regarding race and socioeconomic status for the specific domain is discussed. Next, the relationship of the specific risk domain with the remaining risk domains is reviewed. For example, the first domain is demographics. Research is reviewed regarding three demographic categories: gender, age, and race as it relates to crime and the justice system. In the subsequent sections (psychosocial, mental health, substance abuse, antisocial/psychopathic traits, criminal history, and dynamic risk factors), demographic factors are discussed regarding their relevance to the risk domain, engaging in criminal behavior, and treatment in the justice system. Similarly, the psychosocial section is divided into three factors: family life, education, and employment. Each of these factors is discussed with its relationship to race, socioeconomic status, and offending. The next domain is mental health. The discussion regarding mental health also considers race and socioeconomic status while also incorporating elements from family life, education, and employment.

The analysis follows this general pattern with subsequent domains incorporating previous domains. The specific order in which risk domains are discussed was chosen to illustrate how in a linear fashion over time each domain is likely to become salient. For example, demographic factors are discussed first because these begin the initial divisions in exposure to risks based on differences between gender and race. Next are psychosocial factors including family life, education and employment, and so forth; this ordering roughly reflects when certain risk factors are likely to become relevant as an individual moves from childhood, into adolescence, and through adulthood.

Search strategy

Searches were conducted for literature pertaining to race, socioeconomic status, cumulative disadvantage, and the seven risk domains. The process used to locate the literature involved the use of multiple search terms in varying combinations to locate a cross-section of applicable criminological, psychological, legal, and sociological studies in multiple databases including MEDLINE, ProQuest Research Library, NexisUni, ProQuest social science journals, Sage Publications, Science Direct journals, PubMed, JSTOR archival journals, Google Scholar, the Directory of Open Access Journals, and Taylor & Francis online, among others. In addition, numerous government reports and reports from research organizations (i.e. “think tanks”) were also reviewed for substance and finding additional relevant research in the reference sections.

Keyword searches included, but were not limited to: *risk assessment instruments, racial disparities, sentencing, sentencing outcomes, judicial decision-making, reentry, adverse childhood experiences, substance abuse, cumulative disadvantage, psychopathy, mental illness, employment, education, criminal history, and race*. Additional terms and combinations of terms (for example, cumulative disadvantage and criminal justice system) were employed to ensure an objective representation of the issues relevant to risk assessment in the justice system, racial and socioeconomic disparities within the risk domains, and cumulative disadvantage. Searches were also conducted to locate research related to race and socioeconomic status in combination with the risk domains, as well as research that simultaneously analyzed one or more risk domains together (e.g., substance

abuse and mental illness). An example query is: mental illness AND substance abuse AND race. The searches were limited to English language publications.

The searches necessarily uncovered thousands of possible studies for inclusion. Inclusion criteria were English language, peer-reviewed publications. Where sources such as books and reports were used, these provided background or supplemental information. Therefore, cited studies were limited to those published in peer-reviewed publications. Priority was given to studies that examined either multiple risk domains, or specifically focused on race within a specific domain. In total, over 1,200 peer-reviewed articles, books, and reports were considered for inclusion. Ultimately, the resources that had high relevance (i.e., were directly related to analysis of race and/or socioeconomic status and the applicable risk domain) were included, with a concerted effort to include studies that have been highly cited by subsequent research.

Analytic strategy

The analysis of the risk domains is not intended to be an in-depth discussion of all related research on the function of each risk domain and its nexus with criminality *per se*, but rather a narrative review of how race and poverty function within the risk domains. As suggested by models of cumulative disadvantage (Dannefer, 2003; DiPrete & Eirich, 2006) and methods for studying racial discrimination (Blank et al., 2004), examining whether RAIs might be measures of cumulative disadvantage should include how race and poverty intersect with each risk domain, and how the risk domains might interact with one another over time.

In other words, the goal of the analysis was not to conduct a systematic review of the literature in each of the seven risk domains but, rather, to assess racial and socioeconomic patterns of differential outcomes in those domains. Thus, the primary focus of the research review is the relationship of each domain with forms of racial and economic disadvantage and crime. The narrative review presented here helps to identify the themes of the research in the risk domain as it relates to race, socioeconomic status, and criminal offending. In practical terms, imposing this limitation is necessary to gain leverage specifically on the research objectives discussed above and to address the research question of this study.

CHAPTER 4: DISSECTING RISK FACTORS

Measuring and identifying inequality, racial discrimination, and disparate impact is a complex undertaking, making it unlikely that the presence of these problems can be revealed by measuring one or two discrete events or outcomes (Blank et al., 2004; Kutateladze & Lawson, 2017), as is typical of research that examines racial disparities in criminal case outcomes. Despite these concerns, research applying a cumulative disadvantage framework to decision-making in the criminal justice system is limited, although the need for it has been recognized for over forty years (see, e.g., Baumer, 2013; Hagan, 1974; Ulmer, 2012; van Wingerden, van Wilsem, & Johnson, 2016).

Further, in order to assess whether risk assessment instruments may have a discriminatory impact on racial minorities, specific analytical approaches are likely less suitable than others. Writing for the National Research Council Panel on Methods for Assessing Discrimination, Blank, Dabady, and Citro (2004) suggested that regression models that measure race-specific intercepts or those that allow measure interaction effects between race and other variables are limited in their ability to detect and measure racial discrimination. These methods are lacking because racial discrimination likely has cumulative effects over time. In addition, typical studies and statistical models are unlikely to capture interactive effects in which discrimination occurs at one point in time

or in one domain with experiences of discrimination in another domain or at another point in time (Blank et al., 2004, pp. 39–40).

Indeed, there is extensive evidence that persistent and significant differences among racial and ethnic groups in the United States can be seen in most domains of life, leading to differential outcomes as indicated by social, economic, and political measures (Blank et al., 2004). In effect then, accumulation of disadvantage may be seen to occur as deficits in each risk domain “snowball” over time. As disadvantages compound, the negative effects compound, and individual choices become increasingly constrained (Dannefer, 2003). If risk domains are tested empirically utilizing statistical analyses that can measure these cumulative effects then, results may reveal substantive findings of importance for decision-makers who intend to implement risk assessment instruments to improve equality and fairness in the justice system.

The purpose of this chapter is to discuss the research indicating inequality based on race and socioeconomic status within risk domains, and to explore whether and how disadvantages in one domain tend to increase the likelihood of disadvantages and deficits in other domains. On the one hand, discussion of racial and socioeconomic inequities within risk domains represents a discrete approach to measuring risk factors. On the other hand, examination of how inequities in one domain implicate disadvantages in other domains represents a cumulative approach to examining measures of risk and differential offending. Yet discussion of both is necessary in this context to assess whether there is sufficient support for future researchers to utilize a cumulative disadvantage approach to probing the underlying mechanisms of predictive accuracy within risk assessment

instruments as predictors of future criminal offending. A graphical representation depicting the directional relationships between and among the risk domains is presented in Figure 1.

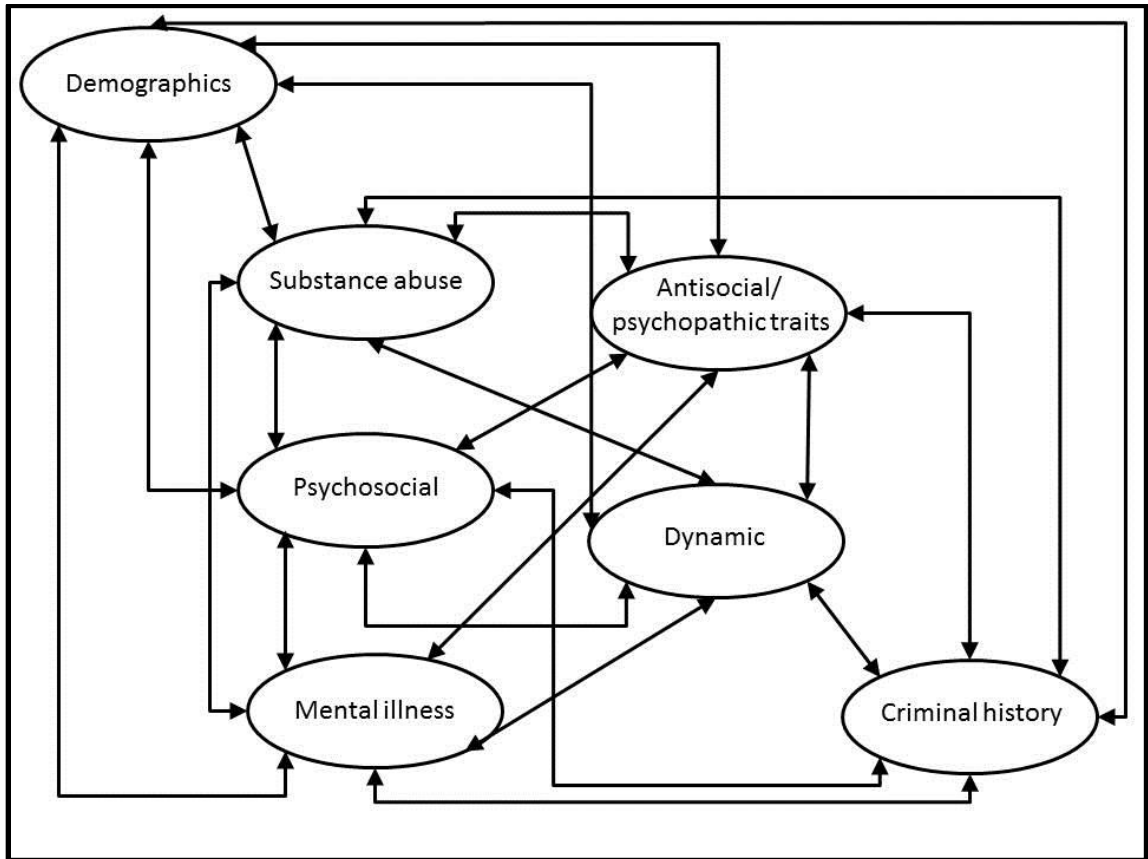


Figure 1. Heuristic model of risk domain relationships

Therefore, the literature review and analysis of the literature in this chapter are intended to gauge whether the aggregation of risk factors, as seen in many actuarial risk assessment instruments, might lend itself to analysis within a cumulative disadvantage framework. If differential risk of criminal offending is in fact related to the disparities

suggested by Blank and colleagues (2004) in various social domains, then the potential for a discriminatory impact of RAIs should be measured in a way that captures racial and socioeconomic disparities in these domains over time. This review draws upon a substantial body of literature that examines social, educational, employment, racial, and socioeconomic factors and differential outcomes among racial and socioeconomic groups. The risk domains will be covered in a roughly chronological fashion as they might be expected to obtain relevance over the life course. Therefore, the risk domains will be covered in the following order: demographics, psychosocial factors (family life, education, and employment), mental health, substance abuse, antisocial/psychopathic traits, demographics, criminal history, and dynamic risk factors.

Demographics

Age, gender, and race will be discussed only briefly below, although there is substantial research regarding gender, age, and race in criminal justice system decision making at a variety of points during case processing (some of which will be discussed in the section regarding criminal history). Yet here, the interest is in how a cumulative disadvantage process might relate to demographic factors, particularly with respect to race. Therefore, subsequent discussions of research regarding risk factors will examine the relevance of these demographic factors when examining the effects of the remaining risk domains.

Age

Age is a risk factor that is commonly a risk factor measured by RAIs. In general, age tends to be negatively related to frequency of offending; in other words, as people

age, they tend to offend less than their younger counterparts. Recidivism rates also tend to be highest among younger people. For example, the Bureau of Justice Statics (2014) reported that 84.1 percent of released state inmates aged 24 or younger at release were arrested within five years of release, compared to 78.6 percent aged 25-39, and 69.2 percent of those age 40 and over.

However, the research regarding age and the impact on sentencing is often conflicting, making it difficult to draw firm conclusions about the impact of age alone on sentencing outcomes. In a meta-analysis of 60 studies regarding age and sentencing, Wu and Spohn (2009) found no direct relationship between age and length of sentence. Instead, offender age appears to interact with other factors such as race, ethnicity, and gender rather than having a separate direct effect on outcomes, making it more difficult to isolate the effects age has on sentencing decisions and explaining some of the variation in research findings (Wu & Spohn, 2009). According to the focal concerns perspective, the combination of age, gender, and race may affect judicial perceptions of risk, and thereby sentencing decisions, without information provided from an RAI (Steffensmeier, Ulmer, & Kramer, 1998b). On the other hand, some RAIs measure both gender and age as risk factors that result in an increased assessment of risk level as a result of being young and male.

Gender

Few would dispute the fact that there are gender differences in the type and frequency of criminal behavior. In fact, men are fifteen times more likely to be incarcerated than are women in the United States (Starr, 2015). Research also indicates

that judges and prosecutors tend to treat female defendants more leniently than male defendants (Starr, 2015). Even after controlling for the offense and other pre-arrest variables such as race, age, education, family characteristics, and criminal history, gender disparities are still large in sentencing determinations (Etienne, 2009).

Gender differences in delinquent and criminal behavior, and justice system responses to it, begin to emerge in adolescence. For example, girls tend to be treated more favorably at several stages of delinquency case processing and they are less likely to be arrested than boys (Bishop & Frazier, 1991; Sealock & Simpson, 1998; Spohn & Beichner, 2000) (cited in Besemer, Farrington, & Bijleveld, 2013). Yet boys may be more vulnerable to other factors that put them at risk for criminal behavior than are girls. For example, research suggests that boys are more vulnerable to behavior disorder than girls, and may be more negatively affected by stress related to psychiatric illness of their parents and broken homes due to parental discord (Cadoret, 1980, citing Rutter, 1970, 1974). In addition, particularly for males, childhood maltreatment is associated with increased violence and delinquency (Baglivio et al., 2014, citing Chen, Propp, deLara, & Corvo, 2011; Mass, Herrenkohl, Sousa, 2008; Yu-Ling Chiu, Ryan, Herz, 2011). Males also tend to have higher rates of substance use disorders and antisocial personality disorder (Aneshensel, 2005 citing Kessler & Zhao, 1999), both disorders that are commonly measured as risk factors in RAIs as predictive of reoffending. A more detailed discussion of these risk factors that begin to emerge early in the life course is set forth in the section on psychosocial factors.

Race

Although race is not an explicit factor in any known risk assessment instrument in use at this time (Starr, 2014), it is ever-present in criminal justice decision-making, including at sentencing. For example, race is specifically mentioned in pre-sentence investigation reports (PSIRs) in Pennsylvania (Pennsylvania Commission on Sentencing, 2011), federal PSIRs (Ellis, 2014), and presumably other jurisdictions in which race/ethnicity information is collected in presentence investigation questionnaires (see, e.g., Itasca County, Minnesota Government Website, 2015; Maryland State Commission on Criminal Sentencing Policy, 2018; Montana Department of Corrections, 2017). Race in the justice system has been researched extensively, from disparities in policing, to pretrial detention, to plea bargains, to sentencing outcomes in both the adult and juvenile systems. Some of this research will be discussed more extensively in this chapter in the section regarding the use of criminal history in RAIs.

Young black males face highly disproportionate incarceration rates when compared to their white counterparts (Carson, 2018). The gender gap in incarceration rates noted previously is even more pronounced when black male defendants are compared with non-black male defendants (Etienne, 2009). Yet overrepresentation of minorities in the criminal justice system is likely the result of both disparate treatment and differential offending (Piquero, 2008). Therefore, perhaps applying a cumulative disadvantage analysis to measurements of risk domains might illuminate the sources of differential offending.

Psychosocial Risk Domain

Psychosocial factors include individual characteristics and environmental context that affect psychological well-being. The Pennsylvania Commission on Sentencing identified the psychosocial factors most commonly measured by risk assessment instruments as: current employment, criminal associates or friends, current level of education, social support/quality of relationships, and residential stability (Pennsylvania Commission on Sentencing, 2011, p. 4). In risk assessment instruments, these factors are measured at the level of the individual, yet encompass a constellation of social and structural disadvantages that are obscured when the factors are not evaluated in context.

Psychosocial factors encompass a broad range of the aspects of family, community, and social supports that are integral to prevention of delinquency and crime. The risk that a child will be born into a poor family, and therefore reside in, an economically deprived neighborhood is not evenly distributed among racial groups. Based on national data, black Americans and Hispanics disproportionately live in neighborhoods that have both a higher percentage of individuals living below the poverty line and a lower median household income (Firebaugh & Farrell, 2016). On the other hand, according to data from 2010, Asians tend to live in neighborhoods with lower-than-average poverty rates (Firebaugh & Farrell, 2016). Therefore, black and Hispanic children are more likely to reside in poorer neighborhoods with access to fewer resources and less interaction with people of higher affluence (Intrator, Tannen, & Massey, 2016).

Community and social context are strongly related to socioeconomic status, access to education and employment, and even to potential deleterious effects on the

mental well-being of residents. Wealth generally correlates to the neighborhood in which one lives, and people living in poorer neighborhoods are exposed to more crime (Leventhal & Brooks-Gunn, 2011; Pope & Pope, 2012; Zaw et al., 2016). Poverty in childhood affects not only achievement in education, but both poverty and poor academic performance are then related to delinquency in adolescence, which can have long-term effects on opportunities for employment in adulthood (Backman & Nilsson, 2011). Living in poverty is also associated with many problems in childhood and adolescence including diminished school performance, mental health issues, and behavioral problems that are linked with juvenile delinquency (Hawkins, Laub, Lauritsen, & Cothorn, 2000). These relationships will be discussed in more detail in subsequent sections of this chapter.

Indeed, research on the effects of neighborhood contexts indicates that individual risk factors for criminal offending and recidivism demonstrate interactive effects with the context in which an individual lives (Bellair & Kowalski, 2011; Bellair & McNulty, 2005; Kubrin et al., 2007; Mears, Wang, Hay, & Bales, 2008; Peeples & Loeber, 1994; Reiss et al., 2007; Robert, 1999; Sampson et al., 2005; Wang, Mears, & Bales, 2010). For example, Sampson, Morenoff, and Raudenbush (2005) evaluated the racial gap in violent crimes among adolescents in Chicago between 1995 and 2002. The odds for a black youth committing a violent crime were 85 percent higher than for a white youth. However, the authors found that about 33 percent of this difference was accounted for by neighborhood characteristics (e.g., percentage of professional workers, level of moral/legal cynicism due to prior violence in neighborhood) (Sampson et al., 2005).

Sociologists have also studied extensively the relationships between psychological symptoms or disorders and racial segregation, gender stratification, and concentrated poverty (Aneshensel, 2005). The etiological model focuses on social factors that precede mental disorder, whereas the social consequences model relates to the mental health consequences of specific social or structural arrangements (Aneshensel, 2005). On the other hand, the sociological model focuses on the consequences of structural factors, such as poverty and racial segregation, on aspects of mental health such as violence, substance abuse, and antisocial personality disorder (Aneshensel, 2005). Regardless of which perspective is taken, a large body of literature establishes the relationship between mental well-being at the individual level and social and structural factors such as disparities in access to resources and exposure to stressors (McLeod & Owens, 2004).

Racial segregation is prominent in many communities and is correlated with multiple disadvantages across various life domains. Segregation continues to be a significant social feature of life circumstances for minorities and the poor in the United States. Segregation of Hispanics is increasing, and segregation of African-Americans and whites, while decreasing slightly, remains significant (Kent & Mather, 2002). Racial discrimination and segregation limit the social and economic opportunities available to minorities in the U.S., particularly African Americans (Blumstein, 1993). Segregation results in extensive disadvantages and disruptions in multiple domains of life including family structure, employment opportunities, opportunities for quality education, and educational achievement levels (Massey & Denton, 1993; Wilson, 1987). For example,

high rates of single parent households and low rates of marriage are seen in highly segregated communities. Others have noted the disappearance or displacement of low-skilled employment opportunities that were previously available to residents in urban settings, particularly African Americans with substandard educational credentials (Kasarda, 1989; Wilson, 1996). Further, public resources, including quality schools, tend to be less available in areas marked by segregation and poverty (Logan & Messner, 1987). Therefore, the primary mechanism by which segregation is believed to have deleterious effects on African American families and communities is through consequences of socioeconomic disadvantages relative to predominantly white areas (Akins, 2009; Logan & Messner, 1987; Parker & McCall, 1999; Peterson, Krivo, & Harris, 2000).

Segregation is also associated with higher rates of violent crime (Akins, 2009; Logan & Messner, 1987; Parker & McCall, 1999; Peterson et al., 2000). In highly segregated cities, poverty tends to concentrate in predominantly minority neighborhoods (Massey, 1990). For example, Akins (2009) examined whether poverty mediates the variability in rates of assault and robbery in 177 census tracts in Columbus, Ohio. Akins investigated whether measures of economic disadvantage mediated the relationship between tracts characterized by high levels of racial segregation and rates of assault and robbery when controlling for the percentage of young males living in the community. Analysis of the data revealed that the relationship between level of assault and level of segregation was nearly entirely mediated by the influence of socioeconomic disadvantage. On the other hand, robbery was highly correlated with segregation, but

mediation testing was not possible due to the fact that these crimes are clustered and not evenly distributed within tracts. As indicated by Akins' findings, whereas robbery might suggest an economic motive for that type of crime, the mediating effects of socioeconomic deprivation seen in rates of assault suggest other motivations underlying assaultive behavior. Overall, the results of this study indicate that some types of crime in segregated communities are strongly related to the level of poverty in the community, not its racial makeup or percentage of young males living in the community (Akins, 2009).

Mears, Wang, Hay, and Bales (2008) also examined the effects of racial segregation and resource deprivation on recidivism rates among men released from Florida prisons between January 1998 and June 2001. Recidivism rates for violent crime were associated with resource deprivation, but not property crime. Mears and colleagues also found that violent and drug recidivism was greater among young nonwhite males, although resource deprivation and racial segregation were not supported as causal explanations. Nonetheless, the interaction between race and age in reoffending rates for higher rates of drug and property recidivism were conditioned by levels of racial segregation (Mears et al., 2008). The findings from Akins's (2009) study and those of Mears and colleagues (2008) are similar to other research findings that indicate an interactive relationship between individual characteristics, community context, and involvement in crime, particularly for young nonwhite males.

Overall, psychosocial factors (including family variables and socioeconomic factors) are vulnerable to being impacted by racial disparities that also tend to increase the level of family disorder and negatively impact socioeconomic status. Importantly,

high levels of segregation are correlated with negative impacts on racial minorities regarding family life and economic opportunities. Family life (discussed in the next section) includes the quality of relationships and residential stability. Next, education and issues of race and socioeconomic factors are examined, including how family life, poverty, and race are related to education. Finally in the area of psychosocial factors, employment will be discussed. Employment is affected by not only individual factors such as level of education, but by race and socioeconomic status, as well as availability of jobs in the community.

Family life

Psychosocial factors related to family life, education, and employment are interrelated, and these factors play an important role in determining whether an individual is likely to avoid, or desist from, engaging in criminal acts. Prior to their entry into the education system, the context of family is definitive of early childhood experiences. Families “generate the social environment that defines the developmental context of children” (Potter & Roksa, 2013, p. 1021). Parents who exhibit poor discipline skills, instability, and low levels of involvement increase the likelihood that their children will engage in substance use, antisocial behavior, and will have low levels of academic achievement or drop out of school (Crouter, MacDermid, McHale, & Perry-Jenkins, 1991; Kerr, Stattin, & Burk, 2010; Masten & Coatsworth, 1998; Patterson & Stouthamer-Loeber, 1984; Stattin & Kerr, 2000). Thus, the child’s experience of family life may profoundly impact his or her behavior.

Segregation in urban areas tends to have a negative impact on family life; for example, in 2003, McKinnon reported that 43 percent of African-Americans had never been married, compared to only 25 percent of non-Hispanic whites (cited in Akins, 2009). Black children are also more likely to live in single-parent households, thus limiting access to economic resources (Bellair & McNulty, 2005 citing Massey & Denton, 1993; Wilson, 1996). Other researchers have confirmed the low rates of marriage and high rates of single parent households in highly segregated communities (Akins, 2009 citing Anderson, 1990; Sampson, 1987; Wilson, 1987, 1996). Tonry and Melewski (2008) highlight some of the racial disparities in terms of socioeconomic factors, employment, home ownership and education drawing from the 2007 Statistical Abstract of the United States. In 2004, the per capita income for black Americans was \$16,035 compared to \$25,203 for whites (Tonry & Melewski, 2008). Relatedly, more than one-third of black children lived in households below the poverty line, compared to 14.2 percent of white children. According to U.S. Department of Commerce statistics, in 2005 48.1 percent of African-Americans owned their homes compared to 72.7 percent of whites (cited in Tonry & Melewski, 2008). According to the U.S. Census Bureau in 2012, African-Americans, and particularly Hispanics have lower high school and college graduation rates than whites (cited in Starr, 2014). These disparities mean that the neighborhood context within which the average white offender will grow up will vary significantly from the average black offender.

Segregation, and the resulting effects on access to resources and disrupted stability in family life can directly and indirectly affect childhood development and

subsequent involvement in crime. Sampson (1987) examined black family disruption in the context of communities and juvenile crime to test whether black family disruption is related to juvenile offending independent of factors related to female-headed households (e.g., poverty). That is, whether the impact of family disruption for black families would be more significant than family disruption for white families in predicting juvenile offending (Sampson, 1987). Although, Sampson (1987) found that family disruption produced similar rates of adult robbery and homicide regardless of race, the findings also indicated that black families tended to be subject to more of the indirect influences that have a negative effect on family life. In addition, family disruption had the largest effect on robbery and homicide offenses for black juveniles. These findings support the proposition that the direct and indirect effects of disruptions in black family structure have a significant impact on violent offending among black juveniles.

Also related to family structure, research shows that children who are separated from their parents (DeMatteo & Marczyk, 2005), suffer the loss of a parent (Farrington, 1997), or have a parent who is involved in crime (Dong et al., 2004) are at greater risk for residential instability, emotional problems, substance use/abuse, delinquency, poor academic outcomes, and maltreatment (Mallett, 2017). Murray and Farrington (2005) also found that separation from a parent due to incarceration in particular (in comparison to other types of separation) significantly predicted delinquency and antisocial outcomes up to the age of 32, even after controlling for other risk factors including IQ, family income and size, social class of family, and parental attitudes.

At midyear in 2007, approximately 52 percent of state inmates and 63 percent of federal inmates reported having minor children (under the age of 18), accounting for over 1.7 million minor children in the U.S. with an incarcerated parent (Glaze & Maruschak, 2008). Of over 1.5 million children in mid-2007 with a father in prison, nearly half (46 percent) were children of black fathers (Glaze & Maruschak, 2008). To put this in context, in mid-2007, approximately one in 15 black children, one in 41 Hispanic children, and one in 110 white children had an incarcerated parent (Christian, 2009). These numbers help illustrate how significant a risk this is for minority children, particularly African Americans.

Criminal or antisocial parents also appear to be one of the strongest predictors of offending (Besemer, Farrington, & Bijleveld, 2017). This effect may in part reflect a process known as “embeddedness,” (Hagan, 1993), in which delinquent children and adolescents are influenced by family and peers to engage in criminal behaviors and develop pro-criminal attitudes. Farrington (2011) suggests another possible mechanism that may explain intergenerational transmission of crime is official bias - for example, when police pay more attention to “criminal families,” thereby making it more likely for family members to be caught. Additionally, courts may punish individuals from a criminal family more harshly (Besemer, Farrington, et al., 2017). Research on the intergenerational transmission of crime also indicates that people from low socioeconomic backgrounds tend to be arrested with disproportionate frequency (Sealock & Simpson, 1998). Children whose parents have been convicted of a crime are at higher risk of being convicted than children whose parents have not been (Farrington, 1997;

Thornberry, 2009). Early formal intervention by police has been shown to have enduring effects beyond criminal outcomes; it can also negatively impact educational outcomes, employment prospects, and financial well-being (Bernburg & Krohn, 2003; Lopes et al., 2012; Sampson & Laub, 1993, 1997), making the influence of decisions in the juvenile justice system particularly important for long-term outcomes. Incarceration may further strengthen involvement in criminal networks (Hagan & Dinovitzer, 1999).

Adverse Childhood Experiences

Extensive research also demonstrates the link between abuse in childhood and higher rates of offending in adulthood (Teague, Mazerolle, Legosz, & Sanderson, 2008). A burgeoning area of research has been influenced by the Adverse Childhood Experiences (ACE) Study conducted by Felitti, et al. (1998). The authors examined the interrelationship between disease and risky behavior in adulthood with exposure to childhood abuse, neglect, and family dysfunction. The authors surveyed 9,508 people regarding seven categories of adverse experiences in their childhood, including various forms of abuse (physical, sexual, psychological), violence against the mother, as well as residing with someone who had been incarcerated, was mentally ill, suicidal, or a substance abuser (Felitti et al., 1998). The authors found a positive and graded correlation between the number of factors to which respondents answered affirmatively and disease and risk-taking behavior in adulthood (Felitti et al., 1998). In effect, the more adverse childhood experiences one was exposed to, the more likely the individual was to engage in alcohol abuse, drug abuse, smoking, and suicide attempts (Felitti et al., 1998).

In the Felitti, et al. (1998) study, 6.2 percent of all participants reported ACEs in four or more categories. Among those identifying as Hispanic, 11.2 percent reported four or more ACEs; those identifying as white or black were similar in terms of reporting four or more ACEs, at 6 percent and 7 percent, respectively. The analysis did not include a breakdown for those participants exposed to more than four ACEs, so the relationship between race and total number of reported ACEs could not be examined. However, nearly half of whites (49.7 percent) reported zero ACEs, while only 38.8 percent of black participants and 42.9 percent of Hispanics reported zero ACEs. Based on simply comparing percentages, these results indicate a decreased likelihood for African American and Hispanic respondents that they would report no ACEs compared to whites.

Among offenders, those who experience childhood physical abuse and maltreatment self-report higher rates of total offending, property offending, and violent offending, even after controlling for delinquent behavior as juveniles (Baglivio et al., 2014; Teague et al., 2008). Ireland, Smith, and Thornberry (2002) also examined the impact of maltreatment in early childhood (i.e. prior to the age of 12) and compared this both to maltreatment limited to adolescence and persistent maltreatment and measured outcomes in self-reported and official reports of delinquency and drug use. Their findings indicate that — although maltreatment in childhood is related to an increased risk of violent offending in early adolescence — this effect is no longer seen in late adolescence. However, maltreatment in adolescence and persistent maltreatment are both related to increased delinquency and chronic offending, and to occasional offending to a lesser extent. Other research that incorporates the ACE framework includes research on violent

delinquency (Woodward & Fergusson, 2000) and psychopathy (Marshall & Cooke, 1999). It is only recently that criminological researchers have begun to incorporate the ACEs framework into their research.

To summarize the domain of family life, we begin to see early on the contextual factors that affect children, particularly the deleterious effects to poor and minority children who are disproportionately likely to live in poorly-resourced neighborhoods, and whose families more frequently lack the social or economic resources to provide substantial safety and stability that prepares children for educational attainment. Examining the issues in early childhood in context, we also see that these disadvantages early in life that disproportionately impact minorities and the poor are correlated with a host of problems later on (not limited to criminal behavior). In other words, family life and neighborhood context exert far-reaching effects on the opportunities and challenges that occur throughout adolescence and into adulthood. In the next section, the discussion of context and family life will continue with a specific focus on how these early exposures to disadvantages and adverse experiences affect the educational trajectory for many children from impoverished backgrounds.

Education

The family context, discussed in the previous section, is often studied in relationship to educational outcomes, particularly with respect to inequality in education (see, e.g., Condrón, 2009; Downey, Von Hippel, & Broh, 2004). In particular, adverse childhood experiences such as abuse and neglect have a significant negative effect on children's ability to learn, affecting both their cognitive and language abilities (Smithgall,

Gladden, Howard, Goerge, & Courtney, 2004 cited in Mallett, 2017). Negative impacts on grades and school performance (e.g., being held back a grade, higher rates of absenteeism, behavior problems, lower grades, and reading and math skills) begin for maltreated children in primary school and last through high school (Mallett, 2017). Neglect, physical abuse, and sexual abuse affect not only educational achievement, but outcomes in other risk domains, such as mental health problems (e.g., post-traumatic stress disorder, anxiety, hyperactivity) and substance use/abuse (Mallett, 2017 citing Kelley, Thornberry, & Smith, 1997; Wiebush, Freitag, & Bird, 2001). These traumatic experiences can, therefore, accumulate over time in a way which seems to increase disadvantage.

School is one of the first formal institutions children encounter through which cumulative disadvantage can be observed and measured for its relationship to racial and socioeconomic disparities. From the beginning of formal education, there are gaps in children's skills and abilities that vary as a function of not only individual capacity, but also ethnic background, social status, and parents' educational level (Baumert, Nagy, & Lehmann, 2012). At the outset, there are strong correlations between family resources and student abilities measured early in education (Breen & Jonsson, 2005). These gaps in educational performance related to race and socioeconomic status thereby (SES) exist independent of individual ability, and lead to disparities that tend to increase over time (Domina, Penner, & Penner, 2017). The negative impacts of race and SES can be seen in the disproportionate rates at which disadvantaged students fail to graduate from high

school. Academic achievement is also related to the neighborhood in which a child lives and the effects of involvement in the juvenile justice system.

Socioeconomic status is associated with other sources of disadvantage, such as family experiences and neighborhood characteristics, which indirectly affect school performance (García, 2015). Socioeconomic status is also identified as one of the factors most strongly correlated with differences in academic achievement among students (García, 2015), and is both directly and indirectly linked to academic achievement (Sirin, 2005). For example, evidence of developmental deficits in early testing of math and reading skills can be seen among children in families of lower socioeconomic status (Lee & Burkam, 2002). The differences between children who enter school with lower skill levels resulting from poverty and parents' social status and education compared to children not so burdened tend to grow over time (Potter & Roksa, 2013). Furthermore, educational skills gaps based on race tend to be attributable to the circumstances and sequelae of poverty that disproportionately affect minority groups, not the inherent qualities or abilities of these groups (García, 2015). In part, early testing of math and reading skills tends to determine access to future educational opportunities (Breen & Jonsson, 2005), thereby strengthening the connection between socioeconomic and minority status and lower cognitive abilities over time (Sirin, 2005).

The indirect links between SES and academic achievements are also the product of system interactions that involve student racial/ethnic background and location of the school and/or neighborhood in which a student lives (Brooks-Gunn & Duncan, 1997). Studies examining increases in educational achievement demonstrate particularly

significant benefits of interventions for students who are poor or minorities (Hout, 2012). Yet such help may not be available to children in poor neighborhoods where they tend to receive lower-quality education (Nguyen-Hoang & Yinger, 2011). The neighborhoods where poor black and Hispanic children live are too often segregated areas of concentrated poverty where their families have lived for generations (Rothstein, 2013, 2014; Sharkey, 2013 cited in García, 2015). According to the National Center for Education Statistics' Early Childhood Longitudinal Study, among children who entered kindergarten in 2010, one-quarter of them lived in poverty; however, this figure was much higher for minority children, with around 46 percent of black children and 63 percent of Hispanic children being poor (García, 2015). Resources in schools in poor neighborhoods are limited due to inadequate funding, which predictably means lower quality in education that thereby puts students at a competitive disadvantage for future employment and educational opportunities (Massey, 2006). The racial disparities become starkly evident considering about half of African American students and 40 percent of Hispanic students attend lower achieving schools, compared to only 11 percent of white students (EPE Research Center, 2006).

Over the past thirty years, research has also consistently shown that minority students are significantly more likely than white students to be subjected to overly harsh discipline (Advancement Project et al., 2011), creating what is known as the “school-to-prison pipeline.” The school-to-prison pipeline may perpetuate criminality through harsh disciplinary policies (e.g., “zero tolerance”) in which certain students are identified as trouble-makers (Mankovich, 2016). Some children in particular are more at risk for

punitive responses from school officials: students with mental disorders, minorities, and those of low socioeconomic status (Mankovich, 2016). However, there is a significant relationship between suspension and expulsion and race even after controlling for poverty (Mallett, 2017; Skiba, Michael, Nardo, & Peterson, 2002). Data from the Department of Education (2011-2012) indicate that black males are suspended more than three times as often as white males, and black girls are suspended six times as often as white girls (Crenshaw, Ocen, & Nanda, 2015), suggesting racial differences in administrative responses to problem behavior. Therefore, school policies that include punitive disciplinary measures are being examined and criticized for the disproportionate impact they have on racial minorities in terms of low school achievement, involvement in the justice system, and other negative consequences in terms of educational attainment.

Failure to graduate from high school is related to criminal behavior and other long-term negative outcomes in adulthood, such as limited employment opportunities. Nearly 25 percent more white students graduate with a high school diploma than their African American and Hispanic counterparts (Greene & Winters, 2005). Further, while approximately 77 percent of white males graduate on time, only about 48 percent of Latino males and 43 percent of black males do so (Hirschfield, 2009 citing Swanson, 2004). Graduation rates also tend to be lower for males than females. For example, a 2006 study by the Editorial Projects in Education (EPE) Research Center reported only 44.3 percent of black males graduate, compared to 57.8 percent of black females. The picture is also stark for students of lower socioeconomic status who attend urban schools - they have almost a 20 percent higher risk of dropping out than students in suburban

schools (EPE Research Center, 2006). Therefore, dropout rates are not evenly distributed among schools; nationally, only about 10 percent of schools account for almost half of high school dropouts. In addition, “on-time” high school graduation rates (within four years) are 56.5 percent in large cities compared to 72.7 percent in suburbs (Swanson, 2004 cited in Hirschfield, 2009). The negative relationship between race and socioeconomic status and educational attainment is substantial, and poor outcomes tend to compound as time goes on.

The negative relationship between juvenile justice involvement and educational attainment is also well-established. For example, Hirschfield (2009) found that being involved in the juvenile justice system increased the risk of dropping out of school by 670 percent among students in Chicago in the 1990s. Furthermore, in some particularly disadvantaged neighborhoods, minority students are very likely to be arrested as juveniles. For example, among both black male and female public school students in poor neighborhoods in Denver and Seattle, over half were arrested as juveniles. Similarly, in Pittsburgh, over half of black male public school students were arrested as juveniles (Huizinga et al., 2007). In the inner-city of Chicago, about 49 percent of black juvenile males and 19 percent of black juvenile females were arrested (Huizinga et al., 2007). Whereas only about 11 percent of white males who drop out of high school have been incarcerated by age 34, approximately 59 percent of black male dropouts have spent time imprisoned by that age (Pettit & Western, 2004). Therefore, involvement in the criminal justice system not only predicts negative effects on educational attainment, but low

educational attainment also predicts criminal justice system involvement, demonstrating the bidirectional nature of the relationship.

Thus, educational attainment is closely connected with family context, economic status, the neighborhood in which a child lives, and race. Children who grow up in poverty face a host of challenges related to delayed learning, poor academic achievement, and harsher discipline. For minority children, they may also be disproportionately targeted for disciplinary measures in school which in turn decreases their performance and may ultimately interfere with completing school. Juvenile justice system involvement further decreases the likelihood of graduating high school, which predicts a poor prognosis in terms of future employment. The next section, which examines factors affecting employment, will include discussion of some of the relationships between the factors discussed thus far: demographics, early family life including segregation and poverty, and educational attainment.

Employment

Employment may be seen as a protective factor if an individual has a job, but it also considered a risk factor for reoffending when an individual does not have a job. Yet, unlike many other risk factors, an individual's employment status is a factor that can actually be ameliorated in a very short period of time (i.e., from one day to the next) (Cohen & VanBenschoten, 2014). While employment provides economic sustenance, the lack of employment can also disrupt family life (Akins, 2009 citing Wilson 1987, 1996) and have negative effects on mental health (Warr, Jackson, & Banks, 1988). Lack of employment further creates instability and dysregulation in the patterns of daily life and

engagement with conventional activities (Hirschi, 1969). However, access to, and availability of employment is dependent upon social relationships, educational level, and availability of jobs in the area in which an individual lives. Indeed, disparities in levels of employment begin to emerge in adolescence, such that black adolescents and those from a low socioeconomic background are less likely to be employed than middle-class white youths (Gardecki, 2001). For example, among a sample of over 3,500 adolescents, McLoyd and Hallman (in press) found that white youths were 2.5 times more likely to be employed than were black youths. A more detailed discussion of these factors affecting employment follows.

Social bonds, family relationships, and employment

Social capital comprises relationships and networks that provide knowledge about the availability of jobs and personal connections that can help in obtaining those jobs, particularly for adolescents in families of low socioeconomic status (McLoyd & Hallman, in press). From a very early age (as young as 3 years old), the occupational status of one's parents, high levels of family conflict, and living in a single parent home are negatively correlated with later employment (Caspi, Moffitt, Entner Wright, & Silva, 1998). For example, Caspi et al. (1998) reported that youths whose parents had lower status jobs were more than 17 percent more likely to become unemployed than those youths whose parents had higher-status positions. These effects become particularly salient during adolescence and young adulthood as youths make the transition from school to work (Caspi et al., 1998). Indeed, it has been argued that these factors evident

in early childhood predict future unemployment through “a process of cumulative disadvantage and risk” (Caspi et al., 1998, p. 442).

Criminologists have proposed that poor relationships cause deficits in social capital, which thereby links offending in adolescence to negative effects on adult employment (Hagan, 1993). Moreover, adolescents who fail to successfully make the transition into adult employment are at risk for a number of negative long-term outcomes in economic terms, psychosocial functioning and mental well-being (Ezzy, 1993; Wiesner, Kim, & Capaldi, 2010). Where positive and supportive prosocial relationships exist, these relationships serve as important sources of support including encouraging engagement in conventional activities (Laub, Nagin, & Sampson, 1998; Warr, 1998) and providing emotional support (Mallik-Kane & Visser, 2008; Naser & Visser, 2006; Shapiro & Schwartz, 2001), which are important for prevention of involvement in crime and desistance (Nelson, Deess, & Allen, 1999; Sullivan, Mino, Nelson, & Pope, 2002).

Family bonds and social networks also appear to have a positive effect on employment following incarceration. Offenders who have positive ties with family are less likely to recidivate, are more likely to be employed when they are released from incarceration, and are less likely to be unemployed one month after release even if they were frequently unemployed before their incarceration (Berg & Huebner, 2011). Berg and Huebner (2011) found that positive family ties helped mitigate the negative effects of having a poor work history prior to incarceration, thereby helping individuals to obtain employment after release. On the other hand, offenders who had a poor work history

before incarceration and poor family ties (and support) were the least likely to find employment upon release.

Education and employment

Engagement in steady employment is partly dependent upon skills and experience, and is also closely tied with academic achievement (Caspi et al., 1998). In fact, adolescents who have lower reading scores are less likely to be employed during the transition years to early adulthood (Caspi et al., 1998). Education provides foundational skills needed to perform successfully in a job, and academic achievement contributes to the types of jobs for which one is eligible, and therefore how much economic remuneration can be expected (Schubert, Mulvey, Hawes, & Davis, 2018). The lack of a high school diploma has been shown to significantly increase the risk of unemployment (Caspi et al., 1998). Dropping out of high school is particularly detrimental for African American males with respect to employment prospects and risk of incarceration. At age 19, only about 39 percent of black males are employed compared to about 60 percent of Latino male dropouts (Hirschfield, 2009 citing Bureau of Labor Statistics, 2007). As discussed in the previous section on education, educational outcomes are closely related to adversity in family circumstances (e.g., socioeconomic status) and community characteristics closely tied with race and socioeconomic status (e.g., segregation).

Jobs availability

The availability of employment is also dependent upon opportunities within a given area. For individuals living in communities marked by segregation, this factor is particularly salient because segregated communities tend to have high levels of

unemployment due to both a lack of employment opportunities and due to social isolation (Akins, 2009 citing Kasarda, 1989; Sampson & Wilson, 1995; Wilson, 1987, 1996).

Social isolation negatively affects employment because social networks are important for learning about jobs as well as providing referrals for available jobs. The lack of economic and employment opportunities as indicated by rates of joblessness in a neighborhood is also a significant predictor of the level of crime in that neighborhood (Sampson & Wilson, 1995 cited in Akins, 2009).

Likely due in part to the effects of segregation, African Americans in particular are more likely to experience periods of unemployment as teenagers and adults (Altonji & Blank, 1999). African Americans may also earn less money over time due to lower wage growth and, therefore, have a diminished ability to accumulate wealth relative to whites (Altonji & Blank, 1999). Trends in joblessness by racial groups indicate that by 2010, nearly 42 percent of black men had no annual earnings compared to 24 percent of Hispanic males and 17 percent of white males (Hirsch & Winters, 2014). Lower education levels among black males explain only about 20 percent of this employment disparity between groups (Hirsch & Winters, 2014). However, economic and racial stratification effects may be the most salient and the most detrimental to low-income African Americans because they are less likely to have the access that even low-income whites often have to better schools and other resources available in middle-income, predominantly white neighborhoods (Iceland & Wilkes, 2006; Reardon & Bischoff, 2011).

Criminal justice involvement and subsequent employment

Estimates are that three percent of the adult population in the United States has been to prison, and eight percent of all adults have a felony conviction (Shannon et al., 2017). Yet these figures are significantly higher for African Americans: 15 percent of adult African American males have been to prison, and 33 percent of African American adults have a felony conviction (Shannon et al., 2017). Offenders released from incarceration tend to have very low employment rates, likely due in part to the stigma of incarceration (Sampson & Laub, 1997), an effect that can follow former offenders for many years and which impacts not only their current economic situation, but their future earning potential as well (Western, Kling, & Weiman, 2001). Sampson and Laub (1997) have suggested a cumulative disadvantage effect of bearing a criminal record on future employment prospects (Sampson & Laub, 1997). In fact, research on the effects of criminal justice involvement in adolescence and early adulthood frequently finds negative consequences on the future employability and earnings capacity of young offenders (Bushway, 1998; Freeman, 1991; Grogger, 1995; Hagan, 1993; Kerley, Benson, Lee, & Cullen, 2004; Needels, 1996; Tanner, Davies, & O'Grady, 1999; Thornberry & Christenson, 1984; Western, 2002), indicating the long-term effects of juvenile involvement in crime on future employment prospects.

Furthermore, as children move into their teenage years, educational achievement and completion of a high school diploma is significantly disrupted by involvement with the justice system. A minority (about 15-30%) of juveniles who become involved with the juvenile justice system will complete either a General Equivalency Diploma (GED) or

a high school diploma (Schubert et al., 2018). The lack of a high school diploma (even if a GED is obtained) most often significantly limits future job opportunities and income potential (Schubert et al., 2018). Therefore, the combination of educational deficits and criminal justice involvement creates a “perfect storm” in which it is very difficult for individuals with lower levels of education and an arrest history to obtain employment that pays a livable wage, or the ability to get a job at all (Cundiff, 2016).

Among adults who have served time in prison, African Americans are significantly more likely than their white counterparts to return to a neighborhood that has few low-skill employment opportunities. For example, among a sample of returning prisoners in Ohio in 2000, only 55.8 percent of African Americans, compared to 80.8 percent of white parolees, returned to a community with an unemployment rate of between zero and ten percent (Bellair & Kowalski, 2011). In fact, Bellair and Kowalski (2011) found that the availability of manufacturing jobs reduced to nonsignificance the racial differences in recidivism rates among returning prisoners. In other words, the differences in access to opportunities in low-skilled employment for black and white returning prisoners accounts for most of the racial disparities in recidivism. This finding highlights the importance, as discussed previously, of the availability of jobs and the apparent deterrent effects of employment.

In summary, a poor work history, or lack of current employment, may be reflective of a process of cumulative disadvantage in which the more challenges one has in obtaining employment, the less likely an individual is to be employed currently or to easily secure employment. Both social capital and proximity to available job

opportunities are important factors influencing whether an individual does or does not have a job (Weinberg, Reagan, & Yankow, 2004). Following a period of incarceration, research indicates that black and Hispanics are disadvantaged in obtaining employment and their earnings levels relative to whites, likely as a result of weaker social networks with access to good-paying jobs, and more intense stigma related to their criminal history (Western & Sirois, in press). Further, racial segregation has been found to increase disparities in educational outcomes and income inequalities (Ananat, 2011; Cutler & Glaeser, 1997). Thus, employment status might fairly be understood as dependent upon factors other than individual abilities or aspirations. When considered in combination with the effects that accumulate as a result of segregation, disparity in access to educational resources and opportunities, lack of employment opportunities in a given area, and barriers faced in employment following a period of incarceration, it is not difficult to see how such deficits significantly affect the likelihood an individual will be employed. In addition, the disproportionate levels of incarceration, particularly for black males (Rocque, 2011), in combination with challenges related to employment of formerly incarcerated citizens generally, present great obstacles to obtaining employment in the legitimate economy.

Mental Health Risk Domain

Mental health factors, including serious mental illness (e.g., psychotic disorders, bipolar disorder, major depressive disorder) and emotional states, are frequently counted as risk factors for criminal recidivism in RAIs. However, the research regarding the relationship between mental illness and criminality is somewhat mixed. Development of

psychopathology is believed by some to be the result of individual characteristics and interactions with social and contextual factors (Capaldi, Pears, Kerr, Owen, & Kim, 2012). As discussed in the section on adverse childhood experiences, factors in childhood appear to play a role in the development of some types of psychological problems, which may also contribute to delinquency and criminal behavior. Mental health problems can begin to emerge in childhood and adolescence, and these problems are often associated with delinquency. For example, depression and anxiety are common emotional issues found in adolescents who engage in delinquent behavior (Cauffman, 2004).

Generally speaking, mental health problems are reflected in internalizing or externalizing psychopathology (Krueger, 1999; Krueger, Markon, Patrick, & Iacono, 2005). Internalizing psychopathology tends to be manifested in the psychological experiences of the individual and include mood and anxiety disorders, such as depression, panic disorder, and social phobias (Krueger, 1999; Krueger et al., 2005). On the other hand, externalizing psychopathology is recognized by outward manifestations of behavior such as substance abuse, conduct disorder in childhood, and antisocial personality disorder in adulthood (Krueger, 1999; Krueger et al., 2005). Despite externalizing behaviors as evidence of mental health problems or underlying psychopathology, such behaviors are also represented in risk factors measured in other risk domains in RAIs (e.g., substance abuse and antisocial/psychopathic traits).

Demographics and mental health

Within the context of mental health research, there is a long history documenting racial disparities in diagnoses of mental illness (Schwartz, 2014). For example, one study

examining the relationship between race and the diagnosis of schizophrenia found that African Americans are almost five times as likely to be diagnosed with schizophrenia than white patients in state psychiatric hospitals in Indiana ($n = 2,311$) (Barnes, 2004). However, research on the prevalence of mental disorders has failed to find a significant difference in the rates of schizophrenia among blacks and whites (Barnes, 2004). In short, an incorrect diagnosis of a serious mental illness like schizophrenia would artificially increase the perceived risk level of the individual.

Paradoxically, in addition to the overdiagnosis of schizophrenia, black psychiatric patients tend to be underdiagnosed for affective disorders (e.g., anxiety disorder, depression, bipolar disorder) (Marquez, Taintor, & Schwartz, 1985; Neighbors, Jackson, Campbell, & Williams, 1989; Neighbors et al., 1999). The consequence of underdiagnosis is that — despite having mental health problems that may benefit from treatment — people who are not diagnosed or who are underdiagnosed are not likely to get treatment unless problems become more severe.

Among justice-involved youths, discrepancies also appear in terms of the types of diagnoses minority offenders are given, as well as whether they obtain treatment for their psychopathology. Baglivio, Wolff, Piquero, Greenwald, and Epps (2017) found that of among over 10,000 juveniles in residential placements in Florida, black and Hispanic males were significantly more likely to be given a diagnosis of conduct disorder than white males. Black females were also significantly more likely to be given a diagnosis of conduct disorder than Hispanic or white females. These findings are particularly important because evidence of conduct disorder before the age of 18 is required as one of

the diagnostic criteria of antisocial personality disorder in adulthood (antisocial traits will be discussed in a subsequent section) (American Psychiatric Association, 2013). Prior research has also found that youths of lower socioeconomic status are more likely to receive a diagnosis of conduct disorder (Lahey, Loeber, Burke, & Applegate, 2005). In addition, Baglivio and colleagues found that black males were only about 60 percent as likely as white males to be receiving psychiatric treatment (Baglivio, Wolff, Piquero, Greenwald, & Epps, 2017). This finding is particularly troubling as treatment and intervention in adolescence can decrease the likelihood of future offending behavior (Baglivio, Wolff, Piquero, et al., 2017).

Family life and mental health

Children with mental health issues frequently evidence a host of other issues that are related to family of origin characteristics, family socioeconomic status, and educational problems. Exposure in childhood to multiple facets of maladaptive family functioning have been linked to subsequent mental health issues including post-traumatic stress disorder (PTSD), anxiety, and depression (Carlson & Dalenberg, 2000; McLaughlin, Conron, Koenen, & Gilman, 2010; Slopen, Fitzmaurice, Williams, & Gilman, 2010). More specifically, child abuse is widely recognized as a significant risk factor in the development of mental health problems (Curran, Adamson, Stringer, Rosato, & Leavey, 2016). Experiencing more than one type of abuse (physical, sexual, emotional) or neglect in childhood also significantly predicts a higher likelihood of some form of psychopathology in adulthood (Curran et al., 2016). Evidence from 34,653 respondents to the National Epidemiologic Survey on alcohol abuse and related conditions indicates that

ethnic minorities are more likely than whites to fall into a “global adversity” group in terms of childhood maltreatment (Curran et al., 2016). The global adversity group of respondents had the highest probability of exposure to all types of abuse (emotional, physical, and sexual) as well as childhood domestic violence. Among this group, 94 percent reported emotional abuse, 87 percent reported physical abuse, 36 percent reported sexual abuse, 74 percent reported being exposed to domestic violence, and 74 percent reported childhood neglect, suggesting that minority children may be at increased risk of experiencing multiple forms of maltreatment in childhood (Curran et al., 2016). Indeed, adults who exhibit either an internalizing or externalizing form of psychopathology (Krueger, 1999) are also more likely to report being the victim of multiple forms of abuse during their childhood (Curran et al., 2016).

Relatedly, emotional and behavioral problems severe enough to require professional intervention can begin to emerge in childhood and adolescence. As part of the National Adolescent and Child Treatment Study (NACTS), Greenbaum et al. (1996) collected measures of functioning and outcomes for 812 children aged eight to 18 years over a seven-year period. The participants were children who were identified as having serious emotional disturbance (SED) and were in a publicly-funded residential mental health treatment facility or were receiving community-based services through a special education program. Over half of the participants (58 percent) reported at least one parent who had a criminal history, substance use problems, or emotional or behavioral problems. Many of the children were diagnosed with conduct disorder (66.9 percent), and of these children, approximately two-thirds also had a second disorder diagnosis. Overall,

41 percent of the entire sample was diagnosed with two or more psychological disorders (Greenbaum et al., 1996).

Context also appears to play a role in the relationship between mental illness and certain types of criminal behavior. For example, results from the MacArthur study on violence among people with mental illness indicate that context influences the likelihood that a person with mental illness will commit an act of violence. Irrespective of personal characteristics often associated with violence, patients with mental illness who were released into neighborhoods marked by poverty in Pittsburgh were 2.8 times more likely to assault someone than those not released into such neighborhoods (Link, Andrews, & Cullen, 1992; Silver, Mulvey, & Monahan, 1999). Furthermore, social factors appear to have broader impacts on mental well-being than may be indicated by the development of specific psychological disorders (e.g., substance abuse, anxiety, and depression) (Aneshensel, Rutter, & Lachenbruch, 1991). In other words, the lack of a specific diagnosed psychological disorder is not dispositive of whether various life events and circumstances have a negative impact on mental well-being and functioning. This also means that a person may have mental health issues that are not recognized or do not manifest symptoms that are significant enough to warrant a diagnosis despite the negative effects of life stressors on their behavior or abilities.

Education and mental health

Mental health problems demonstrate negative impacts on educational attainment in a number of ways. Children with serious emotional disturbance (e.g., conduct disorder, anxiety disorder, attention deficit disorder, schizophrenia, depression disorder)

(Greenbaum et al., 1996) are at risk for a multitude of negative outcomes including poor academic performance and poor social skills compared to their peers without serious psychological issues (Armstrong, Dedrick, & Greenbaum, 2003). Youths with mental health problems are at significant risk to have a constellation of other risk factors. In a study of 1,261 justice-involved youths between the ages of 14 and 17 in Phoenix, Arizona and Philadelphia County, Pennsylvania, Schubert and colleagues (2018) found that those with a mental health disorder were significantly more likely to have problems in school. These youths were significantly more likely than those without mental health disorders to have been suspended or expelled from school, to have poorer attendance, and to receive a GED rather than a diploma or vocational certificate.

At the end of the NACTS study, Greenbaum and colleagues (1996) found that outcome measures in terms of educational attainment for the sample were quite poor. Of those participants who were aged 18 or older and had an IQ equal to or greater than 70, 75.4 percent were below appropriate reading levels, 96.9 percent were below appropriate math skills levels, and 40.4 percent had not received a GED or high school diploma and were not enrolled in an educational program (Greenbaum et al., 1996). Furthermore, over time, the overall functioning level of the participants was almost two standard deviations below average, indicating that there are cumulative effects of multiple risk factors over time as evidenced by the interrelationships between problem areas, the persistence of the problems over time, and the prevalence of negative outcomes in a variety of life domains (i.e., education, adaptive behavior, criminal activity, and incarceration) (Greenbaum et al., 1996).

Employment and mental health

Adolescents who have serious mental health problems also tend to have worse employment outcomes compared to those who do not have a serious mental illness (Armstrong et al., 2003; Davis & Stoep, 1997). Young adults who have serious emotional problems are also more likely to have poorer academic achievement than their peers (Armstrong et al., 2003), which is likely to have a negative impact on their future employment opportunities. For example, Armstrong, Dedrick, and Greenbaum (2003) reported that among 292 young adults with serious emotional disturbance, over half of them did not have a high school diploma or GED. In addition, about 42 percent of the sample was unemployed; most of those who did have jobs worked in low-skill or manual labor occupations (Armstrong et al., 2003).

Mental health problems (e.g., depression) can interfere with employment in a number of ways. First, individuals with mental health issues may be less motivated to seek employment as a result of their symptoms. Second, mental health problems can interfere with an individual's ability to carry out the tasks required in their job, or their reliability (e.g., calling in sick) in job performance. Finally, mental health issues can interfere with an individual's ability to achieve and/or maintain a positive working relationship with coworkers and superiors (Banerjee, Chatterji, & Lahiri, 2017; Bartel & Taubman, 1986; Caspi et al., 1998; Ettner, Frank, & Kessler, 1997; Feather & O'Brien, 1986; Layton & Eysenck, 1985). Mental health issues among adults are therefore associated with worse employment outcomes including unemployment, lower wages, and increased absenteeism (Banerjee et al., 2017). For example, Ettner, Frank, and Kessler

(1997) found that having a psychiatric disorder reduced the likelihood of employment by around 11 percentage points in a sample of 4,626 adults. Specifically, women with major depression, agoraphobia, or drug dependence were significantly more likely to be unemployed among women with any psychiatric disorder. Among men with psychiatric disorders, those with major depression or alcohol dependence were significantly less likely to be employed (Ettner et al., 1997).

While unemployment rates tend to be higher for minorities compared to whites, and unemployment is higher among people diagnosed with a mental illness, the combination of minority status and mental illness is particularly detrimental on employment outcomes (Yelin & Cisternas, 1997). Yelin and Cisternas (1997) found that the 10-year employment rate averages for white men with a mental health condition or disability was around 30 percent, whereas for non-white males with mental health issues was around 17 percent. The rates were similar for women with mental health disabilities with about 29 percent of white females employed compared to about 16 percent of non-white females employed (Yelin & Cisternas, 1997). These results suggest that employment rates are likely to be very low among people who belong to a minority group and also have mental health problems, constituting a significant disadvantage for this population in securing regular employment.

Criminal justice system involvement and mental health

There is a well-established connection between emotional problems, mental illness, and criminal justice system involvement. Fontaine et al. (in press) conclude that delinquency and emotional problems are closely interrelated and therefore should be

examined simultaneously in research. For example, among youths in a population-based sample (i.e., not involved in the justice system), conduct problems between the ages of 10 and 12 were associated with symptoms of depression at the age of 15, which was significantly associated with both violent and nonviolent delinquency by self-report at the age of 17 in both males and females (Fontaine et al., in press). Yet in another study that followed more than 1,300 serious youthful offenders for seven years, adolescents with behavioral health problems were not found to be at greater risk for reoffending than those without these issues; the only exception was with respect to substance abuse (Schubert & Mulvey, 2014). In other words, although emotional problems and mental illness may be associated with involvement in the juvenile justice system, the risk of reoffending for these youths is more strongly related to the combination of substance abuse and psychological issues.

Nevertheless, mental health problems are highly prevalent among youths who are involved in the justice system. The prevalence rate of diagnosed mental health disorders among justice-involved juveniles is estimated between 50-70 percent, compared to 9-21 percent of the general population of adolescents (Schubert et al., 2018). In a study of 1,400 juvenile detainees, Shufelt and Coccozza (2006) found that 70.4 percent were diagnosed with one mental health disorder, with 79 percent of those meeting the criteria for two or more mental health diagnoses. Research does not indicate, however, that there are racial differences in the prevalence of mental health- and substance-related disorders among juvenile justice populations (Spinney et al., 2016). Collectively, findings in both population-based samples of adolescents and samples of adolescents involved in the

juvenile justice system provide evidence of the inter-relatedness of emotional problems or mental health issues with delinquent behavior.

The outcomes of the NACTS participants were also poor in terms of their likelihood of contact with law enforcement (Greenbaum et al., 1996). Almost two-thirds of the children were suspected to be the perpetrator of a crime. The factors that increased the likelihood of a child being incarcerated (placement in a detention center, jail, training school, home for delinquents, halfway house, or prison) included gender (i.e., male), being of an age in mid-adolescent years, being a racial or ethnic minority, and being a participant who was initially in a mental health facility placement (versus placement in a community-based special education program) (Prange, Greenbaum, & Friedman, 1993 cited in Greenbaum et al., 1996).

Traumatic experiences are also extremely common among juvenile justice populations. One study of 144 juveniles charged as adults in a Pennsylvania county found that 71 percent were exposed to traumatic experiences in the past (Riggs Romaine, Goldstein, Hunt, & DeMatteo, 2011). In a study of 350 court-involved youths in New Hampshire and Ohio, Rosenberg and colleagues (2014) found that 94 percent reported at least one traumatic experience, with the mean being 5.4 traumatic events. More importantly, mental health disorders tend to be more prevalent the further juveniles are penetrated into the system (i.e. more mental health issues are seen in juveniles who are deeply involved in the system when compared with those who have less involvement) (Wasserman, McReynolds, Schwalbe, Keating, & Jones, 2010). It could be that youths who have more serious mental health problems are more likely to repeatedly encounter

the juvenile justice system, yet it also possible that more justice system involvement creates and/or exacerbates mental health issues for these youths.

Adults with mental health issues are also more likely to come into contact with the justice system. For example, in 1984, Teplin recorded data from 1,382 police encounters to examine whether people with mental illness were being criminalized to the extent that “mentally disordered behaviors” increased the likelihood of arrest (p. 796). She found that the probability of being arrested was twenty percent greater for those exhibiting signs of mental disorder than for those who did not appear to be mentally ill, regardless of the nature of the offense (Teplin, 1984). In other words, the increased rate of arrest among those with mental illness was not related to their crimes being of a more serious nature. Teplin also found that individuals with mental illness who were not actively delusional or suicidal would not be admitted to the local psychiatric hospital, nor would people who were intellectually disabled, alcoholic, or considered “dangerous,” thereby requiring the police to find an alternative way to deal with the person – that is, through arrest (1984). Cuts in funding for mental health services in the early 1980s were at least partly to blame for the advent of the criminal justice system managing people with mental illness, whereby many mentally disordered individuals were not recognized as such and were subjected to incarceration rather than receiving treatment (Teplin, 1984). Therefore, once a mentally ill person is labeled as “criminal,” they may be more likely to be subject to arrest in subsequent police interactions (Teplin, 1984).

Link, Andrews, and Cullen (1992) compared patients with mental illness to community residents in New York City to assess whether rates of violent/illegal behavior

are higher among those with mental illness. While they did find that levels were elevated among those with mental illness, the only factor that accounted for the difference was psychotic symptomatology. In other words, individuals who experience psychotic symptoms, although not always violent, were at an increased risk to engage in violent behavior. In contrast, Elbogen and Johnson (2009), for example, found that mental illness is often associated with other factors such as substance abuse and/or dependence, a history of violent behavior, and contextual factors such as recent stressors, and age, gender, and income. They did not find support for the proposition that severe mental illness by itself is predictive of violence (Elbogen & Johnson, 2009).

In summation, mental health problems appear to have a bidirectional relationship with psychosocial risk factors including family life, education, employment, and involvement in the criminal justice system. Not only do social and contextual factors appear to influence the development and maintenance of mental health problems, but mental health issues also affect the outcomes seen in terms of relationships, educational attainment, and employment. The relationship between mental illness and other risk domains will be discussed in subsequent sections.

Substance Abuse Risk Domain

Alcohol and drug use disorders represent a significant problem in terms of costs to the individual, their family, the health system, and the criminal justice system (Mooney et al., 2018). As of 2014, over seven million people in the United States had a substance use disorder involving illegal drugs, which does not include alcohol abuse (Hedden et al., 2014). Substance use and offending are often linked with one another both in juvenile

and adult populations (Boles & Miotto, 2003; Clingempeel, Britt, & Henggeler, 2008; Elbogen & Johnson, 2009). Substance abuse is also a risk factor for various problems in other risk domains, including homelessness or housing instability (Austin, McKellar, & Moos, 2011; Villena & Chesla, 2010), unemployment, poverty (Fothergill & Ensminger, 2006) and problems in interpersonal relationships (Mooney et al., 2018). Teplin, Abram, McClelland, Dulcan, and Mericle (2002) found that nearly two-thirds of males and three-fourths of females had a substance abuse disorder in their study of juvenile detainees in Cook County, Illinois. Juveniles with substance use disorders tend to have increased risk of reoffending, and substance abuse seems to amplify some other types of risk factors (e.g., high school dropout rates, general delinquency, lack of family cohesion) (Renna, 2007; Schubert & Mulvey, 2014).

There also appear to be demographic differences in problems related to substance use and substance use disorders. For example, low family socioeconomic status in childhood is correlated with substance use disorders in adulthood (Brunswick, Messeri, & Titus, 1992; Fothergill & Ensminger, 2006; Kandel, Chen, Warner, Kessler, & Grant, 1997; Kessler et al., 1994; Poulton et al., 2002). Fothergill and Ensminger (2006) found that living in poverty as a child has an indirect effect on substance abuse in adulthood in that poverty tends to decrease educational attainment, and lower educational attainment tends to increase the risk for substance use problems in adulthood. Research also indicates that African Americans are more likely to experience health and relational problems related to problem drinking (Herd, 1994, 1997) and to die due to drug or alcohol-related causes than are whites (National Institute on Drug Abuse, 2003).

Substance use disorders also tend to be more prevalent among males than females (Fothergill & Ensminger, 2006; Warner, 1995).

Family life and substance abuse

There is a clear link between having a history of family substance use disorders and subsequent substance use disorder in adulthood (Merikangas et al., 1998; Sher & Gotham, 1999; Zhou, King, & Chassin, 2006). There is also some evidence that adolescents from disadvantaged backgrounds are more negatively affected in the long term by heavy drinking in adolescence (Krohn, Lizotte, & Perez, 1997; Wills & Yaeger, 2003). For example, Staff, Patrick, Loken, and Maggs (2008) found that male youths from a working class background who drank heavily in adolescence were 25 percent less likely to earn a college degree compared to middle-class males, who were only 10 percent less likely to complete college. This relationship is believed to occur because of the combination of heavy drinking with fewer resources available to poorer families in counteracting the negative effects of heavy alcohol consumption by adolescents (Staff, Patrick, Loken, & Maggs, 2008). Among men in Sweden who were evaluated for conscription into the military but were identified as having drug abuse problems, the two most common pathways that predicted drug abuse were: 1) genetic and familial risks and 2) family dysfunction and psychosocial adversity (Kendler, Ohlsson, Edwards, Sundquist, & Sundquist, 2017). These two pathways predicted drug abuse with an area under the curve value of 83.6 percent.

Children who are neglected early in childhood are at significantly higher risk for drug and alcohol abuse and perpetrating violence well into adulthood (Chen et al., 2011).

Children who suffer physical and sexual abuse and witness domestic violence are also more likely to engage in drug and alcohol abuse, including in their preteen years (Hamburger, Leeb, & Swahn, 2008; Ireland et al., 2002). These children are also more likely to be referred to juvenile court for delinquency (Herrera & McCloskey, 2001). Chen, Propp, deLara, and Corvo (2011) reported that children who were neglected were 1.7 times more likely to be charged with juvenile drug or alcohol offenses than children in a matched community sample. Interestingly, the results of this study indicated that neglect seemed to have a more negative effect on white children than minority children in terms of the likelihood for juvenile drug and alcohol violations. The authors suggest that a possible explanation for this finding could be that, “minority children are more challenged with various issues such as living in disadvantaged neighborhood, lower family income, and other risk factors, which appear to have cumulative negative effects on their healthy development (Chen et al., 2011 citing Gerard & Buehler, 2004),” and therefore “child neglect would merely be one of the many negative life experiences for minority youth [...]” (Chen et al., 2011, p. 284). Hamburger et al. (2008) also reported a significant relationship between child maltreatment (before age 10) and age of first alcohol use and episodes of heavy drinking. This finding is important in light of the fact that both early drug and alcohol use and frequency of use are predictive of substance use in adulthood (Fothergill, Ensminger, Doherty, Juon, & Green, 2016; Kandel & Chen, 2000).

Stress in adolescence has been associated with particularly problematic patterns of alcohol consumption. For example, Colder, Campbell, Ruel, Richardson, and Flay (2002)

identified five patterns of drinking behavior among adolescents, and demonstrated that emotional distress and risk-taking behavior predicted patterns of heavy and rapidly escalating use of alcohol. This drinking pattern is particularly problematic in adolescents - not surprisingly, this pattern of alcohol use was associated with more problems by the senior year of high school, including trouble at home, school, or work, contact with law enforcement, and the need to seek either psychological or medical treatment (Colder, Campbell, Ruel, Richardson, & Flay, 2002). Similarly, Hoffman (2016) found that the effects of cumulative stress over time, family problems, and negative emotional factors were associated with adolescents who began alcohol use at a younger age among predominantly white adolescents and young adults aged 13 to 20. Cumulative stress was also associated with the use of illegal drugs early in adolescence, although this effect was also seen in adolescent-limited users (i.e., the group of users whose illegal drug use had dropped to nearly nonexistent by age 20) (Hoffmann, 2016).

Education and substance abuse

There are clear demonstrations of both the effects substance use has on academic achievement (Haller, Handley, Chassin, & Bountress, 2010; King, Meehan, Trim, & Chassin, 2006; Staff et al., 2008), and the effects of academic achievement on later substance use (Crum, Helzer, & Anthony, 1993; Ellickson, Tucker, Klein, & Saner, 2004; Fothergill & Ensminger, 2006; Fothergill et al., 2008; Haller et al., 2010). Alcohol use among teenagers is correlated with failure in school and lower educational achievement (Cook & Moore, 1993; Williams, Powell, & Wechsler, 2003; Yamada, Kendix, & Yamada, 1996), although the effects may vary by gender. For example, Staff, et al.

(2008) found that heavy drinking in adolescence had a negative effect on educational attainment for males by the age of 42, particularly when combined with low socioeconomic status, but not for females. Heavy drinking in adolescence also decreases the likelihood of graduating on time (Renna, 2007). Early onset of alcoholism and teenage alcohol dependence are both associated with a higher likelihood of failing to graduate from high school (Mullahy & Sindelar, 1994; Yamada et al., 1996).

Poor academic performance and educational attainment are risk factors for substance use problems. In fact, as early as first grade, poor academic performance increases the risk of alcohol use disorders in adulthood (Crum et al., 1993). Adolescent males who engage in alcohol or drug use are also at increased risk to have substance use problems in adulthood (Fothergill & Ensminger, 2006). For example, 13.8 percent of adults (aged 21 or older) who began using alcohol at age 14 (compared to 8.6 percent who began alcohol use at 15 to 17 years; 4.5 percent of those who began at 18 to 20 years; and only 1.8 percent of those who began at 21 or older) either abused alcohol or had alcohol dependence in the previous year, according to results from the National Survey on Drug Use and Health in 2011 (Substance Abuse and Mental Health Services Administration, 2012).

Drug use among youths during their school years is also associated with educational problems. For example, among adolescents who began marijuana use early in adolescence (grade 7), Ellickson, Tucker, Klein, and Saner (2004) found that among over 1,500 students in California and Oregon, these students were more likely to be male and African-American, to not have an intact family, and to have poor grades than students

who did not use marijuana. Youths who began marijuana use early (grade 7) were significantly more likely to use multiple drugs and harder drugs by grade 10 (Ellickson et al., 2004). In fact, half as many adolescents who began using marijuana in 10th grade reported use of hard drugs and multiple drugs compared to the students who began using marijuana in 7th grade. This study also found that students whose grades averaged a C or less were twice as likely to begin using marijuana over the following year (Ellickson et al., 2004). In other words, poorer grades preceded marijuana use, although the research design prohibited drawing conclusions about causation. Overall, the evidence demonstrates the likelihood for adolescents who abuse substances not only to have lower educational success, but the increased likelihood they will continue to abuse substances as adults.

Employment and substance abuse

Substance abuse is associated with negative effects on employment and earning potential. Heavy alcohol use in adolescence is associated with job instability in young adulthood (Cook & Moore, 1993; Koch & Ribar, 2001; Renna, 2007). Heavy alcohol use in adolescence can also indirectly negatively impact future income because of the increased risk of failing to graduate from high school on time, and the effect of late graduation on earnings. For example, Renna (2007) found that binge drinking reduced the likelihood of graduating from high school on time (probability reduced by 5.2 percent for females, 14.5 percent for males), and that those who did not graduate on time earned almost \$10,000 less per year than those who did.

John et al. (2018) found among 2,000 U.S. adults who were recruited for a National Drug Abuse Treatment Clinical Trials Network study that the majority of adults with substance use disorders had disorders involving multiple substances, with the odds of having multiple disorders increased for less educated, unemployed, young white males (aged 26-34). Similarly, Kendler and colleagues (2017) found that among 1,134 men who were evaluated for conscription into military service in Sweden but were found to have drug abuse issues, unemployment in early adulthood was one of the most prominent factors that predicted drug abuse.

Substance abuse therefore appears to exert both direct and indirect effects on employment which begin to appear in adolescence and early adulthood. The direct effects of substance abuse on employment - as discussed in the employment section - affect an individual's work performance and increase the likelihood of being unemployed. Further, substance abuse can exert indirect effects on employment and earnings potential through its negative impacts on educational achievement.

Mental health and substance abuse

Substance abuse and psychiatric disorders commonly co-occur with one another (Austin et al., 2011; Villena & Chesla, 2010). A review of 22 studies by Armstrong and Costello (2002) showed that 60 percent of adolescents with substance use/abuse or dependence also had some other comorbid psychiatric diagnosis. The majority of studies found that childhood psychopathology is associated with substance use at a younger age and substance abuse in later adolescence (Armstrong & Costello, 2002). Conduct disorder and oppositional defiant disorder are the most common psychiatric diagnoses

associated with substance use/abuse or dependence in adolescents (Armstrong & Costello, 2002). Given the relationship between a diagnosis of conduct disorder and adult diagnosis of antisocial personality disorder (American Psychiatric Association, 2013) previously discussed in the section on mental health, treatment for substance abuse may particularly important at an early age to address behavioral problems. In addition, treatment for adolescents adjudicated as delinquent who also have substance abuse issues and a psychiatric disorder is especially important because this population has been found to have higher levels of criminal behavior, health problems, and psychopathology (Clingempeel et al., 2008).

Mental health, substance abuse, and criminal justice involvement

Both mental health and substance problems are linked with recidivism among juvenile populations, and this connection is particularly well-documented with respect to substance use disorders (Baglivio et al., 2014; Cuellar, McReynolds, & Wasserman, 2006; Hoeve, McReynolds, Wasserman, & McMillan, 2013; Schubert & Mulvey, 2014). Yet, the majority of adolescents in the juvenile justice system have both a diagnosed mental health disorder and a substance use disorder (Abram, Teplin, McClelland, & Dulcan, 2003; Armstrong & Costello, 2002), further complicating their clinical prognosis.

Substance abuse, particularly in combination with mental illness, puts adolescents and adults at increased risk for crimes of violence. Among adults, (Elbogen & Johnson, 2009) found that the most predictive model for substance-related violence included being male, having a lower income, being young, a history of physical abuse by a parent,

victimization in the previous year, being unemployed, and comorbid substance disorder and mental health disorder, although substance dependence only accounted for 30 percent of the variance. Substance abuse also increases the risk of violence in both patient and non-patient samples of people with mental illness (Steadman et al., 1998). For example, Steadman and colleagues (1998) analyzed data from the MacArthur study and found a statistically significant difference between patients who engaged in a violent act immediately after discharge based on the presence or absence of substance abuse issues (i.e. a violent act was committed by 22% of those with substance abuse problems compared to 11% of those without substance abuse issues). Swanson, Holzer, Ganju, and Jono (1990) found violence to be five times more prevalent in individuals with mental disorder (cited in Silver et al., 1999) and that the prevalence of violence was similar among individuals with any type of major mental disorder (e.g., bipolar disorder, schizophrenia, major depression). Swanson and colleagues (1990) further found that individuals meeting the criteria for alcoholism were 12 times as likely to engage in violent behavior than people without a mental health diagnosis, and that individuals who met the criteria for drug abuse had a prevalence rate of violence 16 times that of those with no disorder (cited in Silver et al., 1999). In other words, co-occurring substance abuse and mental illness are strongly linked with one another, and the combination of both can significantly increase an individual's potential for violence.

While substance abuse is clearly a risk factor for criminal offending, substance abuse is considered a criminogenic need in the risk-needs-responsivity model (RNR) (Andrews & Bonta, 2003). In other words, while it is properly identified as a risk factor,

it is also a dynamic factor that can often be changed with drug and/or alcohol treatment (Looman & Abracen, 2011). In the general population in the United States, substance use disorders have about an 8 percent prevalence rate. The rates of substance use disorder are significantly higher among justice-involved individuals: 65 percent of individuals who are incarcerated in state and federal prisons, 34 percent of people on parole, and 37 percent of people on probation (Kendler et al., 2017 citing SAMHSA, 2014). Yet accessibility of treatment services is highly dependent on resources in both correctional and community settings. In 2000, approximately 80 percent of the state prison population reported a history of drug and/or alcohol abuse; around 74 percent of prisoners pending release to the community fell in this category. However, only about 10 percent of state inmates reported participating in substance abuse treatment programs despite evidence that treatment in prison prior to release can significantly reduce drug use and recidivism (Travis & Petersilia, 2001).

Spinney and colleagues (2014) examined whether there are racial differences in the juvenile justice system with respect to who is referred for substance abuse treatment services. They evaluated twenty-six studies from the period of 1995 through 2014 and found evidence of a race effect in 69 percent of the studies. When race effects were found in the studies, it was almost always in the direction of a reduction in odds that minority groups would receive mental health or substance abuse treatment independent of the level of need for treatment. Other studies have found racial disparities in access to mental health and substance abuse treatment among foster care children (Garland, Landsverk, &

Lau, 2003), among abused/neglected youth (Martinez, Gudiño, & Lau, 2013), and among general youth populations (Spinney et al., 2016).

On the other hand, Lé Cook and Alegría (2011) found that among over 25,000 adults, black and Latino respondents were more likely to receive treatment for substance use disorders. However, the increases in the likelihood that members of these minority groups received treatment were primarily related to the fact that blacks and Latinos were more likely to be mandated to undergo treatment either while incarcerated or while on probation on parole, or through enrollment in Medicaid. Blacks and Latinos are less likely than whites to be enrolled in treatment programs to divert them from incarceration, such as drug treatment or other problem-solving court (Nicosia, MacDonald, & Arkes, 2013). In other words, because these groups were more likely to be poor and/or have a criminal history increased the likelihood of treatment, often through court-mandated treatment while incarcerated or under some other form of correctional supervision. However, after adjusting for criminal history and socioeconomic status, the odds of Latinos receiving treatment were less than half that of whites; blacks were about 70 percent as likely to receive treatment as whites (Lé Cook & Alegría, 2011).

Substance use/abuse disorders are pernicious in their relationship with criminal offending. However, research also indicates there are connections between substance use/abuse and adverse childhood experiences, educational attainment, mental health disorders. Substance use/abuse beginning early in adolescence is significantly related to early childhood abuse and maltreatment. Further, although these disorders can be

successfully treated in many cases, there is evidence of racial disparity in access to treatment.

Within the context of the cumulative disadvantage framework, the risk of substance use/abuse disorders is influenced by factors related to mental health and abuse. In addition, substance abuse frequently co-occurs with mental illness. Overall, substance use/abuse disorders as measured by RAIs, while legitimately correlated with increased risk of offending, also appear to be a measurement of cumulative disadvantage related to family factors, mental health problems, and childhood maltreatment.

Antisocial/psychopathic Traits Risk Domain

Antisocial and psychopathic traits are commonly measured in risk assessment instruments as intimidating, controlling, or manipulative personality, lack of remorse or guilt for offenses, and a history of early childhood maladjustment (Pennsylvania Commission on Sentencing, 2011). Generally speaking, psychopathic traits include lack of empathy, inflated sense of self-worth, impulsivity, lying, juvenile delinquency, manipulative behavior, and early behavioral problems (Hare, 1998). The term “psychopathy” is not a specific diagnosis, but encompasses a range of behaviors that may now be diagnosed according to DSM-5 criteria as Conduct Disorder (CD) or Oppositional Defiant Disorder (ODD) in children and juveniles, and Antisocial Personality Disorder in adults. Psychopathy has been found to be a predictor of recidivism and violence in both forensic and civil psychiatric settings (Hare, 1998). Antisocial and psychopathic traits are commonly reflected in risk assessment instruments by incorporating measurements of intimidating, controlling, or manipulative

personalities, a lack of expressing remorse or guilt for offenses, and a history of early childhood maladjustment (Pennsylvania Commission on Sentencing, 2011). Generally speaking, psychopathic traits include lack of empathy, inflated sense of self-worth, impulsivity, lying, juvenile delinquency, manipulative behavior, and early behavioral problems (Hare, 1998). Psychopathy is not a recognized psychiatric diagnosis, but rather a constellation of particular personality traits that are related to antisocial personality disorder in the current version of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5) (American Psychiatric Association, 2013). The prevalence of psychopathy among North American offender populations is estimated to be between 15 and 25 percent, but perhaps only one percent of the general population (Hare, 1998).

Clinical diagnosis of antisocial personality disorder (ASPD) and psychopathy involves the use of structured criteria or tools (e.g., the PCL-R). Although they exhibit some behavioral similarities, psychopathy and ASPD are believed to be two different disorders that have different etiologies (Blonigen, Hicks, Krueger, Patrick, & Iacono, 2005; Glenn, Johnson, & Raine, 2013; Hare, 2003; Hare et al., 1990; Ogloff, 2006). The diagnosis of ASPD according to the *DSM-5* requires meeting only four criteria: 1) disregard for and violation of others rights since age 15 as indicated by at least one subfactor (e.g., engaging in criminal behavior, impulsive behavior, a pattern of irresponsibility, etc.); 2) is at least age 18; 3) Conduct Disorder was present by history before age 15; and 4) the antisocial behavior does not occur in the context of schizophrenia or bipolar disorder (American Psychiatric Association, 2013).

Behaviors that qualify as diagnostic of antisocial personality disorder in adulthood might be diagnosed as Conduct Disorder (CD) or Oppositional Defiant Disorder (ODD) in children and juveniles (American Psychiatric Association, 2013). Historically, psychopathy was assessed in light of particular personality traits, whereas particular diagnoses, such as CD, ODD, and ASPD are made based on behavioral observations (Salekin, 2002). Therefore, antisocial and psychopathic traits measured in risk assessment instruments may include consideration of observable offender behaviors and/or professional judgment about the offender.

Demographics and antisocial/psychopathic traits

According to the diagnostic criteria in the *DSM-5*, a juvenile who is younger than 18 years of age cannot be diagnosed with antisocial personality disorder (American Psychiatric Association, 2013). However, behaviors considered diagnostic of ASPD can be diagnosed as conduct disorder in childhood (American Psychiatric Association, 2013). In the United States, African American and Latino boys have been found to be disproportionately diagnosed with conduct disorder (CD) compared to their white counterparts (Mizock & Harkins, 2011). Black females have also been found to be significantly more likely to be given a CD diagnosis than either Hispanic or white girls (Baglivio, Wolff, Piquero, et al., 2017). The diagnosis of CD has significant implications for how juveniles are treated by mental health professionals and in the criminal justice system, as well as future implications in adulthood, given that conduct disorder in adolescence is a diagnostic criterion of ASPD (Mizock & Harkins, 2011). Yet research also indicates that CD is often accompanied by depression, separation anxiety,

adjustment disorders, and substance abuse, the symptoms of which may be expressed in behaviors that are misidentified as evidence of CD (Mizock & Harkins, 2011). Whereas black and Latino children may receive a CD diagnosis based on behavioral indicators, white children exhibiting similar behaviors are more likely to receive a diagnosis of anxiety, mood disorder, or developmental disorder, which carry much less negative stigma than CD (Mandell, Ittenbach, Levy, & Pinto-Martin, 2007).

Unlike antisocial personality disorder, psychopathy can be diagnosed in adolescence. The Psychopathy Checklist: Youth Version (PCL:YV; Forth, Kosson, & Hare, 2003) is an empirically validated tool to measure psychopathic traits in adolescents. Yet, the issue of juvenile psychopathy is also controversial because some traits (e.g., impulsivity and irresponsibility) are measures of normal adolescent development (Salekin & Frick, 2005). There are therefore concerns that normal adolescent behavior will be misdiagnosed by clinicians as psychopathy (Salekin & Frick, 2005). Whereas adolescent behavior is often transient in nature, a psychopathy label can follow an adolescent into adulthood with potentially serious negative consequences. Problematically, there are some indications that the diagnosis of psychopathy among juveniles may be disproportionately applied to youths who are members of minority groups.

Results of studies examining differences among racial, cultural, and ethnic differences in juvenile psychopathy are mixed and more cross-cultural study is needed (Rubio, Krieger, Finney, & Coker, 2014). For example, in a meta-analysis of 21 studies, (Edens et al., 2007) found that PCL:YV scores were correlated with both violent and general recidivism. Leistico, Salekin, DeCoster, and Rogers (2008) evaluated 95 studies

on the Psychopathy Checklist-Revised (PCL-R; Hare, 1991) and the PCL:YV and found that higher PCL-R scores are moderately associated with higher levels of antisocial conduct. However, their results also revealed that effect sizes for the total PCL-R score and Factor 2 aspects (i.e., lifestyle and antisocial factors) were larger in the United States for white participants. Similarly, Edens et al. (2007) found weaker effects of psychopathy as a predictor of violent recidivism among studies in which participants were of different ethnic groups. These findings suggest there may be racial differences underlying the importance of specific dimensions measured by the PCL-R or PCL:YV.

Contrary to other findings, Vitacco, Neumann, and Caldwell (2010) reported that African American adolescents scored higher on the interpersonal, affective, and lifestyle facets of the PCL:YV than did white participants among a sample of 120 male adolescents released from a maximum security correctional facility in a U.S. state. In addition, the facets of the PCL:YV were predictive of future offending for African American, but not white participants. The authors noted this finding might be related to the fact that many of the African Americans in the study were from urban areas, whereas the white participants were predominantly from a rural areas in the state. The authors note that that stronger relationship between PCL:YV facets and criminal offending among the African Americans in the study might be due to the fact that they are returning to neighborhoods with higher levels of crime and gang activity (Vitacco et al., 2010).

Overall, research indicates that adolescents who are members of a minority group are more likely to be diagnosed with conduct disorder than white adolescents who exhibit similar behaviors. Further, despite the relationship between juvenile psychopathy and

recidivism risk, research suggests that some aspects of psychopathy are less predictive of violent recidivism among minorities than they are for white juveniles. There are also indications that some traits among black male adolescents that appear to indicate psychopathy may be more reflective of social context than individual facets of personality. These findings suggest the potential for diagnostic bias and effects of structural factors to influence the likelihood of these negative diagnoses among adolescents.

Psychosocial factors and antisocial/psychopathic traits

The literature on the possible origins of antisocial behavior and criminality is extensive, and points to genetic, neuropathological, and environmental components, as well as to interactions between those factors. For example, research has demonstrated a genetic predisposition to antisocial behavior in the children of alcoholic and antisocial family member in both males and females. Disruptions in early attachment, including deprivation of maternal care, or discontinuous mothering by maternal substitutes has been found to be associated with the development of antisocial behavior (Cadoret, 1980; Gao, Raine, Chan, Venables, & Mednick, 2010). Childhood trauma related to community and familial violence (e.g., physical, sexual, and emotional abuse, domestic violence, witnessing violence in the community) and poor parenting practices (e.g., harsh discipline, low maternal care, poor supervision) are also shown to be associated with higher psychopathy scores among juveniles (Rubio et al., 2014). In fact, Frick, Doug, and Barry (2000) suggest that the impulsive and antisocial lifestyle dimensions of psychopathy tend to be more related to dysfunction in the family, low socioeconomic

status and intellectual deficits as opposed to the callous/unemotional dimension of psychopathy that indicates an abnormality in the ability to process emotional information. In addition, research on antisocial behavior also shows correlations with having an antisocial parent, a broken home due to divorce or separation (Rutter, 1974), parenting practices (e.g., attitude, disciplinary style, level of supervision), low socioeconomic status, and large family size (Cadoret, 1980).

Child abuse and neglect has a significant effect on increasing psychopathic traits among prison populations (Gao et al., 2010 citing Marshall & Cooke, 1999). Psychopathy is also associated with abuse and neglect among adolescents with substance abuse issues (O'Neill, Lidz, & Heilbrun, 2003), and adults with high levels of psychopathy have been found to have experienced higher levels of abuse and neglect as children compared to those who score low on psychopathy (Lang, af Klinteberg, & Alm, 2002). In a study of the stability of psychopathy over time, Lynam, Loeber, and Stouthamer-Loeber (2008) found that boys who had low levels of psychopathy at age 13 who experienced more physical punishment, grew up poorer, and had antisocial friends became more psychopathic over time (i.e. when measured again at age 24), whereas less physical punishment, better economic conditions, and fewer antisocial friends predicted the stability of a low level of psychopathy over time. In addition, adolescent offenders who were abused tend to have higher scores on the PCL:YV than adolescent offenders who were not abused (Rubio et al., 2014).

Socioeconomic status is also closely tied with conduct disorder among adolescents, particularly among minorities (Jaffee, Belsky, Harrington, Caspi, & Moffitt,

2006; Sampson & Groves, 1989; Tiet et al., 2001). Children raised in neighborhoods marked by poverty and social disorganization are more likely to engage in problematic behaviors that lead to involvement with the criminal justice system (Sampson & Groves, 1989; Tiet et al., 2001). Exposure to violence, either through witnessing or being a victim of violence oneself, also contributes to conduct problems in children, particularly in high-crime environments (DuRant, Cadenhead, Pendergrast, Slavens, & Linder, 1994; Flannery, Wester, & Singer, 2004; Pearce, Jones, Schwab-Stone, & Ruchkin, 2003).

Perhaps because of its association with criminality, anecdotal evidence suggests that the impact of a PCL-R score and the “psychopath” label may override other considerations in decision-making; for example, some parole boards appear to rely heavily on the diagnosis when considering requests for early release to the exclusion of other relevant factors, such as progress in therapy (Hare, 1998). Likewise, the diagnosis of Conduct Disorder among minority adolescents also increases the likelihood that they will be transferred to adult court or be sentenced to a longer term of confinement (Seagrave & Grisso, 2002; Skeem & Petrila, 2004).

Psychopathy as a personality construct is highly debated among experts in psychology and psychiatry, and its origins are not well understood. However, research indicates that individuals may be born with a predisposition traits associated with psychopathy (e.g., low empathy). Yet, research also suggests that this predisposition can be exacerbated by adverse experiences, particularly experiences of abuse in early childhood. DeLisi and Vaughn (2014), for example, have called for more research aimed at understanding the context in which psychopathic traits may either be lessened or

enhanced. In terms of cumulative disadvantage, evidence points to both a genetic component (i.e. born predisposed to particular personality traits) and to influences of childhood experiences on dimensions of psychopathy. At least in some contexts, the biological predisposition to psychopathy would be considered a disadvantage – in combination with adverse experiences in childhood, the impact may be a lifelong pattern of antisocial conduct. As a measure of cumulative disadvantage in RAIs, the presence of a biological/genetic predisposition to psychopathy combined with adverse childhood experiences seems to support that these factors represent a disadvantage that is cumulative over time.

Criminal History Risk Domain

There is general agreement that criminal history is a legitimate legal consideration in the determination of harsher sentencing outcomes (Bushway & Piehl, 2001; Monahan, 2006). Criminal history is very influential in sentencing decisions, including the weight it is given in many state and federal sentencing guidelines (Harcourt, 2015; Hofer & Allenbaugh, 2003). Prior criminal history is frequently and consistently identified as a good predictor of recidivism (Gendreau et al., 1996; Mears, Cochran, Siennick, & Bales, 2012; Prins, Skeem, Mauro, & Link, 2015; Wang, Hay, Todak, & Bales, 2014). In fact, some researchers have found that very little predictive accuracy is added to RAIs by including factors *other* than criminal history (Petersilia & Turner, 1987).

However, involvement with the criminal justice system in the form of arrests, convictions, and incarceration are disproportionately experienced by the poor, racial/ethnic minorities, and people with mental health issues (Prins, 2014; Sugie &

Turney, 2017; Teplin, 1984). Therefore, the use of criminal history to increase punishment has been criticized by a number of researchers and legal scholars. Perhaps one of the strongest critiques of the use of criminal history is its potential to have a racially disparate impact on minorities (Hannah-Moffat, 2013; Harcourt, 2015; Starr, 2014) (for a brief review of differential treatment of minorities in the criminal justice system, see Appendix C). Harcourt (2015) argues that “reliance on criminal history has proven devastating to African American communities and can only continue to have disproportionate impacts in the future” (p. 240). Engen, Steen, and Bridges (2002) also speculate that emphasis on a prior record in sentencing decisions may play an important role in producing disparity in the juvenile system, and may be an indirect way in which minority youth experience differential treatment. Their analyses of 65 studies examining the effects of race or ethnicity in the juvenile justice system found little support for the proposition that race effects can be explained by other factors such as family structure, social class, or other similar status characteristics. Controlling for age, gender, socioeconomic status, and even offense severity, did not reduce the odds of finding a race effect on juvenile case dispositions (Engen, Steen, & Bridges, 2002).

In part, reliance on criminal history is likely to have a disparate impact because African American offenders tend to have more extensive criminal histories than their white counterparts (Bushway & Piehl, 2001). The disproportionate arrest and incarceration of African Americans is well documented through decades of research in research on crime and the criminal justice system (National Research Council, 2015; Rocque, 2011). The weight given to criminal history in sentencing guidelines has also

been shown to contribute to racial disparities (Frase, 2009). Consequently, research in fact indicates that criminal history, offense severity, number of charges, and the mode of conviction (guilty plea versus trial) account for most of the variations seen in sentencing (M. R. Gottfredson & Gottfredson, 1990; Spohn, 2002). Also of concern is the fact that some of the more common RAIs do not limit criminal history to convictions - some count alleged offenses, arrests, juvenile cases, and conduct for which the individual was acquitted (Hamilton, 2015b; Roberts, in press).

Racial differences in the criminal justice system can be identified at a number of decision-making points including in prosecutorial decision-making, pretrial bail and detention decision, incarceration, and length of sentence (Baumer, 2013). In addition, discrimination can occur in access to institutions, functional processes within justice institutions, or in movement through the criminal justice system (Blank et al., 2004). Discrimination can follow a cumulative path as discrimination at an earlier point in time can influence discriminatory behavior at a later point in time (Blank et al., 2004). In fact, even small racial disparities at various points in the juvenile justice system are likely to be compounded through case processing (National Research Council and Institute of Medicine, 2001). Zatz (1987) argued that even small, statistically non-significant findings regarding decisions at various stages of processing, and that these decisions can add up to significant disparities for certain social groups in a process of cumulative disadvantage. In this way, race/ethnicity, and perhaps social class can result in variations related to less obvious forms of discrimination, particularly where other factors might confound or mask the effect of the discriminatory practices (Burke & Turk, 1975). Much of the research

regarding cumulative disadvantage and criminal case processing was reviewed in chapter 2 (Demuth, 2003; Demuth & Steffensmeier, 2004a; Kutateladze et al., 2014; Rehavi & Starr, 2014; Spohn, 2009; Sutton, 2013; Wooldredge et al., 2015), and therefore will not be repeated here.

Demographics and criminal history

Demographic characteristics increase the likelihood of criminal justice involvement. Racial disparities are evident beginning with youths' initial contacts with the juvenile justice system. Minority youths are overrepresented at all stages of the juvenile justice system, from arrest, to detention, prosecution, transfers to adult court, and commitment to detention facilities (Bishop & Frazier, 1996; Leiber, 2002; Welsh, Jenkins, & Harris, 1999). The chance a black male in the United States will spend time in prison is 32 percent, compared to 17 percent and 6 percent for Hispanic and white males, respectively (Vaughn, Wallace, Davis, Fernandes, & Howard, 2008). Research on racial disparities in the juvenile justice system over the past forty years has also demonstrated that African-American, Native American, and Hispanic youths face discrimination at various decision-making points throughout the criminal justice process (e.g., Bishop, Leiber, & Johnson, 2010; Engen et al., 2002; Pope et al., 2002).

Like the adult criminal justice system, the juvenile justice system involves multiple decision points at which youths can be diverted from more serious consequences or driven deeper into the depths of the criminal justice process. Minority youths are more likely to be arrested and processed through the juvenile justice system than are white youths (Engen et al., 2002; Spinney et al., 2016). Research has repeatedly demonstrated

that ethnic minority youths are more likely to receive harsher sanctions than are white youth (Engen et al., 2002; Moore & Padavic, 2011; Pope et al., 2002). In an effort to examine the differential involvement/differential treatment question and the contradictory findings in the literature about racial disparities in the juvenile justice system, (Engen et al., 2002) undertook a systematic review of the literature on race and juvenile justice decision-making for the potential effects of methodological differences on study outcomes. Their findings supported a structural-process theory of race in which decisions at various stages in the process accumulate, and that decisions made at earlier stages are likely to have an impact on later outcomes.

Psychosocial factors and criminal history

Many studies have examined the effects of context on criminal recidivism, finding that context exerts effects above and beyond what can be attributed to personal characteristics of the individual (Bellair & Kowalski, 2011; Kubrin et al., 2007; Kubrin & Stewart, 2006; Mears et al., 2008; Reisig et al., 2007; Wang et al., 2014, 2010; Wright, Pratt, Lowenkamp, & Latessa, 2012; Wright & Rodriguez, 2014). For example, youths who become involved in the criminal justice system tend to have multiple psychosocial risk factors that increase the likelihood of involvement in delinquency including physical and sexual abuse, neglect, parental substance abuse, poor education, high-crime neighborhoods, problematic home environments, and poverty (Buckner & Bassuk, 1997; Dembo, Schmeidler, Sue, Borden, & Manning, 1995; National Research Council, 1993).

Delinquency may appear to be higher in neighborhoods of lower SES, in part because of increased law enforcement presence (Sampson & Groves, 1989). In

neighborhoods with increased surveillance, disproportionately those inhabited by racial minorities and the economically disadvantaged, crimes are more likely to be detected (Netter, 2007). Police actions may also differ depending on the type of community in which they patrol (Hagan, Gillis, & Chan, 1978). Smith (1986) found that the chance of arrest was negatively related to socioeconomic status in communities; that is, as SES increased, the chance of arrest decreased. Netter (2007) asserts that, “[w]e tolerate this differential enforcement because all those who are convicted have, in fact, committed a crime, even if others have committed the same crime undetected” (p. 713). Therefore, if racial minorities in low-income neighborhoods are disproportionately targeted for arrests for even minor crimes due to increased police presence and surveillance, it can appear that characteristics such as race, age, and being poor are more strongly correlated with crime than they actually are (Netter, 2007).

The socioeconomic characteristics and racial composition of neighborhoods also appears to affect rates of incarceration. In a recent study examining the spatial distribution of incarceration rates in Massachusetts between 2009 and 2014, Simes (2018) found that rates of incarceration varied widely by geographic location. Her findings indicated, “a small number of poor, minority neighborhoods experience very high rates of imprisonment across the state that are not fully explained by the level of crime” (p. 529). In Simes’s (2018) study, the crime level was measured based on violent crimes and drug arrests. The highest rates of incarceration tended to cluster not only in major metropolitan cities (e.g., Boston), but also in the surrounding cities and towns. Prison admission rates were highest in those areas with concentrated disadvantage (i.e., access to economic

resources), high rates of arrest for violent crime and drug crimes, and proportionally higher non-Hispanic black populations (Simes, 2018). However, the areas of highest incarceration rates were not limited to major cities, but were also seen in smaller cities and suburbs that demonstrated similar issues of poverty (some outlier, high-incarceration rate areas did have relatively low poverty rates and a majority non-Hispanic white population, but factors to explain these outliers were unclear) (Simes, 2018).

There is some evidence that suggests that the path to delinquency for African American juvenile males is more of a byproduct of environmental factors (e.g., exposure to gang violence, witnessing violence), whereas the path to delinquency for white male juveniles seems to evidence stronger origins in psychopathology such as mental health and substance abuse issues (Vaughn et al., 2008). There is, in fact, some evidence indicating that African American youths in the justice system may in fact have fewer psychopathological issues compared to whites (e.g., Abram et al., 2003; Teplin et al., 2002). In other words, different risk factors may be more salient and prominent for juveniles involved in the justice system that are linked to race and life experiences (Vaughn et al., 2008).

Not only do certain psychosocial factors (e.g., neighborhood context, SES) increase the likelihood of arrest, but adolescents and young adults who have an arrest record are more likely to experience negative effects on their psychosocial functioning, suggesting a bidirectional relationship between criminal history and psychosocial factors. An arrest record is associated with difficulties with employment, lower education levels, and more problems with family relationships (Brame, Turner, Paternoster, & Bushway,

2012). These effects contribute to the previously mentioned concept of “criminal embeddedness” (Hagan, 1993), in which problems in multiple areas of social capital decrease the likelihood of moving out of the cycle of crime involvement. Youths who are arrested are at higher risk to drop out of school, to have employment problems, and to have substance abuse problems in adulthood (Brame et al., 2012). In addition, the combination of criminal justice contact (i.e. arrest, conviction, incarceration) and residing in an area marked by high levels of disadvantage have particularly deleterious effects on mental health (Sugie & Turney, 2017). The higher likelihood of criminal justice contact for racial/ethnic minorities combined with a higher likelihood of living in a disadvantaged area suggests that these groups are at risk for higher rates of emotional/mental health problems that occur independently of any pre-existing mental illness.

Mental health and criminal history

People with mental illness disproportionately face multiple risk factors likely to render them at increased risk for involvement in the criminal justice system, as discussed in the section on the mental health risk domain. These factors include higher rates of unemployment and poverty, homelessness, substance abuse, and a lack of social support and treatment availability (Draine, Salzer, Culhane, & Hadley, 2002; Fisher & Drake, 2007; Prins, 2014). Mental health problems can increase the likelihood of arrest, conviction, and incarceration, while criminal justice involvement has also been demonstrated to have a negative impact on mental health (Sugie & Turney, 2017).

Among youths involved with the justice system, the prevalence of mental health issues has been found to be disturbingly high (Hirschfield, Maschi, White, Traub, & Loeber, 2006). In a literature review of 15 studies of psychiatric disorders among male adolescents, the prevalence rate of any disorder was nearly 70 percent (Colins et al., 2010). Similarly, a study involving 1,829 male and female juveniles sent to the Cook County Juvenile Temporary Detention Center (CCJTDC) in Illinois between the ages of 10 and 18 years found that approximately two-thirds of males and 73 percent of females met the *DSM-III-R* criteria for diagnosis of a mental health disorder (Teplin et al., 2002). Overall, two-thirds of females and nearly 60 percent of the males met the criteria for a psychiatric disorder significant enough to show evidence of impairment in functioning (Teplin et al., 2002). Of the juveniles evaluated in this study, females were significantly more likely than males to meet the criteria for two or more psychiatric disorders (56.5 percent and 45.9 percent, respectively) (Teplin et al., 2002). Similarly, Cauffman (2004) reported that 70 percent of male juveniles and 81 percent of female juveniles evaluated on entry to a Pennsylvania juvenile detention facility met criteria for at least one mental health disorder.

There is relatively little research on how race/ethnicity affects the strength of the relationship between mental health issues and offending (Colins et al., 2013, 2010; Sayed et al., 2016; Vaughn et al., 2008). Vaughn and colleagues (2008) found that in a sample of 723 youths who were committed to the care of the Missouri Division of Youth Services (DYS), African Americans reported fewer psychiatric symptoms than whites, but were more likely to have seen someone injured or killed, to have been personally

victimized, and to have engaged in violent behavior. Such factors suggest the potential for mental health effects from trauma, even if they were not reported by black youths. If those experiences are “normal” in their lives, the attendant mental trauma may also seem normal.

Interestingly, the prevalence rates of any disorder for males in the CCJTDC sample indicated that non-Hispanic white males had the highest prevalence rate at 82 percent, followed by Hispanic males at 70 percent, and African American males at 64 percent (Teplin et al., 2002). This somewhat unexpected finding could be an indication that white males may evidence greater dysfunction before becoming involved in the juvenile justice system (Teplin et al., 2002). It could also be that psychiatric problems among non-white youths were less likely to be recognized by the rating clinicians in the evaluations (Neighbors et al., 1989). On the other hand, Baglivio, Wolff, Piquero, et al. (2017) found that among youths admitted to a juvenile justice residential program in Florida, black and white male juveniles had similar rates (11.3 percent and 9.7 percent, respectively) of having no psychiatric diagnosis.

The recognition and treatment of mental health problems among justice-involved youths is not encouraging. In line with other research, minority youths are less likely to be recognized as having a mental health issue and less likely to receive treatment for it. Among all CCJTDC youths who were in need of mental health treatment, only about 16 percent received treatment within six months, either in the detention center or in the community (Teplin, Abram, McClelland, Washburn, & Pikus, 2005). The odds of a non-Hispanic white juvenile being identified as in need of treatment were almost twice as

high as for those of non-white juveniles (Teplin et al., 2005), suggesting minority youths may be less likely to have their treatment needs addressed.

Adults with mental illness are also overrepresented in many areas of the criminal justice system, including in jails and prisons and in community supervision by probation officers (Ditton, 1999; Prins, 2014; Steadman, Osher, Robbins, Case, & Samuels, 2009). In addition, more than 75 percent of mentally ill state prison inmates in 1998 had a prior criminal record and had either been on probation or incarcerated (Ditton, 1999). More recently, drawing on data from between 2011 and 2012, (Bronson & Berzofsky, 2017) reported that about 37 percent of people in prison and 44 percent of those in jail had been told by a mental health professional that they had a mental disorder. Similarly, prison and jail inmates who had more than one arrest were more likely to have been told by a mental health provider in the past that they have a mental disorder (Bronson & Berzofsky, 2017). Of those prisoners who had been arrested 11 or more times, about half had been told at some point by a mental health professional that they have a mental disorder (Bronson & Berzofsky, 2017). However, mental illness among criminal justice populations is rarely the sole contributor to criminal justice involvement, as this population tends to evidence indicators of co-occurring disorders, such as substance abuse.

Substance abuse and criminal history

Substance use disorders are common among those who are involved in the criminal justice system, both among juvenile and adult populations. A substantial body of research confirms the relationship between substance use and involvement in delinquency, including serious offending (Farrington, 1989; Hovee et al., 2013; Van

Kammen, Loeber, & Stouthamer-Loeber, 1991; Vaughn, Howard, Foster, Dayton, & Zelner, 2005). The prevalence of substance use disorders among detained male juveniles across 15 studies averaged 45 percent (95 percent CI 44.6% to 45.5%). In the previously mentioned study by Teplin and colleagues (2002) involving 1,829 male and female juveniles in the CCJTDC, half of the males and almost half of the females met the criteria for a substance use disorder (Teplin et al., 2002). Among juveniles in the CCJTDC study, approximately 14 percent of females and 11 percent of the males had a co-occurring diagnosis of both a substance use disorder and a major mental health disorder (Abram et al., 2003). Furthermore, as many as three-quarters of justice-involved juveniles with a major affective disorder (e.g., depression, anxiety) also have a substance use disorder (Abram et al., 2003). This evidence suggests that co-occurring mental health and substance use disorders can become apparent in adolescence and contribute to future involvement with the criminal justice system without intervention.

Most evidence indicates that substance use disorder in combination with mental illness puts those individuals at increased risk for involvement with the criminal justice system. In an analysis of 10,855 adults who had both a substance use disorder and a mental illness, Prince and Wald (2018) found that about 17 percent had been arrested within the last twelve months. Those at higher risk for arrest included males compared to females, blacks compared to whites, younger people, and those with less education (Prince & Wald, 2018). Relative to the general population who do not have a severe mental illness or a substance use disorder, those with co-occurring disorders are seven times as likely to be arrested. The likelihood for those with only a severe mental illness or

only a substance use disorder were two and five times as likely, respectively, to be arrested relative to the general population (Prince & Wald, 2018). The combination of a mental health disorder and a substance use disorder, therefore, appears to put both adolescents and adults at higher risk for criminal justice system involvement.

Antisocial/psychopathic traits and criminal history

One of the primary critiques of the diagnosis of ASPD is the very high rates with which it is identified in prisoners (rates of 50-80 percent), whereas psychopathy measured using the PCL-R suggests prevalence rates of around 15 percent among prisoners. The large differences in diagnoses between these two disorders suggest there may be a problem of overdiagnosis of ASPD among prison populations (Hare, 2003; Ogloff, 2006). For example, in a systematic review of 62 surveys involving 23,000 prisoners from 12 western countries, the prevalence rate of antisocial personality disorder among males of about 47 percent, compared to about 21 percent of women (Fazel & Danesh, 2002). Furthermore, diagnosis of ASPD relies almost completely on behavioral observations, in contrast to the concept of psychopathy, which measures personality features (Glenn et al., 2013; Ogloff, 2006). Given the very broad, behaviorally-based criteria for a diagnosis of ASPD (cited in the section on antisocial/psychopathic traits) (Glenn et al., 2013), it is unsurprising to find high rates of the diagnosis among offenders, particularly among those who first encountered the criminal justice system as a juvenile.

As discussed in the section on antisocial/psychopathic traits previously, evidence of conduct disorder in adolescence is required for a diagnosis of ASPD in adulthood (American Psychiatric Association, 2013; Ogloff, 2006). As also mentioned previously,

African American and Latino boys in the United States are disproportionately diagnosed with conduct disorder (CD) compared to their white counterparts (Mizock & Harkins, 2011). However, most youths who receive a diagnosis of conduct disorder do not go on to develop ASPD in adulthood (Baskin-Sommers et al., 2016). This finding is likely related to the fact that antisocial behavior evident in adolescence is indicative of temporary and situational adolescent behavior, not an underlying personality disorder (Moffitt, 1993). However, given the diagnostic criteria of ASPD, it seems likely that higher rates of a CD diagnosis in adolescence among racial/ethnic minority youth would also mean a higher likelihood of an ASPD diagnosis in adulthood.

Nevertheless, a diagnosis of conduct disorder in childhood and a diagnosis of ASPD in adulthood are both associated with violent offending (Baskin-Sommers, Baskin, Sommers, & Newman, 2013; Baskin-Sommers et al., 2016; Frick et al., 2000). High scores on the PCL-R have also been found to have moderate to strong predictive validity for reoffending (Hart, Kropp, & Hare, 1988; Ogloff, 2006). For example, among 231 white males released from prison under supervision conditions in Canada between 1978 and 1985, psychopathy scores using the Psychopathy Checklist (PCL; Hare, 1980) showed a linear relationship to the likelihood of revocation of parole or a new conviction (among low, medium, and high scorers on the PCL, revocation rates were 23.5%, 48.9%, and 65.2%, respectively).

However, antisocial personality disorder is also found to overlap with other clinically-relevant diagnoses. For example, among a group of 130 forensic clinic patients in Australia, about 43 percent met the diagnostic criteria for ASPD (Ogloff, Talevski,

Lemphers, Wood, & Simmons, 2015). Among participants who met the criteria for ASPD, approximately 91 percent also met the criteria for a substance use disorder compared to about 68 percent of those who did not meet ASPD criteria. Almost one-third of the entire sample met the diagnostic criteria for a major mental disorder (psychotic or mood disorder) and substance use disorder (SUD) and ASPD (Ogloff et al., 2015). Among individuals who exhibit all three psychiatric problems (major mental illness + SUD + ASPD), they tend to be significantly impaired in their functioning, to have less successful treatment outcomes, and to have strained interpersonal relationships (Mueser et al., 2012). These factors suggest multiple forms of disadvantage in terms of severe illness, a lack of adequate treatment, and few interpersonal resources that might help divert offending behavior.

In the legal setting, a diagnosis of ASPD, or scoring high in psychopathy, can have a very negative impact on decision-making. In fact, numerous criminal defendants have been sentenced to death based on testimony that because of ASPD or psychopathy they would almost certainly commit another violent offense (Wayland & O'Brien, 2013). For example, in *Guinan v. Armontrout* (1990), a diagnosis of ASPD was cited as evidence that Guinan (the defendant) was not amenable to treatment, that his crime was attributable to his personality (and not some other comorbid psychiatric disorder), and therefore a death sentence was justified. In the decision by the appellate court, the judges wrote, "We suspect that most capital murder defendants are likely to fit this personality profile" (p. 1230). This opinion suggests the highly prejudicial effect a diagnosis of ASPD can have on legal decision-makers, despite its apparent high rates of prevalence

among both offenders who do and do not commit homicide. Furthermore, most jurisdictions in the United States do not allow ASPD to qualify as a “mental disease or defect” for purposes of the insanity defense (Wayland & O’Brien, 2013). The ASPD diagnosis appears in some cases to preclude inquiry into other potential psychiatric issues, despite evidence of the comorbidity of ASPD with other mental illness and substance use disorders (Mueser et al., 2006; Ogloff et al., 2015). Despite the fact that an ASPD diagnosis may not be a variable that is capable of discriminating between types of offenders (as evidenced by its ubiquitous presence among offenders generally), it appears to have a very prejudicial effect in the legal setting.

A number of risk factors have been critiqued as potential proxies for race and class/poverty as measured by RAIs, but none perhaps so much as criminal history. According to White (2006), policies such as the use of RAIs in sentencing, among other policies aimed at recidivists are overwhelmingly concentrated on those people who exist at the intersection of economic deprivation and racial exclusion—the so-called “underclass.” For these ‘rejects of market society,’ arrest and criminal conviction are not only much more likely than for more socially secure groups, these experiences are facts of life. For many “denizens of the underclass,” criminality is a rational, relatively normal response to the social conditions in which these groups are living (White, 2006, pp. 741-42). White’s (2006) observation helps put into context not only criminal history, but also helps frame the concept of cumulative disadvantage and criminal history as it relates to a host of problems among minority groups and the poor.

At the level of criminal history, the cumulative disadvantage theoretical framework necessitates considerations of racial and socioeconomic disparities that occur throughout the course of the process from arrest to conviction and sentencing (Baumer, 2013). In other words, criminal history as a static factor represents the accumulation of many events and decisions that worked to create those offenses on record. This is one significant way in which criminal history as a factor in RAIs may increase the disadvantages experienced by minorities and the poor. Referring back to the concept of the feedback loop of cumulative disadvantage, offending, and decision-making of criminal justice actors, criminal history is where we might see those effects in operation. More explicitly, when we consider evidence of disparate treatment in criminal justice processing and decision-making, we can better examine how those decisions accumulate in the body of a criminal record.

Dynamic Risk Domain

Dynamic risk factors encompass a wide range of variables that are related to characteristics of the individual and their environment that are believed to increase the likelihood of reoffending (Mann, Hanson, & Thornton, 2010). Due to the fact that dynamic risk factors are so varied, this section will proceed a bit differently than previous sections by highlighting issues with respect to dynamic risk factors and treatment. There is ongoing debate around theory and efficacy of interventions and treatment to reduce risk by targeting dynamic factors. So rather than (with a few exceptions) discuss specific dynamic risk factors, the following discussion will highlight some of the challenges in uncovering the utility and validity of some of these factors. Some types of dynamic risk

factors will be discussed, some controversies will be reviewed, and research will be discussed.

Andrews and Bonta (2010) and Bonta and Andrews (2017) have proposed a model of crime known as the *General Personality and Cognitive Social Learning Theory of Criminal Conduct* (GPCSL) (Heffernan & Ward, 2017). This model identifies seven major dynamic risk/need factors including: antisocial personality, procriminal attitudes, social supports for crime, substance abuse, family/marital relationships, school/work, and prosocial recreational activities (Bonta & Andrews, 2007). As can be seen in this model, the factors overlap with most of the factors previously discussed, with the exception of criminal history.

The RNR model is based on a framework of three principles: 1) correctional program matching to offender's risk level (risk); 2) effective programs should target dynamic risk factors (need); 3) services are provided that are specific to the needs of the offender and that programs are based on cognitive behavioral and social learning models (responsivity) (Dowden & Andrews, 2000). In accordance with the risk principle, low risk offenders should receive minimal or no intervention, whereas high risk offenders should be targeted for intensive services and intervention that align with their individual needs (Dowden & Andrews, 2000). In the RNR model, dynamic risk factors are synonymous with the term "needs."

Dynamic risk factors are factors that are believed to be changeable, and therefore could result in a reduction of risk with some type of treatment or intervention. Dynamic factors commonly measured in RAIs include procriminal attitudes, impulsivity, taking

responsibility for one's actions, and problems with anger management (Pennsylvania Commission on Sentencing, 2011). Dynamic risk factors are also referred to as "criminogenic needs," because unlike static historical factors that cannot be changed (e.g., criminal history), risk factors that can be addressed with treatment or intervention are commonly thought to reduce the risk of recidivism (Bonta, 2002). Dynamic risk factors also include recreational activities, school status, relationships (including with peers), drug and alcohol use, and aggression (Baglivio, Wolff, Jackowski, & Greenwald, 2017). For example, Baglivio, Wolff, Jackowski and Greenwald (2017) found that reductions in the aforementioned risk factors resulted in meaningful changes in the likelihood of recidivism in juvenile offenders following treatment in a residential placement.

Relatively speaking, dynamic risk factors have not long been the focus of much research regarding their utility in the reduction of recidivism risk. (Gendreau et al., 1996) conducted a meta-analysis of 131 studies published between January 1970 and June 1994 to identify the strongest correlates of criminal recidivism. In part, they were motivated to conduct the study by controversy about the reliability of dynamic risk factors and a perceived lack of interest on the part of criminal justice professionals about enhancing prediction of criminal behavior by adding dynamic factors to risk assessment (Gendreau et al., 1996). The authors identified 1,141 correlates of recidivism as measured by available risk prediction instruments at the time. They found criminogenic needs as a class to be one of the strongest predictors of adult offender recidivism, almost identical in their predictive validity to that of criminal history, and significantly greater than factors

contained in the domains of family factors, intellectual functioning, personal distress, and socioeconomic status (Gendreau et al., 1996). Research conducted in the intervening years has found support for the predictive accuracy of dynamic risk factors (Cording, Beggs Christofferson, & Grace, 2016). However, others have concluded that dynamic risk factors actually add little to the predictive accuracy of RAIs, suggesting that these factors, despite being potential treatment targets, actually do little for the prediction of recidivism. For example, Baird, Healy, Johnson, Bogie, Dankert, and Scharenbroch (2013) conducted a thorough evaluation of nine RAIs used in the juvenile justice system, and concluded: “Adding factors with relatively weak statistical relationships to recidivism – including dynamic factors and criminogenic needs – can result in reduced capacity to accurately identify high-, moderate-, and low-risk offenders” (p. vi).

Much like the questions about methodology and reliability in the measurement of dynamic risk factors (including subjectivity in measurement of such factors) that existed in 1996 (Gendreau et al., 1996), such questions still exist today. As an example, the sometimes poor reliability in the measurement of dynamic risk factors is demonstrated in one study in which the test-retest/interrater reliability was quite low ($r = 0.16$) for the “procriminal attitude/orientation” factor in the Level of Service/Case Management Inventory (LS/CMI; Andrews, Bonta, & Wormith, 2004). The poor interrater reliability of this specific factor suggests that what constitutes “procriminal attitudes” is subject to interpretation, and potentially ill-defined as a risk construct. One prominent criticism of dynamic risk factors is, therefore, a conceptual one, in that the RNR model does not attempt to account for dynamic factors as causal mechanisms of criminal behavior, which

is a prerequisite to establishing whether changing dynamic risk factors results in recidivism reductions (Heffernan & Ward, 2017; Monahan & Skeem, 2016; Morgan, Kroner, Mills, Serna, & McDonald, 2013). The correlational research that has dominated regarding dynamic factors (and RAIs more generally) does not inquire into the mechanisms underlying the observed circumstances that are measured by dynamic risk factors (Heffernan & Ward, 2017). Heffernan and Ward (2017) cite the example of the risk factor of “intimacy problems/deficits” - observing that these problems exist does not illuminate the emotional, cognitive, interpersonal, contextual, or other determinants of why this problem exists. Without that level of specificity regarding dynamic factors, it is difficult to develop an intervention to target this risk, which can lead to spotty results in terms of reducing the risk (Kroner, Mills, & Reddon, 2005). Therefore, numerous researchers have called for improving articulation of the theoretical constructs that underlie dynamic risk factors (Cording et al., 2016; Heffernan & Ward, 2017; Kroner et al., 2005).

Research regarding the importance of changes in various dynamic risk domains is somewhat conflicting, which may raise questions about what dynamic risk factors are really the most important treatment targets. Yet some research does provide evidence that reductions in dynamic risk factor scores are related to a reduction in recidivism, and some findings do indicate the capacity for dynamic risk factors to measure changes in risk level over time. There are two risk factors for which there is empirical support that change reduces recidivism: criminal thinking and substance abuse (Monahan & Skeem, 2016). Cohen, Lowenkamp, and VanBenschoten (2016) analyzed data from Post-conviction

Risk Assessment (PCRA) scores and found that reductions in overall risk scores between time 1 and time 2 measures were associated with lower odds of arrest ($N = 64,716$). Of offenders initially classified as high risk, 38 percent decreased their risk level at time 2 (62 percent remained unchanged). The average time between scoring of the PCRA was nine months, and regardless of which dynamic risk domain was lowered (i.e. substance abuse, social networks, education/employment, or supervision attitude), the decrease was associated with lower odds of arrest. On the other hand, increased scores (i.e. increased risk) in the substance abuse or attitudes towards supervision domain were associated with a greater increase in the likelihood of arrest compared to increases in risk in the domain of social networks or education/employment (Cohen et al., 2016). Despite the positive results from the study in risk reductions and decreased likelihood of arrest, it does demonstrate that it is not clear how or why various dynamic risk factors may affect recidivism risk.

The meaning and import of dynamic predictors is still very much under discussion, yet also of great interest in terms of developing effective programs that may reduce risk. Another criticism is that the identification of dynamic risk factors should point to potential treatment (e.g., substance abuse treatment) that may not be considered at sentencing, may not be available in a correctional facility, and is less likely to be available in economically disadvantaged areas where treatment services are often underfunded or unavailable. In this way, the use of RAIs that measure dynamic risk factors may increase an individual's risk score, but treatment is not universally accessible to reduce those risks, particularly in economically deprived areas. Therefore, in a

somewhat less direct way, dynamic risk factors may disadvantage minorities and the poor if treatment services to reduce their risks are not available. For example, Weisberg and Petersilia (2010) reported that in California in 2009 there were only about 11,000 treatment spots available for more than 113,000 prisoners identified as being at moderate to high risk for substance abuse. Furthermore, for 85,000 prisoners identified as having significant anger problems there were only 200 treatment slots available (Weisberg & Petersilia, 2010).

In another example about the lack of treatment availability, Virginia began using a risk assessment tool (the Nonviolent Risk Assessment) statewide in 2002 (Garrett, Jakubow, & Monahan, 2018) in an effort to identify low-risk nonviolent offenders with the goal of diverting 25 percent of these to alternative sentences other than prison (note that alternative sentences include a term of incarceration in jail rather than prison) (Kleiman, Ostrom, & Cheesman, 2007). The focus of the Virginia Criminal Sentencing Commission in creating the tool appears to be one of evaluating risk, not determining needs (Netter, 2007). In a recent survey of 85 judges in Virginia, seven out of ten said that the availability of drug or mental health programs in their area is “less than adequate,” and five percent rated the availability of these alternatives to prison as “virtually nonexistent” (Monahan, Metz, & Garrett, in press, p. 5). One judge in the survey was quoted as saying, “We need a statute which requires that all areas of the state have equal access to drug treatment” (Monahan et al., in press, p. 8). In addition, seventy-five percent of the judges said they would change the way they sentence drug and property offenders if the availability of these types of alternatives improved. This lack of

available treatment options might partially explain why, in fiscal year 2016, of the 40 percent of nonviolent offenders who scored as low risk, only about 42 percent were given an alternative sentence (Garrett et al., 2018). Only about 20 percent of these offenders were required to obtain substance abuse treatment (Garrett et al., 2018). What the survey and data suggests is that, at least in some areas in the state, offenders who might otherwise be diverted from incarceration to treatment may not be due to a lack of treatment availability.

On the other hand, research indicates that subjecting low-risk offenders to more intensive treatment or supervision can actually lead to an increase in recidivism (Bonta, Wallace-Capretta, & Rooney, 2000; Dowden & Andrews, 1999; Hanley, 2002; Lowenkamp, Latessa, & Holsinger, 2006). Developers of the RNR model assert that, “[i]t is imperative that low-risk cases not be assigned to intensive rehabilitation programs” and that these programs “should be reserved exclusively for moderate and high-risk cases” (Andrews & Dowden, 2007, p. 458). Therefore, although its success in diverting some low-risk offenders from prison, it is not clear that Virginia’s approach to diverting offenders is aligned with RNR principles intended to reduce recidivism risk.

Overall, the dynamic risk factor domain is highly varied in terms of what factors are measured by the plethora of locally-produced and commercially available RAIs currently in use. Importantly, in terms of analysis of dynamic risk factors in a cumulative disadvantage framework, these factors present at least two potential risks to minorities and the poor: 1) dynamic risk factors implicate various other risk domains discussed in previous sections; and 2) given that dynamic risk factors are presumed to be treatment

targets, the lack of availability of treatment, particularly in disadvantaged communities, suggests that those in need of treatment may not be able to access what is necessary to reduce the risk associated with these factors.

In conclusion, the seven risk domains that have been reviewed in this chapter include demographics, psychosocial factors, mental health/illness, substance abuse, antisocial/psychopathic traits, criminal history, and dynamic risk factors. The next chapter, the discussion, will tie together the research in these areas, and will be followed by a conclusion chapter.

CHAPTER 5: DISCUSSION

This study set out to examine the critiques of the use of RAIs in criminal sentencing and the potential for these instruments to have a disproportionately negative impact on racial/ethnic minorities and on the poor. The approach in this thesis builds on suggestions by Baumer (2013) and others, indicating that those variables which are frequently omitted in research regarding race and sentencing outcomes, such as defendant socioeconomic status and marital status, limit the detection of racial disparities. This assertion relates to the focal concerns perspective (Albonetti, 1991) and the “perceptual shorthand” (Albonetti, 1991; Steffensmeier et al., 1998) that may be used by judges in considering such factors in combination with race. In addition, cumulative disadvantage models provide evidence of the intractability of negative early life experiences on disparate outcomes in adulthood, including criminal behavior. Additionally, research related to sentencing and cumulative disadvantage in the justice system indicates that decisions early in case processing lead to more negative outcomes in sentencing decisions. These simultaneous exposures to the operation of cumulative disadvantage both in life chances and in justice system interactions, which fall largely upon minority groups and the poor, may therefore be predictive of the impact of risk assessment in criminal justice decision-making. Therefore, reviewing the literature suggesting the interconnectedness of disadvantage in multiple domains is an effort to explore how these

factors might impact one another, particularly for minorities and the poor, who may have very few resources to mitigate the risks.

To examine the risk domains and constructs most commonly used in RAIs, the research relevant to reach risk domain in the context of race and cumulative disadvantage was considered. The underlying hypothesis explored here is that disadvantages as measured by risk factors represent predictors of negative outcomes over the life course in a variety of ways. In addition, correlational research between race, poverty, and disadvantaged beginnings suggests poorer outcomes for minorities and the poor over the life course. The goal of the preceding discussions about various risk domains in the context of cumulative disadvantage aimed to provide a closer examination of what each risk domain entails and the individual, familial, and contextual factors that underlie individual measurements of risk. In sentencing decisions, one of the concerns expressed about the use of RAIs is that the impact will be disproportionately negative on minorities and the poor (Defender Association of Philadelphia, 2017; Holder, 2014). The overarching theory about these various risk domains, including neighborhood context, is that these measures — individually and as a group — represent measures of cumulative disadvantage.

It is true that the impact of the use of RAIs in sentencing is but one element of the potential for cumulative disadvantage to influence case processing, and factors such as mandatory minimums and sentencing guidelines should also be considered when studying the impact of race in the justice system (Baumer, 2013). However, there is a substantial and important gap in research that examines the relationship between risk

assessment factors, disadvantage and decisions in the justice system. More specifically, researchers have yet to apply the theoretical framework of cumulative disadvantage to risk assessment instrument development or validation. Nor is there research which attempts to prospectively analyze whether RAIs will have a disproportionately negative impact on racial/ethnic minorities and the poor, specifically in sentencing decisions (Skeem & Lowenkamp, 2016). Finally, research examining the relationship between race and ethnicity and sentencing outcomes generally suffers from “underspecified causal linkages” (Baumer, 2013, p. 255). In other words, current models that might find correlational associations between race and sentencing outcomes are not sufficiently developed for the task of evaluating the effects of race and socioeconomic status on criminal justice outcomes. Yet, it may be that RAIs hold the key to uncovering some of the causal linkages that continue to plague the criminal justice system with racial and socioeconomic disparities. If such a relationship is established, then it is almost certain that the use of RAIs in sentencing decisions will have negative consequences for minorities and the poor.

Community, neighborhood, and familial factors appear to contribute to risk by constraining individual choices and contributing to cumulative disadvantage. Research by sociologists and criminologists has examined individual risk assessment in the context of concentrated disadvantage and how that impacts individual behavior. One example of this research is the MacArthur study, which found that mentally ill patients released to poor neighborhoods in Pittsburgh were 2.8 times more likely to commit an assault in a model controlling for personal characteristics correlated with violence (Simon, 2005). Wilson

(1987) identified “underclass” neighborhoods as those with high rates of poverty, reliance on public assistance, male joblessness, births out of wedlock, and single-mother homes. In a study of neighborhood context related to juvenile delinquency in Pittsburgh, Peeples and Loeber (1994) found that when neighborhood context was controlled for, racial and ethnic differences in offending rates dissipated. For African-American youths who were not living in “underclass” neighborhoods, their rates of offending were roughly similar to those of whites, providing support for the assertion that context matters (Peeples & Loeber, 1994). While the psychosocial domain (i.e., family life, education, and employment) does not specifically identify neighborhood context, this is an important consideration in recidivism research that warrants more attention, and can impact other identified risk factors such as employment, education, residential stability, and criminal friends and associates.

This is not to suggest that additional context measures should be included in RAIs, but rather that the concept of risk should be understood in the context of cumulative disadvantage and in light of the challenges faced disproportionately by racial/ethnic minorities and the poor that may hamper desistance. Measures of employment, education, and family life all bear on factors related to socioeconomic status and family composition (e.g., an absent parent) that also tend to be measures of cumulative disadvantage experienced early in life and throughout the life course. In addition, given factors such as segregation, concentrated disadvantage in urban settings and policies that perpetuate relative deprivation, the evidence is supportive of the argument that items included in RAIs will impact both minorities and the poor in a

disproportionately negative manner. In the cumulative disadvantage theoretical framework, measured variables are not limited to individual factors because context plays an important role in terms of access to opportunities for employment, education, health, socioeconomic success, and offending behavior. Much like Merton's theory that scientists without access to professional opportunities could be left to toil in relative anonymity regardless of their skills and abilities, individuals living in conditions of social and economic deprivation may find their personal qualities alone are insufficient to propel them out of those circumstances. In this way, the theoretical concept of cumulative disadvantage underscores the importance of environmental and sociological factors that deprive individuals of opportunities to reduce their risk factors and risk scores.

Measures related to mental health, psychopathic traits, and substance use/abuse are also associated with cumulative disadvantage beginning early in life such as poverty and childhood abuse and maltreatment. While these risk factors are not solely encountered by members of racial/ethnic minority groups or the poor, there are factors race- and poverty-related circumstances that contribute to the development and treatment of psychological problems and substance use/abuse disorders. In the context of RAIs, factors such as substance abuse, mental health problems, and so-called antisocial or psychopathic traits may be considered by judges to increase the length and/or severity of a criminal sentence. Research indicates that these challenges appear to be related, in many cases, to problematic social and family environments and that this exposure often begins in childhood. According to Moore and Padavic (2011), "Because the instruments decontextualize race, the associations between race and the risk factors linked to race

(e.g., family characteristics, neighborhood residence, gang affiliation, school activities, parents' criminal history) are rendered invisible and can lead to higher risk scores - and hence harsher punishments - for minority youth and to lower risk scores and less-harsh punishments for white youth" (p. 856). The cumulative effects of family dysfunction and neighborhood environments appear to take a toll.

The issue of criminal history is the most significant and complex factor in assessing cumulative disadvantage. First, criminal history may, in part, be a reflection of the accumulation of discriminatory practices in decision-making throughout the criminal justice process. Given the trends in racial disparities found in police stops, incarceration rates, the lowered likelihood of bail on recognizance, and in harsher criminal penalties observed for black Americans, the potential exists that black offenders will receive a higher risk assessment score than their white counterparts (Lowder et al., in press). Second, although criminal history is routinely identified as the strongest predictor of recidivism, it is a factor that cannot be changed by the individual. Further, once a person is "in the system," he may be subject to additional scrutiny and surveillance that increases his chances of being caught (relative to others who may also be engaging in criminal behavior), thereby adding to his criminal history. Third, criminal history functions alone in the criminal justice system as a significant disadvantage in several ways. Sentencing guidelines generally factor in criminal history in providing sentencing ranges. If an RAI is then used to increase an offender's punishment within that range, criminal history is disadvantaging him again. And finally, where a defendant has already served his time and paid his penalty for past criminal conduct, but is facing increased punishment as a result

of that history, he is essentially facing a triple counting of his past conduct. Given the disparities that already exist among minorities and the poor in the criminal justice system, it is likely that this triple counting of criminal history alone is sufficient to significantly impair their chances of reducing their recidivism risk and moving toward desistance.

Similarly, dynamic risk factors (i.e., factors that might be changed with treatment or intervention) are related to access to treatment for identified criminogenic needs. Mental health issues, antisocial attitudes and associates, and substance abuse are frequently identified as targets for treatment to reduce the likelihood of recidivism, at least in correctional settings. This conflating of risks and needs has the potential to justify additional punishment in sentencing, yet treatment is not widely accessible to many offenders who need it to reduce their risk. In particular, there is some indication that access to treatment is less available to both juvenile and adult offenders in correctional settings who are members of minority groups (Lé Cook & Alegría, 2011; Monahan et al., in press; Nicosia et al., 2013; Spinney et al., 2016; Travis & Petersilia, 2001).

Overall, then, the specific factors within most RAIs that might be used in sentencing carry the potential to have a disproportionately negative impact on minorities and the economically disadvantaged through the process of cumulative disadvantage that begins at (or even before) birth. One might say that this would not apply if a person did not offend to begin with – but each of the factors measured by RAIs is not just a measure of likelihood that they will reoffend, but of the risk that they would offend at all. The theoretical framework of cumulative disadvantage, therefore, holds promise not only to develop more sophisticated models to examine observed racial disparities within the

justice system, but the application of these models might also lead to further elaboration and integration of criminological and psychological theories of offending. In order to effectively reduce recidivism risks, causal links must be specified to identify appropriate treatment targets that not only reduce risk scores, but actual reoffending.

Even if only small differences in RAI scores between racial groups are observed, the issue of disparate impact is not resolved. The reason is that an analysis of a disparate impact must take into account *how* the scores are used (Skeem & Lowenkamp, 2016). In other words, the analysis is likely to differ depending on whether the scores are used to increase punishment or to add restrictive conditions or increased surveillance for those on probation or parole, versus to guide access to treatment programs and services. Even if individual risk factors contribute relatively little to differences in risk scores between racial groups (Skeem & Lowenkamp, 2016), the cumulative effects of these relatively small differences in a statistical model may translate to disparate treatment in practice, despite having little effect on the overall risk scores between racial groups. As tools for measuring recidivism risk gain increasing support and become ever more entrenched in criminal justice decision-making, there appears to be a need for additional exploration of the potential impacts they might have on the lives of justice-involved individuals as well as on the nature of penal policy in the United States. To move risk assessment research forward, it could be useful to build on studies of the possible role of discrimination in differential outcomes in one stage of a process to develop insights about the role of past and current discrimination for a subsequent stage of the same process or for another domain (Blank et al., 2004).

CHAPTER 6: CONCLUSION

Policy Implications and Directions for Future Research

Substantial evidence in a variety of fields of research demonstrates the adversity faced by the poor and members of minority groups in terms of outcome measures and treatment accessibility. From exposure to abuse and neglect in childhood, to deficits in educational opportunities, to poor access to employment opportunities, to the lack of treatment availability for mental health and substance abuse issues — as well as disparate treatment in the criminal justice system — all of these factors compound in ways that represent a cumulative effect of risk factors across their lives over time. While the correlational relationships between risk factors commonly measured in RAIs and criminal offending and reoffending are well established, there is also overwhelming evidence that the disparities evident in situational factors and exposure to negative circumstances pre-date the development of these risk factors. These disparities are not evenly distributed throughout society, and the impact of these risks fall mainly upon the shoulders of individuals who are minorities and who are living in poverty.

The United States is a highly individualistic society and this is reflected in the functioning of our criminal justice system in terms of attributions of responsibility, culpability, and blameworthiness. In criminological research, Gottfredson and Hirschi's general theory of crime is based solely on the concept of self-control and its relationship

to criminal behavior and persistence in antisocial and offending behavior over time. (M. R. Gottfredson & Hirschi, 1990) described people with low self-control as negatively tempered, insensitive, impulsive risk-takers, and hundreds of follow-up studies have confirmed that low self-control predicts crime across racial and ethnic groups and gender (DeLisi & Vaughn, 2008). This theory meshes well with our concept of individual responsibility, as well as the idea that what a person “is” can be measured, for example, with RAIs. However, there are complex factors underlying the development of self-control and propensity for criminal conduct (i.e. risk) that are contained within RAIs, but may actually stem from factors that are well outside of the control of the individual. Although individual behavior cannot be divorced from the person, some commentators have begun to call for updating some of our assumptions about the nature of criminal behavior in light of advances in research in psychology, sociology, criminology, and neuroscience (see, e.g., Benforado, 2015).

In addition, a more cohesive view of the aims of sentencing would be useful. It is a general principle that prevention can be less expensive than the costs of punishment, recovery, and restitution, particularly when it comes to crime. Crime is associated with astronomical costs in terms of lives lost and injuries suffered for the victims, but also to all involved individuals, families, and to society. Thus, investing in crime prevention and preventing recidivism through rehabilitation may ultimately cost less, both in terms of dollars and human suffering. Therefore, policies aimed at prevention and rehabilitation may serve us better in the long-term. These factors should be considered before the widespread implementation of RAIs as justifications to increase the length and/or

severity of sentences, particularly without solid evidence that these sentence increases bear some relationship to a reduction in recidivism.

Finally, policy-makers should request more research about whether RAIs may be functioning as measures of cumulative disadvantage. Such research may help contextualize the initiation and continuation of criminal activity. If risk factors tend to accumulate for individuals based on their group membership, then punishing people based on these circumstances may result in a discriminatory effect. Furthermore, measuring social cumulative disadvantage with risk measures and then injecting it into the decision-making process in criminal cases is unlikely to be effective in reducing implicit negative attributions about individual defendants by decision-makers. In fact, risk assessment instruments may then better serve as a “scientific” justification for covert discrimination. In addition, if risk assessments measure “social” cumulative disadvantage, these instruments are unlikely to reduce disparities that appear to accumulate throughout various points in criminal case processing - from charging decisions, to release on bail, to fairness in plea bargains, to sentencing decisions.

The formulation of the examination conducted in this study can be reduced simply to this: if the accumulation of social and structural disadvantages are related to criminality, and social and structural disadvantages tend to disproportionately impact racial minorities, and if RAIs tend to measure social and structural cumulative disadvantage, then racial minorities and the poor will be negatively impacted by their use as measures of individual risk in sentencing determinations. The process of examining the hypothesis that RAIs function as a measure of cumulative disadvantage was

accomplished through a focused examination of the literature related to various risk domains. However, one limitation of this research is that only peer-reviewed, published research was included; there may be applicable research (e.g., in theses or dissertations) that was not evaluated. In addition, decisions about which studies were most relevant were made solely by the author of this thesis. Although reasonable arguments may be made that different or additional studies could have been cited, every effort was made to present a balanced view of the extant literature. While more research is needed, and with the aforementioned limitations in mind, this review suggests that existing evidence is supportive of the potential for RAIs to measure cumulative disadvantage in a way that disproportionately impacts racial minorities and the poor.

If consideration of the potential for RAIs to have a discriminatory impact is to be a serious undertaking in research, then factors relevant to the development and sustainment of criminal conduct cannot be relegated to a risk score in the service of efforts to “individualize” sentencing. If the score becomes a representation of who the person is, we will miss the social and ecological factors that disproportionately impact the poor, and particularly minorities that are intricately woven into risk domains. There is much work left for future researchers to examine this question empirically, along with other questions raised throughout this study about the role RAIs will play in sentencing decisions and the impact they will have on those decisions.

Future researchers examining bias in the criminal justice process should attempt to examine how risk assessment measures are used in sentencing determinations. One possible approach is to first identify the constructs underlying the risk domains and then

utilize hierarchical models to estimate the effects of various combinations of risk factors on various criminal justice system outcomes (e.g., pretrial detention, charging decisions, and sentencing decisions). Researchers could also create interaction models that include risk assessment scores in an effort to understand the relationship of these scores with race and decisions (e.g., bail decisions, sentencing, etc.). Finally, where risk assessment measures do inform sentencing decisions (for example, in presentencing reports), efforts should be directed at time-lapsed studies that examine whether disparity was reduced following the introduction of measures similar to those conducted to examine the impact of Federal Sentencing Guidelines on reducing racial disparity.

Without more explanatory research, it is difficult to know whether or how increasing the length or severity of a criminal sentence based on RAI scores might impact recidivism. If risk scores are a measure of recidivism potential and we hope to reduce that potential, then we need an understanding of how incapacitation might impact recidivism through its effect on specific risk factors. Social science researchers will be a particularly relevant source of information in these conversations. Future research should attempt to move toward a more comprehensive view of the causes of crime in context and the continuation of crime more broadly, but also the impact that RAIs will have on these issues. In addition, more research should be directed toward studying programming that works to reduce recidivism, the successful implementation of those programs, and measures that can validate the efficacy of those programs.

If we wait until RAIs are firmly rooted in sentencing to then study the impact on racial minorities and the poor, even if a negative impact is affirmatively demonstrated, it

will do no good for those already negatively affected, and likely be very difficult to roll back despite the problems. This is not to say that RAIs have no place in criminal justice decision-making but, rather, that thoughtful and informed consideration should be given to the limitations of the tools and perceptions of fairness in their use in various contexts. One suggestion to policy-makers on this count is to consider that the Risk-Needs-Responsivity model (Andrews et al., 1990) indicates that risk is also related to needs and responsivity – in other words, a higher level of risk suggests higher levels of need. Therefore, the use of RAIs may be more appropriate for determining access to treatment and services, but more problematic if used to justify increasing punishment. Using risk assessment instruments to “screen in” those offenders we think are too dangerous to release, or to “screen out” some proportion of individuals we think are “safe” enough to avoid incarceration may ultimately end with “the usual suspects” passing through the prison’s revolving door. On the other hand, as more researchers focus on identifying useful risk and recidivism reduction strategies, RAIs focused on identifying risks and needs may not only improve the outcomes for historically disadvantaged groups, but may also improve social conditions and public safety for all.

APPENDIX A

Racial disparities in criminal justice processing

Law enforcement/policing

Racial differences do exist at the level of policing. Research on profiling indicates the police disproportionately stop young black and Hispanic males on the street and in traffic stops, but “hit rates” (i.e. locating contraband) are not higher for minorities than for whites (Tonry & Melewski, 2008). Elsewhere, the odds of being searched after a stop are reported as 50 percent higher for black drivers and 42 percent higher for Hispanic drivers than for white drivers, although these groups are not more likely to be in possession of contraband compared to white drivers (Engel & Calnon, 2004).

Heavier policing in poor and minority communities can also lead to greater involvement with the police. In addition to the claim that differential offending explains racial disparities in involvement in the criminal justice system (e.g., Hindelang, 1978, 1981), police discretion is relevant to early decisions about how to handle juvenile encounters. The perceived attitude of the offender is a salient factor in how police decide to handle a case (Piliavin and Briar, 1964; Black and Reiss, 1970). Race may negatively influence an officer’s perception of a juvenile’s attitude, increasing the likelihood of arrest or a formal citation rather than informal handling of the matter (Sampson & Lauritsen, 1997). It is also possible that this effect would be even more significant in neighborhoods where there is a poor relationship between the community and the police,

or where police legitimacy has been compromised by community perceptions of excessive use of force by law enforcement.

Police encounters with adults also show differences in police behavior based on interactions between neighborhood characteristics and neighborhood characteristics. Smith (1986) found that in predominantly minority or racially mixed neighborhoods, police are more likely to use force, threaten to use force, or make a formal arrest. However, he also found that police used less coercive measures in encounters with blacks in white neighborhoods, but that whites were treated similarly regardless of the racial make-up of the neighborhood in which an encounter occurs (Smith, 1986).

Pretrial/bail decisions

Pretrial processes, such as bail setting, pretrial detention, and guilty pleas are areas that must be considered with respect to racial disparity because these processes are somewhat less formal than judicial sentencing following conviction, the type of data often examined in terms of racial disparity (Sutton, 2013). A number of studies (reviewed in chapter 2) have found that racial and ethnic minority suspects are more likely to be subject to pretrial detention (Demuth, 2003; Demuth & Steffensmeier, 2004a; Kutateladze et al., 2014; Spohn, 2009; Sutton, 2013; Wooldredge et al., 2015). Comprehensive reviews have examined the relationship and interactive effects of race on decision-making and found that race accounts for differences above and beyond considerations of criminal history or age and family status (Leiber, 2013 citing Bishop, 2005; Engen et al., 2002; Leiber, 2002; Pope & Feyerherm, 1992; Pope et al., 2002).

Defendants who are detained prior to trial also tend to receive harsher sentences if they are convicted (Leiber, 2013 citing Goldkamp, 1979).

Pretrial decisions include whether a defendant is denied bail, whether he is granted a financial (cash) or non-financial (personal recognizance) option, and the bail amount, whereas pretrial outcome is whether a defendant is released or not (Demuth, 2003). Demuth (2003) analyzed data collected from large urban courts in 75 of the most populous counties in the U.S. from 1990, 1992, 1994, and 1996 to examine differences among male defendants in pretrial decisions among white, black, and Hispanic defendants for property, drug, and violent offenses. Demuth (2003) found that Hispanic defendants were much less likely to be released (50 percent) than white (67 percent) or black (55 percent) defendants, differences attributed to the amount of bail set and the ability to make bail. That is, bail tends to be set higher for Hispanic defendants than black or white defendants, and Hispanics seem to be less able to pay for bail. When granted a cash bail, only 28 percent of Hispanics are released, compared to 40 percent of black defendants and 54 percent of white defendants (Demuth, 2003). Controlling for relevant factors, black defendants were 66 percent more likely to be detained than white defendants, and the odds for a Hispanic defendant to be detained were 91 percent greater than a white defendant. Additionally, Hispanic defendants were 39 percent more likely to be required to put up cash bail (as opposed to release on recognizance) than white or black defendants. Both black and Hispanic defendants had significantly higher odds of being detained than white defendants, regardless of whether the offense was related to violence, drugs, or property crime (Demuth, 2003).

Judges and prosecutors have wide discretion in bail and charging decisions, both of which have considerable consequences for criminal defendants. Demuth (2003) suggests that the influence of focal concerns and perceptual shorthand (Steffensmeier et al., 1998) may be even more prevalent at the early stages in a criminal case due to the lack of information about the legal facts of the case. Factors such as dangerousness and risk of not appearing for trial are considerations in bail decisions (Sampson & Lauritsen, 1997). Once accounting for these two factors, studies have failed to find race as a significant factor (Sampson & Lauritsen, 1997). However, Albonetti, Hauser, Hagan, and Nagel (1989) explored the possibility that factors such as education and income might be considerations in bail decisions through which racial disparity has an indirect effect on bail decisions. They concluded that economic and income factors have a direct effect on bail decisions; that is, as an offender's resources become less, the likelihood they will be detained pretrial increases (Albonetti et al., 1989). Although a higher level of education and greater income works to the advantage of blacks and whites, the effect was less for black defendants – in other words, with comparable education and income, whites receive a greater benefit from having these resources in bail decisions (Albonetti et al., 1989).

It was only in 1988 that Congress began to require that states participating in the Formula Grants Program identify, track, and assess the impact of race in decisions in the juvenile justice system (Pope et al., 2002). In Pope and Feyerherm's (1990) study, they reviewed 46 research studies published between January 1969 and February 1989 and found that race does seem to impact justice system decision-making, although about one-third of the studies evidenced no support for discrimination (cited in Spinney et al.,

2016). Pope and Feyerherm (1990) also found that the greatest amount of disparity occurred at intake and detention, factors that can accumulate and create more pronounced disparity as juveniles are moved through the system (for an analysis of challenges in tracking racial disparities in the juvenile justice system, Leiber, 2002). However, at the preadjudication detention phase, some authors have found evidence that African American juveniles may be treated more leniently, possibly because “juvenile court officials may be compensating for proactive arrest policies” (Rodriguez, 2007, p. 649; see also Dannefer & Schutt, 1982, cited in Leiber, 2013). Pope et al. (2002) in a review of research on disproportionate minority confinement (DMC) in 34 publications from March 1989 through December 2001, found that 25 out of the 34 studies found race effects in the processing of juveniles, eight of which found direct or indirect effects, and 17 of which reported mixed results in which race effects were seen at some process points and not others, or for some types of offenses, but not others. The majority of research, however, has found that African American youths are more likely to be detained, and being detained predicts more severe sanctions at case disposition, thereby making racial effects in ultimate dispositions less obvious (Leiber, 2013).

Pope and Feyerherm (1990) stress the importance of studying racial effects in the juvenile system because of the greater amount of discretion available to decision-makers in the juvenile system compared to the adult system. In addition, decisions made in the juvenile system can impact later outcomes in adult processing through consideration of an offender’s prior record (Pope & Feyerherm, 1990). In their evaluation of research regarding racial patterns in juvenile justice system processing, Pope and Feyerherm

(1990) found a direct or indirect effect of race in decision-making in two-thirds of the studies. Other studies find a strong link between prior record and outcomes that minimize and/or eliminate the observed impact of race. For example, if racial disparities occur in a few jurisdictions within a region, the overall effect of race can be diminished to nonsignificance when the data is aggregated, thereby masking the effect of race (Pope & Feyerherm, 1990).

Sentencing

Although sentencing research has generally found relatively small racial differences in sentencing, African-Americans are reported to be less likely to be diverted from incarcerative sentences and in states that use sentencing guidelines, they are more likely to receive sentences at the top-end of the sentencing range rather than the lower end (Tonry & Melewski, 2008 citing Tonry, 1996). In general, sentencing research indicates that legally relevant factors have the largest effect on sentencing outcomes, providing little evidence of a direct effect of race in sentencing decisions (Bushway & Piehl, 2001).

Sentencing outcome research based on sentencing guideline decision-making may mask racial differences. (Miethe & Moore, 1985) highlight the fact that race becomes attenuated in sentencing guidelines based on criminal history and crime severity; that is, race exerts an indirect effect on sentencing outcomes. The sentencing guidelines approach places an offender in a particular sentencing range based on legally relevant factors such as the type of crime and criminal history; departures from the guidelines are attributable to the use of judicial discretion (Bushway & Piehl, 2001). Kramer and Ulmer

(1996) found that in downward departure decisions (i.e. giving a shorter sentence than recommended by the guidelines), judges in Minnesota sometimes explained this decision as related to the offender having a less serious criminal history than that considered in creating the applicable guideline range. However, judges tended to use this justification 14 percent less for African Americans than for whites (Kramer & Ulmer, 1996), suggesting judges sometimes used their discretion to the benefit of white offenders more often than to the benefit of black offenders. Therefore, examining judicial discretion in terms of departures from sentencing guidelines in states that use them might be more informative when examining racial disparities in sentencing, compared to examining overall sentencing outcomes that tend to show few racial differences (Bushway & Piehl, 2001).

More decision-maker discretion in the legal system does seem to indicate a greater risk of differences in treatment between racial/ethnic groups. Research indicates that racial/ethnic discrimination may be more prevalent in sentencing for misdemeanor crimes because lower courts tend to have more discretion in decision-making and adjudication, and legal discretion tends to decrease as the severity of crime increases (i.e. evidence tends to be more concrete in more serious crimes, and discretion may be more limited by statute in more serious crimes compared to misdemeanors) (Munoz & Freng, 2008). In a study examining racial disparities in capital punishment, Baldus, Woodworth, and Pulaski (1990) found that prosecutors sought a death sentence in 70 percent of black-on-white killings, but only 19 percent of white-on-black murders among 2,000 Georgia death penalty cases from the 1970s. Ultimately, 22 percent of black defendants who

killed a white person were sentenced to death, but only 3 percent of white defendants who killed black victims were given a death sentence (Baldus et al., 1990 cited in Tonry & Melewski, 2008).

In a significant contribution to understanding the interaction between race and sentencing, Baumer (2013) conducted an extensive review of the research on race and sentencing in a comprehensive analysis of 50 empirical studies published in refereed journals and input from 25 sentencing scholars who published research since the 1970s. The review was an effort to support a more nuanced research undertaking when evaluating racial disparity in the justice system, and particularly in sentencing. Baumer (2013) suggested that the modal approach to studying sentencing (i.e., in/out incarceration decisions to estimate regression coefficients for race) is ill-suited to explain racial disparities in prison populations or to detect whether racial discrimination affects sentencing outcomes. He proposed a heuristic model that suggests examining race and decision-making at various points may help identify the cumulative effects of race on legal decision-making in criminal cases. Much of the research regarding cumulative disadvantage and criminal case processing was reviewed in chapter 2 (see, e.g., Demuth, 2003; Demuth & Steffensmeier, 2004a; Kutateladze et al., 2014; Rehavi & Starr, 2014; Spohn, 2009; Sutton, 2013; Wooldredge et al., 2015).

Incarceration

In 2008, one in nine black men between the ages of twenty and thirty-four was incarcerated in jail or prison (Warren, 2008, p. 6). For white men aged 18 or older, one in 106 were incarcerated; Hispanic men, one in 54; and for black men over the age of 18,

one in 15 (Warren, 2008, p. 6). Blumstein (1993) notes that racial disparities are known in arrests for minor crimes such as disorderly conduct based on police patrol practices in low-income areas, but interestingly does not connect this to the issue of criminal history when noting that prior arrest record or current employment status are factors that are likely to be considered in sentencing. Blumstein (1993) notes the significant increase in rates drug offenders in prison between 1975 and 1990, with African-Americans accounting for 57.7% of those incarcerated on drug charges, whereas they account for only 40.4% of arrestees for drug offenses. These figures represent a 43% over-representation of African-Americans in prison for drug offenses when compared to those arrested. He concludes that this pattern is particularly troubling given that non-whites are more vulnerable to arrest for drug offenses, and that drug arrests do not necessarily reflect offending patterns, and that the war on drugs “significantly exacerbated the racial disproportionality in prisons” (Blumstein, 1993, p. 754).

The American Law Institute (ALI) is an independent organization that makes recommendations regarding various aspects of law in the United States. One of their primary products is the Model Penal Code (MPC), which is intended to promote standardization in criminal law among the various states and jurisdictions and is directed at lawmakers. While lawmakers are not compelled to adopt its recommendations, the MPC is an influential source of aspirational criminal statutes. The most recent version of the Model Penal Code on Sentencing (American Law Institute, 2017) recommends each state establish a sentencing commission. The MPC suggests that a state sentencing commission, before considering criminal history in sentencing guidelines, should

consider that the offender has already been punished for past offenses when assessing blameworthiness. The MPC also notes that criminal history might over-predict risk and the use of criminal history to increase the severity of a sentence might have a disproportionately negative impact on minorities or other disadvantaged groups (Section 6B.07 (a-c)).

The ALI recognizes in the MPC the particular issue of criminal history and its connection with disparate impact on racial minorities. Specifically, they cite to a study regarding Minnesota's Sentencing Guidelines in which 63% of the racial disparities in the state's "in/out" decisions (incarceration versus a non-incarcerative sentence) were attributed to the operation of criminal history in the state sentencing guidelines (Model Penal Code, Part I., Article 6B.07, cmt. 3). It seems that concerns about the impact on minorities from the use of criminal history in sentencing decisions are therefore gaining validation among legal experts. However, despite recognition by the ALI that criminal history in sentencing guidelines may be responsible for a substantial proportion of racial disparity in sentencing.

APPENDIX B

Risk Assessment Instruments Reviewed by the Pennsylvania Commission on Sentencing

General Risk Assessments

COMPAS (Correctional Officer Management Profiling for Alternative Sanctions)
General Statistical Index of Recidivism (GSIR)
IORNS (Inventory of Offender Risks, Needs, and Strengths)
LS/CMI
LSI-R (Level of Service Inventory-Revised)
LSI-R: SV (Level of Service Inventory-Revised: Screening Version)
OGRS 3 (Offender Group Reconviction Scale, Version 3)
ORAS-CSST (Ohio Risk Assessment System- Community Supervision Screening Tool)
ORAS-CST (Ohio Risk Assessment System- Community Supervision Tool)
ORAS-PAT (Ohio Risk Assessment System- Pretrial Assessment Tool)
ORAS-PIT (Ohio Risk Assessment System Prison Intake Tool)
ORAS-RT (Ohio Risk Assessment System- Reentry Tool)
RST (Risk Screen Tool)
SAQ (Self-Appraisal Questionnaire)

Violent Risk Assessments

HCR-20 (Historical-Clinical-Risk Management)
START (Short-Term Assessment of Risk, Needs, and Treatability)
VRAG (Violence Risk Appraisal Guide)

Psychopathy Risk Assessments*

PCL-R (Psychopathy Checklist-Revised)
PCL-SV (Psychopathy Checklist-Screening Version)
PPI-R (Psychopathic Personality Inventory - Revised)
LSRP (Levenson's Self-Report Psychopathy Scale)

Dynamic Risk Assessments

CSS-M (Criminal Sentiments Scale-Modified)
HIQ (Hostile Interpretations Questionnaire)
HIT (How I Think Questionnaire)
NAS (Novaco Anger Scale)
LCSF (Lifestyle Criminality Screening Form)
MCAA (Measures of Criminal Attitudes and Associates)

PICTS (Psychological Inventory of Criminal Thinking Styles)
TCU-CTS (Texas Christian University-Criminal Thinking Scale)

*Four of the instruments evaluated by the Pennsylvania Sentencing Commission are intended to measure psychopathy rather than risk. While not RAIs per se, psychopathy measures are commonly used by forensic mental health professionals when conducting risk evaluations.

APPENDIX C

Specific Risk Factors Contained In 29 Risk Assessment Instruments Reviewed

Static Predictors

Demographics:

Current age

Gender

Culture/ethnicity

Criminal History:

Nature of current offense

Multiple current charges/offenses

Age at first arrest

Previous youth dispositions

Prior adult arrests

Prior adult convictions

Previous probation sentence

Previous incarceration

Current incarceration

Barriers to release

History of probation/parole violations

History of institutional misconduct

Unauthorized absences

Failures to appear

Failed drug tests

Failures to comply with sentencing conditions

Outstanding charges

Gang participation

Criminal versatility

Offense specific:

DUIs

Sex offenses

Fire setting

Shoplifting

White collar crime/organized crime/hate crime/terrorist activity

Violence specific:
History of violence
Prior arrests for violent felonies
Prior convictions for violent felonies
Frequency of injury to victims
Use of weapons
Infractions for violence
Current violence
Young age at first incidence of violence
Domestic violence
Stalking/harassment
Victimization

Physical health/disability

Tattoos

Psychosocial factors:

Current education
Ever suspended/expelled from school
Low intelligence
Learning disability
Current employment
Employment history
Underachievement
Job skills
Low wages
Participation/performance at work
Peer interactions at work
Authority interactions at work

Finances:

Worrying about financial survival
Problems paying bills
Not enough money to get by
Reliance upon social assistance
Current housing
Residential stability
Homelessness
Absence of a verifiable address
Immigration issues

Current neighborhood:

Level of crime in neighborhood

Gang activity in neighborhood
Drug activity in neighborhood

Family criminality:

Parent ever jailed
Parent has had drug problems
Mother ever arrested
Partner/spouse criminality

Current marital/partner situation

Social support:

Lack of personal support
Social isolation
Relationships
Family relationships
Peers outside of age range

Other Social Factors:

Parenting concerns
Transportation
Language barriers

Criminal associates:

Friends have been arrested
Friends who have been gang members

Social activities:

Boredom proneness
Lack of engaging in leisure activities
Promiscuous sexual behavior

General Social Skills

Mental Health:

Serious Mental Illness
Does offender have history of serious mental illness?
Does offender have active symptoms of major mental illness?
Is offender currently prescribed psychiatric meds?
Medication adherence
History of mental health treatment
Treatability
Mental state
Emotional State

Self-care
Interpersonal anxiety
Suicide
Self-harm
Suicide attempts

Antisocial personality/Psychopathy:

Does offender have history of a personality disorder?
Does offender have history of psychopathy?
Does offender have history of early maladjustment?
Short temper
Often does things without thinking
Intimidating/controlling/manipulative
Lack of remorse or guilt
Pathological lying
Grandiose sense of self-worth
Seen as cold and callous
Glib/superficial charm
Shallow affect

Substance Abuse:

Does offender have history of substance abuse?
Current illegal drug use
Current negative consequences associated with substance abuse
History of substance abuse treatment
Current perceived benefit of substance abuse treatment
Influence of alcohol or drugs on current offense
Is offender unresponsive to treatment?
Fetal Alcohol Spectrum Disorder (FASD)

Dynamic Predictors:

Lack of insight
Negative attitudes
Impulsivity
Future plans lack feasibility
Exposure to destabilizers
Noncompliance with remediation attempts
Stress
Coping
Irresponsibility
Risk-taking
Motivation as a barrier
Problem-solving/self-management skill deficits
Anger management deficits

Racist/sexist behavior
Poor behavioral controls

Criminal attitudes:

Law does not help average people
Minor offenses, such as drug use, do not hurt anyone
Things stolen from rich people will not be missed
Responsibility for actions
Lack of concern for others

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