

THE LONG REACH OF JUVENILE JUSTICE INVOLVEMENT: CONSEQUENCES  
FOR HEALTH AND WELLBEING INTO ADULTHOOD

By

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## ABSTRACT OF THE DISSERTATION

### The Long Reach of Juvenile Justice Involvement: Consequences for Health and Wellbeing into Adulthood

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The country's punitive turn over the last forty years has spurred a robust research literature to document the myriad forms and consequences of dramatic changes to justice policy and practice. Findings generally conclude that incarceration in adulthood and social disadvantage have become increasingly inextricably linked during this phase, yet several areas remain unexplored. Specifically, existing research tends to focus on the impact of these policies for adults within the criminal justice system. There has been far less attention to how these policies impacted youth in the juvenile justice system, despite their stark departure from the system's origins in rehabilitative ideals.

This dissertation explores processes of selection into and social consequences of juvenile justice involvement throughout an era where youth in the system were treated with increasing hostility. Empirical analyses designate the juvenile justice system as a conceptually distinct institution for understanding processes of cumulative disadvantage throughout the life course. Three sections identify changes in the administration of juvenile justice, pathways to system involvement, and social consequences following general and stage-specific contact during a time when justice policy became more punitive.

Observed changes in juvenile justice system processing are more consistent with a phenomenon of mass supervision than mass incarceration. Probation consistently

constitutes the most common case disposition for youth in the juvenile system, while the court's most severe dispositions – waiver to adult court and secure placement – impact a small portion of all system-involved youth. There are persisting disparities in the population of youth involved with the juvenile system. However, selection processes into the system appear relatively unchanged as the system's orientation shifted towards punitiveness. Contact with the juvenile system impacts individuals' mental health throughout adulthood. These relationships are independent of any repeated institutional contact with the criminal justice system, indicating the importance of early system contacts for long-term wellbeing. Taken together, empirical findings affirm juvenile justice involvement as a consequential experience that is unequally distributed across the population.

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I dedicate this dissertation to the many individuals in this country who pass through the justice system – most especially, those sentenced to life without the possibility of parole as a juvenile. I first learned about this population while doing outreach work to family members as a young intern. These conversations inspired my graduate studies and dissertation, as I perceived a strong need to bring attention to the plight of these young people ensnared by the justice system. I will strive to continue to do so throughout my career.

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## **Chapter 1: Introduction and Literature Review**

Since 1899, juveniles accused of breaking the law have been processed in a distinct, age-defined justice system premised on preventing future delinquency through rehabilitation and treatment. However, the juvenile court has wavered in its dedication to this ideal throughout its existence, with the starkest departure coming in the last forty years. Legislators sought to “get tough” on crime and delinquency during this era of justice policy by passing several initiatives that increased the certainty and severity of punishment for juveniles and adults alike. These changes have been accredited to the dramatic rise in the criminal justice system’s use of incarceration, a form of custodial punishment that disproportionately affects socially disadvantaged persons and can worsen their circumstances. Concerns about rising juvenile violence contributed to the introduction of punitive policies in both justice systems. Yet, existing research tends to focus on the impact of these policies for adults within the criminal justice system, giving far less attention to how these policies impacted youth in the juvenile justice system.

This dissertation explores processes of selection into and social consequences of juvenile justice involvement throughout an era where youth in the system were treated with increasing hostility. Empirical analyses designate the juvenile justice system as a conceptually distinct and independent institution for understanding processes of cumulative disadvantage throughout the life course. Three sections identify changes in the administration of juvenile justice, pathways to system involvement, and social consequences following contact. Adopting an expansive view of consequential forms of system involvement, empirical analyses document the impact of juvenile system

involvement occurring at an earlier stage in the life course and across varied levels of system processing, ranging from police stops to secure confinement.

Throughout the last forty years, changes in the administration of juvenile justice are more consistent with a phenomenon of mass supervision than mass incarceration. Probation consistently constitutes the most common case disposition for youth in the juvenile system, becoming increasingly conferred even as overall caseloads declined in the courts. Although the target of much policy and research attention, the court's most severe dispositions – waiver to adult court and secure placement – impact a small portion of all system-involved youth in practice.

There are persisting disparities in the population of youth in the juvenile system. Yet, there is not much evidence that the juvenile court has become more or less prone to selecting on disadvantaged youth throughout the last twenty years of the 20<sup>th</sup> century, a time when the system's orientation shifted towards punitiveness. Finally, contact with the juvenile system impacts individuals' mental health throughout adulthood. These relationships are independent of any repeated institutional contact with the criminal justice system, indicating the importance of early system contacts for long-term wellbeing.

### **Research Questions**

This dissertation proceeds in three sections to identify changes in juvenile justice system functioning, selectivity, and consequences. It is contextualized by a phase of justice policy oriented towards retribution and incapacitation of juveniles and adults, ostensibly deviating from the juvenile system's stated origins in rehabilitation and second chances.

*I. The Administration of Juvenile Justice, 1985-Present*

Research Question 1: What are the differences in the administration of juvenile justice throughout the past forty years, from 1985 to the present?

Since the 1970s, the American approach to justice policy is aptly characterized by a prioritization of punishment. Historical accounts documenting emerging and persisting support for a punitive approach highlight the convergence of many sources, including (but not limited to): disillusionment with rehabilitation and the existing criminal justice apparatus (Martinson, 1974), expressive punishment for violent offenses (Garland, 2001), and an impending rise of the juvenile ‘superpredator’ (Zimring, 1998). Accounts of these changes often precede empirical studies of the causes and consequences of the country’s punitive turn, yet much of this work focuses on the unfolding of these processes in the criminal justice system. Relatively less research identifies their impact within the juvenile justice system, despite the inclusion of youth delinquency and violence (e.g., the rise of the superpredator) as a motivating and sustaining factor to support of harsh justice policies.

The first research question descriptively details changes in the administration of juvenile justice over the past thirty years. Within the juvenile system, the processes and consequences of waiver to adult court have received the majority of empirical attention out of all implemented changes. Yet, there are other important changes that impacted youth who remained within the juvenile system, such as sentencing guidelines and the reduction of judicial discretion (Mears, 2001). Using a number of administrative data sources, this chapter presents trends in juvenile arrest, court processing, and secure confinement for youth retained in the juvenile court during a time when its practice became more closely aligned with criminal court processes (Feld, 1999).

## *II. Social Disadvantage in the Juvenile Justice System*

Research Question 2: What is the relationship between youths' social backgrounds and their likelihood and level of involvement with the juvenile justice system?

Justice system involvement is not a randomly patterned life event. Some of society's most vulnerable groups have the highest likelihood of entering the juvenile and criminal justice systems (Crutchfield, Skinner, Haggerty, McGlynn, & Catalano, 2009; Wakefield and Uggen, 2010; Western, 2006). Imprisonment in the era of mass incarceration is concentrated among young black men within the criminal justice system (Pettit & Western, 2004). A large scholarship base demonstrates disparities in juvenile justice contact throughout the system's existence (Cox, 2018; Kempf-Leonard, 2007; Sheldon & Osborne, 1989, Ward, 2012). Yet, these studies are limited by a reliance on administrative data, an inability to assess putative differences in pathways to and through the juvenile system across sociodemographic groups, and a lack of comparison across changing policy contexts. The second section of this dissertation analyzes the connection between youths' social backgrounds and juvenile justice involvement using survey data capturing system contact during two different policy contexts.

## *III. The Long-Term Consequences of Juvenile Justice Involvement for Health and Wellbeing*

Research Question 3: Does involvement with the juvenile justice system impact individual health and wellbeing? Does this relationship vary across levels of system involvement, throughout adulthood, or independently from criminal justice contact?

There are a number of collateral consequences associated with justice system involvement that, for the most part, are harmful for individuals, families, and communities (Kirk & Wakefield, 2018). This prolific literature mostly identifies impacts of incarceration in adulthood, with minimal focus on less serious forms of justice

involvement that are more common and likely of consequence (Sampson, 2011). Juvenile justice contact is one such example, receiving far less attention than criminal justice contact in spite of its plausible importance in cumulative disadvantage processes (Kirk & Sampson, 2013). This dissertation's final empirical chapter identifies the association between juvenile justice contact and health and wellbeing throughout adulthood. It assesses whether juvenile justice involvement continues to affect health, even when accounting for accumulated justice involvement across the life course. Analyses use clear distinctions across justice systems, taking seriously that each constitutes a distinct institutional context that may be differentially associated with individuals' health outcomes.

### **Literature Review**

This dissertation draws upon a number of literatures and perspectives to answer these research questions. The following review highlights pertinent existing work for each section.

#### *I. The Administration of Juvenile Justice, 1985-Present*

##### History and Foundation of the Juvenile Court

The juvenile justice system is not merely a replication of the adult criminal justice system for youth in trouble with the law. Rather, it adopts a distinct rationale and structure to administer justice to legally defined juveniles accused of delinquency - in most states, those under 18 years of age. Many differences across systems stem from the juvenile system's embedded dedication to humanitarian ideals, through its provision of treatment and rehabilitation in accordance with its founding legal doctrine of *parens patriae* (Feld, 1999). These philosophical distinctions across institutions have become

less clear in the last fifty years (Fagan, 2008). Yet, enough differences remain to consider the juvenile justice system as a distinct institutional context from the criminal justice system for studying processes of formal social control and ensuing social disadvantage.

Age-delineated formal social control is a relatively new concept and practice in the United States. Until the 19th century, a singular criminal justice system responded to all alleged law violators of all ages. It processed youth and adults in the same courts and housed them in the same correctional facilities. The distinct practice of juvenile justice materialized amid a broader social movement to institutionalize childhood as a distinct developmental phase (Feld, 1999). Beginning in the early 1800s, the “child saving” movement solidified the social construction of childhood as a discrete developmental stage. These efforts were led by Progressive reformers, a group of (mostly) middle and upper-class white women who viewed urbanization, industrialization, and immigration as troubling trends that collectively weakened informal social controls traditionally instilled by families (Platt, 1977). To replace these socialization processes, the child savers “institutionalized childhood as a period of dependency and exclusion from the adult world, enacted a host of “child-saving” laws, and created formal organizations to enforce their new conception of childhood” (Feld, 1999: 44). These reformers introduced, reinforced, and solidified the stage of childhood in the social order.

Reflecting the institutionalization of childhood, this movement generated several laws and systems better suited to delivering services promoting youth welfare, such as the juvenile justice system (Platt, 1977). The new availability of juvenile-only resources and systems removed youth from shared facilities with adults that tended to be rife with abuse and corruption (Hawes, 1971). The first juvenile-only correctional institution – a House

of Refuge – opened in 1824 as a direct precursor to the juvenile justice system. Focusing on youth deemed amenable to treatment, its population often included delinquent and impoverished youth (Fox, 1996; Bernard & Kurlychek, 2010).

Eventually, an entirely separate court system for juveniles materialized from this movement. It was designed to help youth in need of state assistance. Under the doctrine of *parens patriae* (or, ‘state as parent’), the juvenile court had broad legal authority to intervene into the lives of these youths under the pretense of benevolently-intended actions (Bernard & Kurlychek, 2010). Its creation was praised as an innovation in child welfare that more closely approximated social work than criminal justice in structure and practice (Platt, 1977). The juvenile court’s authority initially fell under the legal system’s chancery division, which cares for child welfare and neglect. It intervened in the lives of disadvantaged youth, a broadly construed group that included delinquent and poor youth (Bernard & Kurlychek, 2010; Mears, 2002).

#### Evolution of the Juvenile Court, 1960s to the Present

While the juvenile court was founded under a distinct philosophy, it is a dynamic institution that has continually evolved in tandem with conceptions of childhood, maturity, and responsibility. Beginning in the 1950s, the ‘due process’ era reshaped the juvenile court’s legal procedure. As described by Barry Feld across numerous works (1991, 1993, 1999, 2017), these changes introduced procedural formalities and restricted judicial discretion. During Chief Justice Earl Warren’s tenure on the Supreme Court, juveniles enjoyed a broad extension of Constitutional due process rights that have historically been afforded to adult defendants. These reforms arose from criticisms of the perceived role of excessive judicial discretion in disparate outcomes for justice-involved



youth. Further, they motivated southern states to move away from practices rooted in segregation and Jim Crow laws (Feld, 2003). Youth were awarded several key due process protections, including the right to counsel. However, to preserve boundaries between juvenile and adult justice, youth did not receive the full slate of Constitutional protections, such as the right to a trial by a jury of their peers.

These changes more closely aligned the juvenile and criminal courts in practice by removing many procedural distinctions across systems (Feld, 1993). However, evaluations suggest they were not successful in reducing disparities in processing outcomes. Feld (1999) argues that due process rules effectively turned juvenile courts into ‘mini-adult’ courts, criminalizing delinquency proceedings in ways that disproportionately harm youth of color. In addition, procedural rules were implemented to varying extents across jurisdictions. This inequality produced a “justice by geography” phenomenon, where a court’s processing style, ranging from full adoption of due process to retained procedural informality, relates to its geographic locale. Urban courts tend to have adopted more procedural formalities, while suburban and rural courts tend to have retained less formal procedures. Levels of formality are positively associated with punishment throughout the system’s process – a heightened risk for youth in urban courts, which tend to contact more diverse populations (Feld, 1991). In practice, reforms that attempted to make the system more equitable may be counterproductive in practice.

Following these procedural changes, the juvenile system was also affected by a broader policy movement towards “getting tough” on crime throughout the 1970s and 1980s. The confluence of social, political, and economic factors during the late 20th century gave way justice policies that prioritized retribution and incapacitation (National

Research Council, 2014). Within the juvenile system, this shift constitutes an inversion of the juvenile justice system's original premise: the creation of a distinct institution more amenable to a treatment-first approach that could solve the "root causes" of delinquency. This retributive era constitutes an unprecedented departure from the system's rehabilitative ideal as the 'pendulum' of juvenile justice swung further away from its foundational philosophy (Bernard & Kurlychek, 2010).

Within the juvenile system, there was a notably racial element to proposed punitive responses to delinquency. For example, to gain support for harsh juvenile justice policies, political strategies played on growing public fear of youth violence throughout the 1980s, especially for rising homicide rates perpetrated by black youth with firearms (Cook & Laub, 2002). The media reinforced these fears by presenting sensationalized and racialized depictions of juvenile delinquents as 'superpredators' committing 'wilding' behaviors (Welch, Price, & Yankey, 2002; Zimring, 1998). Two narratives pushed a need for toughness on delinquents through increased accountability for their actions: these youths' behaviors resulted from individual choices, and correctional treatment is ineffective (Feld, 2017). Youth of color were disproportionately affected by these harsh policies in the juvenile system (Feld, 2003).

"Get tough" policies implemented across systems varied in form, but all increased the certainty and severity of punishment for adjudicated delinquents and convicted adults alike (National Research Council, 2014). For youth, these reforms altered the juvenile system's scope and permissible punishments (Butts & Mears, 2001; Feld, 2017). At its entry point, they restricted the system's jurisdictional boundary by lowering the age of criminal responsibility, expanding the mechanisms to transfer a youth to adult court, and

instituting “once an adult, always an adult” policies (Griffin, Addie, et. al. 2011). These changes limited the authority of the juvenile system while expanding that of the adult court, exposing a non-trivial number of youth to the relatively harsher treatments associated with criminal processing. About 20-25% of all formally processed persons younger than 18 are prosecuted in adult court – a group that includes both transferred youth and those impacted by lower age boundaries of the criminal court (Bishop, 2000; Fagan, 2008). More recent data estimates that about 200,000 individuals under 18 are processed, sentenced, and punished in the adult criminal justice system (Carson & Golinelli, 2014). In practice, these policies exclude a sizable population of youth altogether from the juvenile court as a result of diminishing ages of criminal responsibility.

A different set of reforms altered existing practices and instituted new forms of punishment for cases remaining in the juvenile court. Seventeen states edited their juvenile court purpose clauses to newly emphasize “public safety, certainty of sanctions, and offender accountability” in court proceedings (Torbet & Szymanski, 1998). The introduction of mandatory sentencing guidelines restricted judges’ ability to individualize proceedings (Mears, 2002; Fagan, 2008; Feld, 2017). It brought attention to actions and offenses, rather than people and circumstances – the latter of which was typically of great importance to juvenile court judges and prosecutors. Further, laws reduced the confidentiality of juvenile court records following a youth’s system involvement, removing a hallmark practice intended to avoid stigmatization (Torbet & Szymanski, 1998).

The introduction of several novel legal mechanisms increased the system's authority to supervise and control youth in the juvenile court. Blended sentencing schemes permitted judges to hand adjudicated delinquents a juvenile disposition *and* adult criminal punishment, the latter of which could be dismissed pending successful completion of the former. In their analysis of cases from Minnesota, Podkopacz and Feld (2001) found that youth receiving an Extended Jurisdiction Juvenile Prosecution (hereafter, EJJ) motion – the state's blended sentencing policy – had more serious present charges but shorter histories of delinquency and system involvement compared to peers waived to adult court. This pattern suggests an expansion of the system's controlling power through a more punitive legal proceeding used against youth with less serious delinquency histories. While these policies are distinctly juvenile in nature, Schaefer and Uggen (2016)'s analysis reveals that they were much more common in jurisdictions characterized by high unemployment, large black incarceration rates, and extensive prosecutorial discretion. This set of predictors is consistent with precursors to punitiveness for adults, suggesting shared antecedents that may reflect processes of fear and symbolic threats (Blalock, 1967).

Similarly, diversion programs widely implemented in the late 1960s generally aim to keep certain groups of youth (e.g., non-serious or first-time) out of the court, pending successful program completion. In practice, these programs typically fail to reduce the court's jurisdiction as planned and can be unsuccessful at keeping individuals fully out of the system (Austin & Krisberg, 1981). Often, these programs enroll those whose cases otherwise would have been dismissed and may be equally as intrusive as formal processing (Decker, 1985; Ezell, 1989; Frazier & Cochran, 1986). Some evidence

suggests inequity in their use, as youth of color are less likely to be diverted and more likely to be formally processed (Ericson & Eckberg, 2016). Together, EJJ motions and diversion constitute two unique processing mechanisms in the juvenile justice system that provide an opportunity for increased supervision of a broader group of youth, net of any benefits of averted stigma (Mahoney, 1974).

State-level analyses reveal that this proliferation of punishment and control in both the juvenile and criminal justice systems became more weakly connected to fluctuations in the delinquency and crime rate. Instead, the continued passage of increasingly punitive policies was a product of purposeful decisions by lawmakers (Mears, 2006; Schwartz, Steketee, et. al. 1991). Additionally, this mindset extended beyond the justice system: at the same time, schools witnessed a mission creep of the juvenile justice system into their discipline policy. Through the rise of zero-tolerance and exclusionary discipline, the juvenile justice system and education system became more closely connected, as reflected through a pervasively-adopted punitive mindset towards the treatment of youth (Hirschfield, 2018).

#### Identifying Changes in the Administration of Juvenile Justice

Throughout the latter part of the 20<sup>th</sup> century, the juvenile justice system responded to external political and social forces by creating and expanding opportunities for the control and punishment of youth in the juvenile and criminal justice systems. Most existing research examines the latter by focusing on processes and outcomes relating to the waiver of juveniles to adult court. However, it is clear that a number of implemented changes affected the nature of juvenile justice involvement for youth who remained in the

system. The first section of this dissertation identifies changes in the administration of juvenile justice throughout the past thirty years.

There is substantial variation in the structure of juvenile justice delivery systems across the United States, creating logistical challenges for studying its operation at the national level. State systems share a basic structure of fact-finding followed by disposition, but the exact organization of its administration varies across place. In part, these differences are attributable to a lack of guidance from the Federal system. There is no distinct Federal juvenile justice system; consequently, youth who break the law on tribal lands are subject to criminal system intervention. The Federal government's role in juvenile justice, carried out through the Office of Juvenile Justice and Delinquency Prevention (OJJDP, hereafter) within the Office of Justice Programs in the Department of Justice, is limited to recommending minimal standards across states as an incentive for Federal funding.

States differ in the age boundaries that define the juvenile population in their jurisdiction. At the upper bound, seventeen years is the maximum age limit of the juvenile system in all but five states (once pending legislation is implemented by 2020; Zang, 2017). At the lower bound, 32 states and the District of Columbia do not specify a minimum age threshold for the juvenile system. The remaining states place limits on system contact for youth no younger than 6, 7, 8, or 10 years of age (Juvenile Justice Geography, Practice, Policy, and Statistics – JJGPS, hereafter). A majority of states, therefore, place no lower age limit at which a child may be brought to the court for their behavior. There is additional variation in the oldest permitted age of juvenile system involvement: two states require transfer to the criminal justice system for sentence

completion at age 18, thirty-six states retain cases until individuals are 20 years old, and only three states allow full disposition completion with the juvenile system. A youth may consequently enter the criminal justice system while completing his/her juvenile court disposition, depending on state rules, length of placement, and age at disposition.

Across the country, states adopt three basic structural organizational schemes to administer juvenile justice services, such as detention, probation, and reentry. Eleven states organize systems at the state level; 22 states organize their systems mostly at the state level; 18 states use a decentralized, locally operated model of juvenile justice (JJGPS). This division across structures reflects fragmentation across the country in how basic system services are organized, delivered, and funded. Even further, jurisdictions use different terminology, definitions, and data collection systems to track their system's operation. Some data points of particular interest are not systematically collected across the country – for example, court processing data does not uniformly include discretionary prosecutorial waiver data.

Together, these varying structures in the administration of juvenile justice are prohibitive towards collecting national data on court processing. The first empirical chapter compiles three data sources on the operation of juvenile justice to describe trends in system functioning throughout the past thirty years using the best available data.

## *II. Social Disadvantage in the Juvenile Justice System*

At the time of its founding, some praised the creators of the juvenile justice system for their novel innovation in the use of government power to improve child welfare in line with the child's best interests. More critical viewpoints perceived the system as a new method to control disadvantaged youth. One stance implies benevolent

intentions, while the other implies embedded differences in how the juvenile justice system should work for members of different social groups.

A large research base appraises the evidence in support of both stances. Studies tend to find more support for the second claim through observed and persistent disparities in juvenile system involvement and processing along the lines of race, class, and gender. These conclusions suggest systemic biases in the juvenile justice system, but often follow from analyses using data sources and methods that do not fully measure youths' social backgrounds prior to their system contact. Thus, it is not possible to definitively conclude if these disparities arise from institutional bias, selection processes, or omitted variables.

The second part of this dissertation turns attention to individuals to assess the connection between social disadvantage in the juvenile justice system using survey data drawn from two cohorts of youth. A series of models estimate how social disadvantage alters a youths' probability of system involvement and level of processing. Looking across cohorts and time, comparisons evaluate if relationships have changed as the juvenile system grew to more closely approximate the criminal justice system. Finally, the decomposition of differences across groups indicates the relative performance of included regressors for predicting youths' juvenile justice involvement. Results demonstrate a number of background factors associated with juvenile system contact, but fail to consistently find an independent association with race and ethnicity. Decompositions of race, gender, and class group differences indicate differing criteria that influence pathways to and through the juvenile system for youth belonging to these groups. The following review situates this analysis in the history of the juvenile system's founding and operation.



### Historical Roots of Social Disadvantage in the Juvenile Justice System

Historians link the juvenile justice system's creation to the control of lower-class youth as one facet of efforts to reproduce existing social structures (Platt, 1977; Ward, 2012). These perspectives point out that the juvenile system was stated to operate under benevolent pretenses, but selectively applied therapeutic principles in practice. This disjuncture is apparent in youth facilities that preceded the juvenile court, such as Houses of Refuge. The first opened in 1825 in New York, as the product of advocacy work by the Society for the Prevention of Pauperism (renamed the Society for the Reformation of Juvenile Delinquents). Recognizing the connection between delinquency and poverty, this group devised rehabilitation strategies for youth, including these Houses, to interrupt cycles of intergenerational criminality and/or poverty (Mohl, 1970). Youth could be placed in these facilities for reasons relating to behaviors and/or status, such as delinquency, poverty, or coming from disadvantaged and/or broken homes (Bernard & Kurlychek, 2010; Hawes, 1971). Yet, historical accounts indicate that youths' suitability and amenability to treatment in these facilities were rooted in prejudices against urban, impoverished, and immigrant children and families (Cox, 2015).

A similar disjuncture again materializes in the creation of a distinct juvenile court. Its original mission, in part, included treating delinquent and poor youth. Some interpreted this mission as a masked attempt to control members of the lower class (Carter & Clellan, 1979; Mears, 2002). The court's formation resulted from advocacy efforts by several reform groups, including the "Child Savers", a group of upper and middle class women. They framed their work as altruistic and on behalf of child welfare amidst an era marked by rapid growth in urbanization, industrialization, and immigration.

However, the Child Savers' true intentions are questionable (Platt, 1977). Their efforts may have "had important symbolic functions for preserving the prestige of a declining elite" during a time of rapid social and economic change (Platt, 1969: 28), suggesting broader motives for this advocacy than pure interests in child welfare. In this view, the juvenile court's foundation reflects efforts to control "other people's children" – namely, poor and immigrant children – using newly constructed government institutions (Cox, 2015; Feld, 1999).

Ample evidence suggests that juvenile court interventions were geared towards the control – not reform – of poor and disadvantaged youths' lives (Shelden & Osborne, 1989). Impoverished youth were highly represented in early juvenile courts and institutions, as juvenile court officials believed their social problems were caused by the perceived inferiority of these classes (Bernard & Kurlychek, 2010; National Research Council, 2001). The early courts seemingly applied its rehabilitative ideal exclusively to white youth from middle class backgrounds (Feld, 1999; Pisciotto, 1983; Shelden, 1998). For example, in early reformatories, white boys received full treatment and employment skill training; girls received domestic skills training; minority youth were either excluded altogether or given physical labor assignments (Pisciotto, 1983). Not only were poor youth overrepresented in the system, they also faced disparate treatment within institutions and courts.

Through a lens of racial inequality, the juvenile justice system has a lengthy history of disproportionate contact of minority youth – specifically, immigrant and black children. Some interpret this disparity as the use of the juvenile court to reproduce racial hierarchies (Ward, 2012). Overrepresentation of minority youth in the juvenile court has

persisted since the court's creation to the present (e.g., Kempf-Leonard, 2007; Muhammad, 2010).

Girls and boys also received different treatment in early juvenile courts. There was apparent gender variation in the behaviors of most concern to system actors, who adopted beliefs of appropriate female behavior that aligned with upper-class values. The juvenile court responded when these standards were unmet or broken, which frequently involved girls' perceived sexual improprieties (Shelden, 1998). These 'inappropriate' behaviors often materialized in the court masked as "wayward" or immoral status offenses, and commonly resulted in placement (Chesney-Lind, 1999; Chesney-Lind & Shelden, 2013; Schlossman & Wallach, 1978). Since, juvenile court actors have continually focused efforts on controlling girls' sexuality (Pasko, 2010).

These critical perspectives jointly suggest that disparities across race, class, and gender are not coincidental in the juvenile justice system. Rather, they are manifestations of embedded inequalities in the system's structure in how it controls certain types of youth. According to Cox (2015), "[i]n its early years, the juvenile justice system disproportionately affected urban youth whose riskiness was constructed via their positions as the urban precariat – whoever posed a particular threat to the middle and ruling classes might find themselves subject to the reforms" (557). The white elite created a system with the authority to impact the lives of disadvantaged youth deemed threatening to the social order. Persistent race, class, and gender disparities reflect fear of other people's children and raise concerns about inequality in the system's use of power.

### Youths' Pre-Contact Social Disadvantage in the Juvenile Justice System

Concerns about unequal institutional authority are present in both the juvenile and criminal justice systems. Some have explained disparities in the criminal justice system as a product of the institution's role in controlling racial/ethnic minority and impoverished persons (Gottschalk, 2016; Wacquant, 2001). The emergence of prisons and punishment as the dominant mechanisms for governing disadvantaged persons is one aspect of a broader expansion of risk, fear, and supervision to aspects of social life outside of the justice system (Garland, 2001; Simon, 2007). Marginalized individuals have the highest likelihood of becoming involved with the justice system, and especially entering prison (Western, 2006). A confluence of social disadvantages increases the odds of incarceration, such as being a young black man with low educational attainment (Pettit & Western, 2004). These disparities have become especially evident over the past forty years, throughout the buildup of mass incarceration.

Disparities in institutional contact matter in both justice systems, but this historical lens suggests that disparities may be more embedded in the juvenile system's structure. From its creation to the present, empirical evidence corroborates claims of differential usage of the system's power for black, female, and poor youth in the system (Feld, 1999; Gaarder et al., 2004; Kempf-Leonard, 2007; Pasko, 2010; Pisciotta, 1983; Puzzanchera & Ehrmann, 2018; Sampson & Laub, 1993; Ward, 2012). Robust literatures demonstrate disparities in system involvement and processing across sociodemographic groups (Gann, 2018; Horowitz & Pottieger, 1991; Lehmann, Meldrum, & Greenwald, 2019; Leiber & Mack, 2003; MacDonald & Chesney-Lind 2001; Peck & Jennings, 2016; Rodriguez, 2010). Even further, youth increasingly come to the attention of the juvenile

justice system via institutional crossover with welfare and healthcare systems (Hirschfield, 2008; Mittleman, 2018; Ryan, Herz, Hernandez, & Marshall, 2007; Yi & Wildeman, 2018).

The following sections detail available knowledge on how various forms of disadvantage affect youths' involvement with the juvenile justice system. These factors are typically considered 'extralegal', in that they are not legal history measures statutorily required for consideration in the charging and sentencing process. This review highlights apparent disparities in race, class, and gender in historical and contemporary analyses of the system, while calling attention to gaps in the literature – including a reliance on administrative data and a tendency to focus on a single contact stages instead of cumulative involvement.

### *Race*

The juvenile system has a lengthy history of disproportionate involvement and confinement of racial/ethnic minority youth. Early juvenile institutions disparately intervened in the lives of immigrant and minority youth. In observing stark contrasts across white and nonwhite youth in the system, Sellin (1935) claimed that disparate involvement of minority youth is not fully attributable to group differences in behaviors and backgrounds. Rather, it constitutes “evidence that equality before the law is social fiction” (217). This account suggests biases in system processing that disadvantage minority youth from the juvenile court's earliest days.

Several studies identified an overrepresentation of youth of color in delinquency and system involvement in the 1980s (Hindelang, 1978; Krisberg et. al., 1987). This research influenced Federal legislation that animated systematic attention to these

disparities. In 1988, Congressional leadership passed amendments to the Juvenile Justice Delinquency and Prevention Act of 1974 (JJDP, hereafter) that included financial incentives for states to identify and rectify disproportionate minority confinement within their local juvenile systems. Soon after, the initiative expanded to assess disproportionate minority contact (DMC, hereafter), in recognition of the issue's systemic nature (Kempf-Leonard, 2007). These efforts have had mixed success in reducing racial disparities (e.g., Donnelly, 2017; Leiber, 2002), but were nonetheless important for highlighting the pervasiveness of this problem in juvenile justice systems nationwide.

An extensive literature empirically examines racial/ethnic disparities in system involvement and processing, using substantial methodological variation to estimate these relationships (Mitchell, 2005). These studies typically use administrative data from a limited number of jurisdictions to identify significant differences in involvement and processing across racial/ethnic groups. Overall, youth of color remain disproportionately involved throughout all stages of the juvenile justice process, from arrest to secure placement (Bishop, 2005). Recent analyses indicate that disparities at the back end of the system have worsened: the overrepresentation of black youth in secure placement has increased, as overall declines in placement have been concentrated among white youth (Sentencing Project, 2016). Altogether, youth of color are most often disadvantaged (e.g., treated more harshly) relative to white youth, with limited evidence of less hostile treatment for black youth.

Several studies find that youth of color are treated more punitively throughout the juvenile justice process. At intake, minority youth are more likely to be formally processed in the system relative to white youth (Leiber & Mack, 2003; Leiber, Bishop, &

Chamlin, 2011; Peck & Jennings, 2016). Black youth also receive more punitive treatment across several processing stages, including adjudication and disposition (Bishop & Frazier, 1995; Cochran & Mears, 2015; Fagan, Slaughter, & Hartstone, 1987; Gann, 2018; Leiber, 2016; Leiber & Fox, 2005; Peck & Jennings, 2016). Further, black youth are more likely to receive upward departures from sentencing guideline recommendations (Lehmann, Meldrum, & Greenwald, 2019).

Within system stages, there is evidence that youth of color receive harsher treatment than white youth. Cochran and Mears (2015) demonstrate disparities at disposition, where youth of color are less likely to receive rehabilitative alternatives. When making decisions about placement facilities, black youth in Philadelphia are more likely to enter facilities featuring physical programs and less likely to be sent to facilities that use a therapeutic approach than white youth (Fader, Kurlychek, & Morgan, 2014). These disparities exist even after controlling for legal factors of a youth's case, suggesting direct and indirect impacts of race on juvenile court outcomes (Leiber & Fox, 2005).

Disparate treatment at the front end of the system carries a cumulative impact throughout the entire adjudicatory process. Youth of color are more likely to be detained while awaiting case resolution; detained youth tend to receive harsher outcomes at disposition (e.g., sentencing). Consequently, minority youth are disproportionately exposed to a continually disadvantaging experience throughout system processing (Rodriguez, 2010).

Across racial and ethnic groups, disparities surface at varying points in the juvenile justice process. Using data from Georgia, Shannon and Hauer (2018) find that

disparities of Hispanic or Latino/a youth are driven by inequities observed at the petition and confinement stages, whereas disparities for black youth occur at the onset of formal system processing. Similarly, Dannefer & Schutt (1982) find evidence of higher bias against minority youth in policing decisions than judicial decisions.

Some studies fail to find evidence of racial disparities in system treatment. Differences in behavioral histories and incident characteristics can absorb apparent racial differences in juvenile arrest data (Hindelang, 1978; Pope & Snyder, 2003), a finding consistent with sentencing research in the criminal justice system. More recent evidence finds that black youth are more likely to receive a case dismissal (Gann, 2018) and are treated more leniently at adjudication (Peck & Jennings, 2016). These leniencies might reflect a “correction process”, where juvenile court actors compensate for disparate policing practices that target certain youth for less serious behavior (Dannefer & Schutt, 1982). In this view, decisions at the front end of the juvenile justice process may “balance” disparities in arrest (Rodriguez, 2007: 649).

Together, available evidence collectively supports persisting racial disparities in juvenile system treatment. Most results indicate that minority youth are systematically disadvantaged throughout system processing, with limited countervailing evidence of leniency. These differences across racial and ethnic groups may be produced by a number of underlying theoretical mechanisms (e.g., Engen, Bridges, & Steen, 2002). Individual decision-makers in the juvenile court may be affected by a combination of focal concerns and attributional processes. Three focal concerns – blameworthiness and harm levels, public safety, and practical considerations – interact with demographic attributions (e.g., age, race, and gender) to drive decisions in the court. Such attributions impact probation



officers' assessments of youths' fitness for juvenile court interventions (Harris, 2009), and have been associated with harsher punishment for young black men (Steffensmeier, Ulmer, & Kramer, 1998; Fader et. al., 2014). Courtroom actors may apply racialized decision-making criteria, such that black youth are adversely impacted by both legal and extra-legal factors (such as welfare receipt), whereas white youth are only assessed on case-related legal factors (Wu & Fuentes, 1998). Interviews with system actors suggests that juvenile court structure and policies that are ostensibly race-neutral systematically disadvantage youth of color in practice (Bishop & Frazier, 1995). Thus, racial and ethnic disparities may be driven by a number of mechanisms.

### *Class*

Poverty is the marker of class membership most apparent and pertinent to juvenile court interventions. In part, the juvenile justice system emerged to provide for the welfare of poor children (Platt, 1977). Empirically, studies find an inconsistent impact of class on juvenile system involvement and processing. Classic research reveals that youth from lower social classes are more likely to receive more severe dispositions in the juvenile court (Thornberry, 1973). More recently, Tapia (2010) found that low socioeconomic status was positively related to a youth's risk of arrest. However, Dennison and Demuth (2017) do not find consistent evidence that justice-involved youth have persistently lower social status than their non-involved peers.

The impact of social class on juvenile justice involvement and processing may be indirect, with one potential pathway operating through attributions of youths' family structures. For example, youth raised by a single parent are more likely to be treated harshly in juvenile courts (DeJong & Jackson, 1998). Youth may also be disadvantaged

by any parental involvement with the justice system (Hagan & Palloni, 1990). Paternal incarceration is related to a number of disadvantages to children, including (but not limited to) behavioral problems (Wakefield and Wildeman, 2013; Wildeman, 2009) and decreased educational attainment (Turney & Haskins, 2014). Having a parent in prison presents a new form of justice system contact for children that is concentrated among low socioeconomic status youth (Powell & Wakefield, 2018). In the juvenile system, youth with an incarcerated parent are more likely to receive secure placement, as system actors attribute parental incarceration to signals of family dysfunction and disadvantage. These signals may interact with race to especially disadvantage youth of color (Rodriguez, Smith, & Zatz, 2009). Consequently, justice-involved youth may be indirectly impacted by attributions about their family's socioeconomic status if parental incarceration histories are known to the court.

### *Gender*

Boys are overrepresented in the juvenile justice system. Females accounted for 29% of all juvenile arrests and 19% of all arrests for violence in 2016 (Puzzanchera, 2018). Although large differences remain, girls are becoming more involved with the juvenile justice system (Synder & Sickmund, 1999). The proportion of arrests impacting girls has steadily increased over the past twenty years (Puzzanchera & Ehrmann, 2018). Gender disparities emerge throughout the juvenile justice process, including at arrest (Horowitz & Pottiger, 1991) and disposition (Espinosa & Sorensen, 2016).

Boys and girls tend to enter the juvenile system through different pathways. Qualitative research reveals significant histories of trauma among girls on probation (Mallicoat, 2007) and in placement (Belknap, Holsinger, & Dunn, 1997). Rather than

being corrective, juvenile court involvement can compound existing problems for females (Acoca, 1998). This exacerbation may result from the juvenile court's inability to distinguish the varying pathways through which boys and girls contact the system (Chesney-Lind, 1999; Mallicoat, 2007). To this point, employees at female facilities often cite a lack of available resources to meet girls' heightened needs in placement (Gaarder, Rodriguez, & Zatz, 2006; Belknap et al., 1997).

Feminist scholarship posits that gender disparities result from differential use in the juvenile system's authority to control boys' and girls' behaviors (Pisciotta, 1983; Sheldon, 1998). Girls and boys are processed differently in the juvenile court (MacDonald & Chesney-Lind, 2001). There are persisting differences in conceptions of gender-appropriate behavior, as girls often become involved with the juvenile system for less serious behavior (Horowitz & Pottiger, 1991). For example, the juvenile court has uniquely targeted girls' sexual behavior throughout its existence (Pasko, 2010). Girls are more likely to be in placement for technical violations or status offenses than boys (Puzzanchera & Ehrmann, 2018). These contemporary disparities reflect an entrenchment of gender inequality in the use of the system's power.

For girls, the impact of gender may be independent or interactional with race. Black girls can be doubly harmed by attributes associated with their race and gender (Freiburger & Burke, 2011). This combined impact of race and gender might vary throughout the juvenile justice process. One study revealed that judges "were more likely to take race into account when making pre-detention decisions for males but were more likely to consider race in determining the appropriate disposition for females" (Guevara, Herz, & Spohn, 2006: 275). Moore and Padavic (2010) found evidence that black girls

were treated more harshly at the disposition stage, whereas there were no apparent differences between white and Hispanic girls. Thus, the role of gender in predicting juvenile justice process may be intersectional in nature for girls.

### *Education and Schools*

Schools' approaches to student discipline are increasingly analogized to crime control, particularly in urban schools for students of color (Hirschfield, 2008). Youth impacted by these policies face an increased risk of expulsion or arrest, especially black youth (Cuellar & Markowitz, 2015; Hirschfield, 2018). Being suspended uniquely increases a youth's probability of arrest, net of any other pre-existing disadvantages (Mittleman, 2018). More broadly, suspensions may contribute to racial disparities in the juvenile justice system (Nicholson-Crotty, Birchmeier, & Valentine, 2009). Indirectly, the accumulative impact of multiple disciplinary proceedings may decrease students' self-esteem and, in turn, initiate labeling processes to amplify future deviance (Mowen & Brent, 2016; Wolf & Kupchik, 2017). In general, schools can be a pathway to juvenile justice system involvement via punitive student management and discipline.

### *Contextual Factors – Concentrated Disadvantage*

Sentencing research indicates the importance of a court's surrounding context for understanding variation in sentencing outcomes. According to the racial threat hypothesis, macro-structural characteristics impact local juvenile courts and case processing. This perspective states that members of minority groups will be subject to heightened social control and prejudicial attitudes if their population size increases and is viewed as a threat to the economic resources and political power of the (white) majority (Blalock 1967, Quillian 1995).

The racial threat perspective has received limited support in applications within the juvenile justice system. In his classic study, Feld (1991)'s assessment of "justice by geography" demonstrates substantial variation in juvenile courts' adjudicatory processes across place. Specifically, courts in urban jurisdictions are more formal and punitive, and are more likely to interact with minority youth. DeJong & Jackson (1998) found that black youth were treated more harshly in urban courts, but did not find differences across contexts for white youth.

Lowery and colleagues (2018) found evidence that black youth were more likely to receive placement as punishment in counties with higher populations of black persons and higher levels of concentrated disadvantage. Similarly, Sampson and Laub (1993)'s county-level analysis finds a tight linkage between the presence of a social "underclass" and formal juvenile justice processing. The authors find support for increased use of punishment (detention and placement) in places with higher levels of underclass poverty (e.g., female-headed households, percent black, extremely poor families) and racial inequality (relative poverty levels by race). Results are especially pronounced for black youth and drug offenses. Minority youth may also be disadvantaged in juvenile courts located in jurisdictions with a higher population of white residents (Anderson, 2015; Frazier, Bishop, & Henrietta, 1992).

However, some studies do not support the perspective's central claims (Leiber, Peck, & Rodriguez, 2016). Individual and contextual factors may jointly affect levels of punishment across racial groups, such that minority youth receive relatively harsher and relatively lenient treatment at different stages in the justice process (Leiber & Jamieson, 1995). Local resources, such as skilled public defenders, can mitigate the impact of these

forces (Kupchik & Harvey, 2007). A community's economic context can impact a youth's likelihood of receiving detention (Rodriguez, 2007). Finally, there may be a tipping point at which a jurisdiction's population diversity is no longer harmful to racial/ethnic minority youth in the juvenile court (Andersen & Outlette, 2019). Together, there are a number of contextual factors that can alter a youth's experience with the juvenile court.

*Cross-Institutional Linkages: Mental Health and Child Welfare*

Youth involved with the juvenile justice system are often involved with other social agencies. Drawing on interviews with youth in placement, Cox (2018) contends that "[t]he juvenile justice system is just one piece of a broader social welfare apparatus that is driven by interlocking structures and philosophies of punishment, oppression, and exclusion for youth" (12). Among this population of highly disadvantaged youth, involvement with multiple systems was the norm, rather than the exception.

Prior research demonstrates that youth in contact with another system have an increased risk of juvenile justice contact. A large proportion of youth receiving community mental healthcare become involved with the juvenile justice system (Cauffman, Scholle, Mulvey, & Kelleher, 2005). Some (but not all) mental health disorders increase youths' risk of arrest (Hirschfield, Maschi, White, Traub, & Loeber, 2006).

There is a high degree of crossover between the child welfare and juvenile justice system. In their recent review, Yi and Wildeman (2018) highlight similar disadvantages across youth in the foster care and juvenile justice systems, as both populations are disproportionately racial/ethnic minorities and impoverished. Youth in the foster care

system have an increased risk of juvenile justice contact and adult incarceration (Berger, Cancian, Cuesta, & Noyes, 2016). Juvenile cases originating from the child welfare system tend to receive harsher outcomes, and account for a large proportion of racial disparity in the juvenile justice system (Ryan, Herz, Hernandez, & Marshall, 2007). This significant overlap across institutions can exacerbate inequalities in system contact and consequences (Yi & Wildeman, 2018).

This second empirical chapter identifies the relationship between youths' levels of social disadvantage and later juvenile system involvement, drawing on these identified sources of disparity. By using survey data, this analysis is better suited to estimating how youths' social backgrounds impact juvenile justice contact and processing relative to existing research using administrative records.

### *III. The Long-Term Consequences of Juvenile Justice Involvement for Health and Wellbeing*

The final chapter studies the juvenile justice system within processes of cumulative disadvantage across the life course for health and wellbeing, using clear institutional distinctions across the juvenile and criminal systems. This review first highlights theoretical perspectives that motivate the study of juvenile justice contact as a distinct experience in form and impact from criminal justice contact. Next, these broad expectations are applied to literatures on the health impacts of justice involvement, highlighting similarities and differences in possible independent (system-specific) and comparative (to criminal justice) impacts of juvenile justice contact for health and wellbeing.

Over the past twenty years, studies in a punishment and society tradition have rapidly expanded beyond penal institutions to consider other forms of justice system

contact and punitive supervision (Garland, 2018). In addition to incarceration, scholarship demonstrates the prevalence and social consequences of non-carceral criminal justice contacts, including: misdemeanor justice (Kohler-Hausmann, 2018), police community presence (Brayne, 2014; Rios, 2011), arrests (Apel & Powell, 2019), fines and fees (Harris, Evans, & Beckett, 2010), felony convictions (Shannon et. al., 2018), criminal records (Jacobs, 2015; Lageson, 2016) and community supervision (Phelps, 2013). The carceral state paradigm advances this broad view by calling attention to the numerous modes of supervision and control of marginalized persons inside and outside of prisons, as “incarcerative institutions represent only the most-visible tentacles of penal power and .. the harm causes by the excessive use of prisons and jails has been dramatically compounded by the growth of the many institutions that make up the carceral state” (Beckett, 2018: 239).

This collection of studies tends to focus on adults within the system. Yet, abundant criminological research shows that deviant behavior and justice involvement begin far in advance of adulthood. Adolescents have a high likelihood of engaging in deviance (Farrington, 1986), translating to a nontrivial amount of formal juvenile system involvement. National estimates find that about 16-27% of all persons 18 years old report ever being arrested (Brame, Turner, Paternoster, & Bushway, 2012). By these accounts, nearly a quarter of Americans have some level of involvement with the justice system prior to adulthood. With limited exceptions (e.g., waiver to adult court), these contacts most likely occur entirely within the juvenile justice system, indicating a sizable group of individuals with early justice involvement. Relative to criminal justice involvement, the juvenile justice system might uniquely impact an individual’s life in several ways. The



next sections justify the need to independently conceptualize and measure the impacts of juvenile justice contact across the life course.

### *Timing and Juvenile Justice Contact*

Drawn from the life course paradigm, the principle of timing supports the premise that juvenile justice contact is a distinctly consequential experience by nature of its occurrence during the life span. The timing principle places importance on the relative ordering of life transitions across individuals that align with a normative progression of other transitional events within life stages (Elder, 1998). There is an implied standardized event ordering and accumulative process to human development. Events occurring out of turn or at earlier/later time points are differentially meaningful and repeatedly consequential for individuals. The pace and exact order of these transitions varies throughout history and within sociodemographic groups, alluding to the importance of structural influences acting on agentic individuals during their development (Shanahan, 2000). For example, recent trends indicate an extension of adolescence, as more individuals seek continued education and training prior to labor force entry (Mortimer, Zimmer-Gembeck, Holmes, & Shanahan, 2002).

The timing of juvenile justice involvement in the life course is clear, as the system's jurisdiction is defined by upper and lower age boundaries. Contact necessarily occurs prior to the age of criminal responsibility – in most states, at 18 years old. This timing is concurrent with the transition to adulthood, a phase that involves a number of life transitions vital to long-term status and stability, such as the completion of secondary schooling and the transition to formal employment (Hogan & Astone, 1986).

Consequently, there are potentially heightened consequences for juvenile justice contact because this experience coincides with an important developmental stage. By nature of this overlap, system-involved youth are at risk of disruption to normative timing of key life transitions (e.g., high school completion) that may, in turn, harm long-term prosocial development. Justice-involved youth must simultaneously navigate the justice system and a hectic developmental stage (e.g., Altschuler & Brash, 2004), placing them at risk of negative consequences for social development. These potential harms are at odds with the juvenile system's original intent of providing corrective treatment, and are unique from those associated with involvement in adulthood. Such consequences are likely even higher for youth of color, given their disproportionate system involvement (Kempf-Leonard, 2007).

It is plausible that juvenile justice contact operates as a point of divergence or entrenchment onto pathways of cumulative disadvantage across the life span (Kirk & Sampson, 2013; Sampson & Laub, 1997). Contact with the justice system can be corrosive to forging informal social controls (such stable employment), and has been associated with enduring disadvantage across the life span for youth and adults alike (Sampson & Laub, 1995). Conversely, youth in the juvenile system may receive treatment in community settings or custodial contexts to negate potential harms. Some of these programs are promising for reducing future delinquency through aggression reduction and behavioral management training (Greenwood, 2008). It is necessary to study justice contact in youth and adolescence as distinct interventions with distinct consequences (positive or negative) from criminal justice contact, rather than interventions that only differ in their relative occurrence during the life course.

*Labeling, Stigma, and Social Stress*

The juvenile court was created as a separate institution to account for developmental differences between juveniles and adults, on the premise that each deserves fundamentally different treatment in the justice system. Rather than continuing to process and punish youth and adults in the same system, an entire apparatus was constructed that allowed greater judicial flexibility to work on behalf of youths' best interests (Feld, 1999). Removal of youth from the criminal justice system dually avoided harms associated with a deleterious context for youth development, while also adopting a relatively therapeutic approach to youth justice (Zimring, 2000).

The juvenile court differs in that it was purposefully structured to avoid stigmatization (National Research Council, 2001). Its featured few due process protections to allow judges maximum flexibility to individualize proceedings and work in the child's best interests (Feld, 1999). Juvenile proceedings are held in private and without juries; juvenile court records are often sealed from the public; and the system uses terminology with "softer" connotations relative to adult court language (Bernard & Kurlychek, 2010).

These structural differences are important for understanding system-specific consequences. Stigma is a key concept in several sociological and criminological theories. With respect to behavior, stigmatization as a delinquent or criminal can increase future lawbreaking behaviors. The nature of reactions to initial deviance influence the likelihood of repeated deviance by altering individuals' self-concept and creating a self-fulfilling prophecy (e.g., Goffman, 1963; Matsueda, 1992). Juvenile courts structure proceedings to maintain youths' privacy and eschew long-term harms by avoiding the

application of stigma, as it may alter perceptions and impact youths' self-esteem. In doing so, this arrangement attempts to correct deviant behavioral trajectories and avoid the formation of long-term delinquent and criminal tendencies. Stigma is further important for individual wellbeing, as it is commonly conceptualized as a key mechanism that links stress to levels of health (e.g., Link, Struening, Rahav, Phelan, & Nuttbrock, 1997; Schnittker & John, 2007). Levels of stress, stigma, and associated discrimination are persistent direct and indirect correlates of poor health across the life span (Pearlin, Schieman, Fazio, & Meersman et al., 2005; Thoits, 2010). These precautions are unique to the juvenile system, as the criminal justice system does not employ similar protections. To the extent that youth are shielded from stigma in the juvenile court, their social outcomes associated with processes of stress and discrimination likely differ from those associated with the criminal justice system.

#### *Institutional Authority*

Arguably, the juvenile justice system varies most starkly from the criminal justice system in its defined legal authority. For adults, the courts are purely reactive systems that become involved after a person is arrested. Since its inception, the juvenile court has had much broader authority to be both a proactive *and* reactive institution. It can intervene in the lives of at-risk youth prior to an actual transgression of the law. The system can respond to delinquency *and* other social issues, such as poverty, incorrigibility, and status offenses – age-defined illegal behaviors (Mears, 2002). Status offenses comprise a relatively large portion of all cases in the system and are less likely to originate from the police – instead, referrals may originate from family or schoolteachers (Sickmund & Puzzanchera, 2014).

In addition to this extended jurisdiction, juvenile courts also grant youth fewer due process protections that adults receive in criminal court. Juvenile court judges possess broad authority to justify interventions and administer dispositions in the child's best interests using individualized proceedings, wide judicial discretion, and few procedural formalities (Fagan, 2008; Hinton, 2015). For example, a judge may send a youth to juvenile detention if he/she is deemed a risk to public safety, at risk of flight, or in need of evaluation for treatment. In comparison, pretrial detention in the criminal justice system targets public safety and/or flight risks. The juvenile court is thus able to cast a relatively wider net over youths deemed to be 'at-risk', absent resistance from due process protections against perceived overreaches of power. These features together may grant the juvenile court "even greater coercive powers than the criminal court" (Bernard & Kurlycheck 2010: 71).

With respect to legal authority, juvenile courts are clearly distinct institutions with broader jurisdiction bound by fewer procedural rules. Although intended to benefit youth, these two elements place a larger population of youth in legally precarious positions. Consequently, they are potentially subjected to more extensive social control – and any associated consequences.

#### *Unequal Distribution of Contact*

There are persistent racial, ethnic, and gender disparities in juvenile justice involvement, such that boys and youth of color – particularly, black youth – are overrepresented in the system (Kempf-Leonard, 2007; Hockenberry & Puzzanchera, 2018). Once in the system, these groups tend to experience different treatment. For example, racial disparities in juvenile system processing tend to persist, even after

controlling for differential involvement in delinquency (Huizinga et. al., 2007). Girls and boys have long been subject to differential control by the juvenile court for different types of behavior (Shelden, 1998). Certain youth face unequal exposure to the juvenile justice system and its associated consequences. As previously argued, these disparities are relatively embedded in the system's framework, rather than an emergent pattern following punitive policy changes over the past fifty years.

### *Contact Across Systems*

Despite its stated intentions to avoid harm, evidence suggests that the juvenile system might fail to meet this goal. Specifically, many studies find that juvenile justice involvement can enhance future deviance, leading to repeated system contacts throughout adolescence and adulthood. GREAT data reveals that the most superficial form of contact – a police stop – can increase future delinquency (Wiley, Slocum, et. al. 2013, Wiley & Esbensen, 2016). Being arrested in middle school can erode perceptions of police legitimacy (Fine, Cavanagh, et. al., 2017). It can increase future delinquency by initiating processes of neutralization, school detachment, and negative peer involvement (Wiley, 2015). Further, initial arrest can increase secondary sanctioning through processes independent of secondary deviance (Lieberman, Kirk, & Kim, 2014). Secure confinement increases the chance of repeated institutional confinement (incarceration) in adulthood (Gilman, Hill, & Hawkins, 2015) and often fails to equip youth with the skills necessary to avoid “falling back” into crime post-release (Fader, 2013).

Overall, juvenile justice system contact is iatrogenic – an impact that increases in magnitude for more serious forms of contact (Gatti, Tremblay, & Vittaro. 2009). The majority of individuals involved in crime and delinquency will cease these behaviors in

early adulthood (Blumstein & Cohen, 1987; Laub & Sampson, 2001). However, a small group of “life course persisters” tend to remain involved in criminal activity across the life course (Moffitt, 1993). A youth’s level of system contact can impact future deviance, where deeper levels of system involvement can impede the desistance process (McAra & McVie, 2007). Juvenile justice interventions may inadvertently push youth towards extended periods of delinquent behavior.

Altogether, these institutional differences highlight the need to independently conceptualize the impacts of juvenile justice system involvement as distinct from criminal justice contact and as a precursor of repeated system involvement across the life course.

#### The Relationship Between Juvenile Justice Involvement and Health

The following section reviews available research on the relationship between juvenile justice and health. Because justice-involved youth tend to be highly disadvantaged, they often have significant pre-existing health problems prior to their initial system contact. Mental health disorders may also play a role in youths’ pathways to the juvenile system. The juvenile justice system has the potential to operate as a point of intervention for initiatives to improve public safety and health (Myers & Farrell, 2008). Yet, research infrequently extends beyond identifying the prevalence of health problems among justice-involved youth.

##### *Mental Health*

There is a complex relationship between health, delinquency, and the juvenile justice system. Poor physical health is associated with delinquent behaviors (Semenza, 2018). In turn, some psychological factors, including aggressiveness and risk-taking behaviors, are

persistently correlated with violent behavior (Hawkins et al., 2000). Some mental health disorders increase youths' risk of arrest, but this is not a universal relationship for all problems (Hirschfield, Maschi, White, Traub, & Loeber, 2006). Arrested youth can exhibit higher rates of conduct disorder, externalizing behavioral problems, and substance abuse disorders (Huizinga, Loeber, Thornberry, & Cothorn, 2000; Rosenblatt, Rosenblatt, & Biggs, 2000), all of which are highly related to or inclusive of delinquent behaviors.

Justice-involved youth disproportionately suffer from a variety of mental health problems that are prevalent prior to institutional contact (Barnert et. al, 2017; Grisso 2008; Grisso & Barnum, 2000; Penner, Roesch, and Viljoen 2011; Shufelt and Coccozza, 2006; Vermeiren 2003). Youth tend to enter the system with inconsistent, if any, prior access to care (Barnert, Perry, & Morris, 2016), a reality that reflects their socially disadvantaged backgrounds and reductions in children's community mental healthcare services (e.g., Grisso, 2008). However, community mental health care has been associated with juvenile justice system involvement, suggesting potential crossover between systems (Cauffman, Scholle, Mulvey, & Kelleher, 2005).

Youth at the deeper end of the juvenile system – those under community supervision and in secure facilities – tend to have high rates of mental health disorders (Rijo et. al., 2016). Nearly 40% of justice-involved youth under community supervision had at least one psychopathology symptom (Kenny, Lennings, & Nelson, 2007). General estimates claim that approximately 50-70% of youth in detention and secure placement suffer from at least one mental health problem (Development Services Group, Inc, 2017). In a large-scale study of a juvenile detention center in Cook County, IL, Teplin and colleagues (2005) find that about half of youth in the facility would meet diagnosis criteria for a



substance abuse disorder, while over 60% of youth would meet diagnosis criteria for a mental health disorder. Juvenile justice-involved females are more likely than males to suffer from mental illnesses (Shufelt & Coccozza, 2006; Teplin, Abram, McClelland, Dulcan, & Mericle, 2002; Wasserman, McReynolds, Ko, Katz, & Carpenter, 2005). Overall, rates of mental health disorders in detained samples are much higher than the prevalence in community samples, by a factor of two to three (Grisso, 2005) or up to ten (Fazel, Doll, & Långström, 2008).

Comorbidity of mental health problems is also common among justice-involved youth, but exact estimates vary across samples. Just under 40% of youth in the Pathways to Desistance study had more than one diagnosable mental health problem (Schubert, Mulvey, & Glasheen, 2011). Around half of males and females in detention in Cook County, IL met criteria for two or more psychiatric disorders (Teplin et al., 2005). In a multi-state assessment, nearly 80% of youth in secure and community facilities had multiple mental health problems (Shufelt & Coccozza, 2006). The most commonly co-occurring disorder is substance abuse (Huizinga et al., 2000).

This high variance in estimated rates of mental health disorders among youth in the justice system exists for several reasons. As discussed by Penner and colleagues (2011), estimates differ due to variation in studied populations, measurement tools, and identified disorders. Rates of disorders are partially contingent upon the population from which they are derived, as their prevalence tends to be higher among youth with more serious system involvement (e.g., those in placement). To identify disorders, some studies utilize validated clinical assessment tools, while others rely on interviews, self-report data, or less rigorously validated instruments. Research also varies in the types of mental illnesses

studied – for example, psychiatric disorders and/or externalizing behavioral problems. While these disparities across studies create imprecision in estimates, it is nonetheless clear that youth in the juvenile justice system disproportionately suffer from mental health problems.

Much of this research identifies the prevalence of mental health problems with samples of justice-involved youth; relatively less research examines changes to mental health following system contact. Incarceration in adolescence and young adulthood is related to depression and suicidal ideation (Barnert et al., 2017). In one study, Gilman and colleagues (2015) did not find a significant association of juvenile placement with later mental health problems, but detected a positive relationship with post-release substance abuse disorders. Bivariate associations reveal that incarceration in childhood (at age 14 or younger) is related to worsened physical and mental health in adulthood (Barnert et. al., 2018). These negative consequences are unsurprising, as juvenile facilities appear ill-equipped to treat youth in custody presenting with health problems (Ashkar & Kenny, 2008; Swank & Gagnon, 2016). Only 15% of youth identified in need of services received care in a detention facility (Teplin et al., 2005). In addition, the conditions of confinement may exacerbate youths' pre-existing problems (Lambie & Randell, 2013). Limited evidence thus suggests detrimental consequences of juvenile justice involvement for mental health.

#### *Physical Health Problems*

While most research focuses on youths' mental health, a smaller literature examines the connection between juvenile justice contact and physical health. An estimated 30-60% of juveniles in the justice system suffer from some type of disability, including

physical handicaps, learning disabilities, or mental retardation (Morris & Morris, 2006). A nationwide survey of juvenile justice systems found that about a third of youth in secure facilities received special education programming for their learning disabilities (Quinn et al., 2005). Following release, young adults formerly in placement are more likely to exhibit worsened health behaviors post-release, such as smoking or fast food consumption (Porter, 2014). Additionally, incarceration in young adulthood is associated with physical health limitations and worsened general health in adulthood (Barnert et al., 2017). Although limited, existing evidence again suggests harms to individual wellbeing following juvenile system contact.

#### Potential Consequences of Juvenile Justice System Involvement for Health and Wellbeing

Available research indicates a clear correlation between juvenile justice contact and health, but it is unclear if system involvement uniquely impacts future health. Limitations of existing research include a tendency to focus on a single stage of system involvement – most frequently, secure placement. Further, many studies do not assess if these impacts persist throughout adulthood and in light of any criminal justice contact. The latter is especially important to investigate, as mental health problems have been linked to incarceration in adulthood (Baillageron, Binswanger, Penn, Williams, & Murray, 2009). Two plausible patterns connect juvenile justice contact and health; each is discussed in turn.

#### *Harm Amplification*

Contact with the juvenile justice system may be harmful to youths' health through two mechanisms. First, detrimental impacts may emerge as a product of contemporary

justice system policy that focuses on punishment and control. Beginning in the 1960s, a broad policy movement towards “getting tough” on crime spurred the growth of mass incarceration and the carceral state – a mode of governing marginalized persons that dramatically reshaped social life, even among those with the most tenuous connections to the justice system (Gottschalk, 2016). It expanded the capacity to punish beyond prisons – and the criminal justice system – through an overt (and covert) boundary expansion that forged new connections with other institutions and disseminated the punitive mindset across bureaucratic actors (Beckett, 2018; Beckett & Murakawa 2012; Hernandez, Muhammad, & Thompson, 2015; Miller & Alexander 2016; Turney & Wakefield, 2019). Research demonstrates many deleterious consequences of this novel degree of pervasiveness in surveillance and control of adults in the criminal justice system (Kirk & Wakefield, 2018).

Similar punitive changes to the juvenile justice process during this phase are likely to impact youths’ health by introducing stigma and stress, yet these processes are often overlooked in narratives on the emergence of the carceral state (for an exception, see Beckett & Murakawa, 2012). Beginning in the late 1960s, the structure of the juvenile court began to more closely approximate the criminal justice system (Feld, 1999). Implemented policies signaled divergence from rehabilitation in favor of individual accountability and punishment. Many states relaxed legislation on the privacy of juvenile records (Torbet & Syzmanski, 1998). If such changes altered youths’ perceptions of stigmatization associated with their delinquency, they may be at higher risk of poorer health relative to youth without system involvement (e.g., Link et al, 1997).

The introduction of such policies may alter the nature of interactions with the juvenile system which, in turn, can worsen youths' health. Contact with a systemically hostile institution may contribute to social stress processes. A sizable literature identifies negative health consequences following adults' release from prison, including: severe physical limitations (Schnittker & John, 2007) worsened physical and mental health (Massoglia, 2008a; 2008b; Houle, 2014), poor health behaviors (Porter, 2014), and mortality (Pridemore, 2014). Earlier in the justice process, low-level system contacts are associated with more mental health problems and depression, including police stops (Baćak & Nowotny, 2018; Geller, Fagan, Tyler, & Link, 2014) and arrests (Sugie & Turney, 2017). This research points to carceral and non-carceral justice contacts as stressors. For example, being stopped by the police can induce stress by introducing uncertainty and anxiety (Geller et al., 2014). Rios (2011)'s ethnographic research demonstrates how the "punitive social control" of contemporary urban youth promotes their "hypercriminalization" and redefinition of citizenship through heightened police presence in the community and zero-tolerance school discipline (e.g., Hirschfield, 2018). The broad surveillance and control of youth associated with the system's punitive turn may decrease youth's health and wellbeing across all levels of system contact through increased hostility and corresponding increases in stress.

#### *Harm Avoidance*

It is also possible that juvenile justice involvement is not harmful or beneficial to youths' health because of the system's institutional framework and relative emphasis on rehabilitation. While involved with the system, youth may be connected with treatment and services to improve their health during and after their system involvement. The

system's structure follows a medical model, where court interventions sought to alleviate the sources of youths' delinquency and disadvantage to promote overall child welfare (Bernard & Kurlychek, 2010). Recent evidence suggests broadly positive outcomes associated with mental health interventions for youth in the juvenile system (Cuellar & Dave, 2016). The juvenile system is positioned to holistically address youths' needs, to the extent that the system adheres to therapeutic principles in practice. Justice-involved youth may possibly experience improved health relative to peers without system contact.

Any benefits associated with juvenile system contact may be concentrated among youth with relatively deeper levels of involvement. Incarcerated adults experience some health benefits while in secure custody, including a reduced risk of mortality (Patterson, 2010) and improved mental health (Dirkzwager & Nieuwbeerta, 2018). These improvements are not driven by pre-incarceration health levels (Baćak & Wildeman, 2015). Such short-term improvements may be a product of several mechanisms, including a removal from risky environmental contexts or access to healthcare providers (Massoglia & Pridemore, 2015). Youth in secure placement or under supervision may similarly experience health benefits associated with resources available at later stages of system involvement, although they may only be apparent in the short-term.

Youth may avoid harms associated with juvenile justice contact because of mitigated risks associated with the system's process, as it was designed to avoid – or at the very least, minimize – stigmatization, the mechanism theorized to link arrest and imprisonment in adulthood with worsened health (Schnittker & John 2007; Sugie & Turney, 2017). Despite policy changes to the sealing of delinquency records, juveniles' privacy remains mostly protected in court proceedings. To the extent that these factors

reduce stigma and stress associated with juvenile justice involvement, youth may avoid harms by avoiding exposure to risk factors.

#### Relative Impact of Juvenile and Criminal Justice Contacts for Health

Since juvenile justice involvement is correlated with criminal justice involvement, isolated assessments of the impacts of juvenile or criminal justice involvement will obscure full individual histories of system contact for a nontrivial number of persons. Cross-system differences indicate that juvenile or criminal contacts may be relatively more impactful for individuals with involvement in both systems.

Regardless of direction, the positive or negative impact of juvenile justice contact may be stronger than any consequences associated with criminal justice contact. The simultaneity of juvenile system involvement with the transition to adulthood creates unique risks for individuals' prosocial development above and beyond those associated with criminal justice contact. Juvenile justice involvement has been implicated as a disruptive experience that can impede youths' educational attainment (Hjmarsson, 2009; Sweeten, 2006) and social adjustment (Makarios, Cullen, & Piquero, 2017). In turn, these two factors create long-term risks of socioeconomic disadvantage – a persistent correlate of poor health across the life course (Elo, 2009; Thoits, 2010). The magnitude of negative health impacts associated with incarceration is larger among adults who enter prison at earlier ages (Bačák, Andersen, & Schnittker, 2018). Because of their earlier timing, juvenile justice contacts may be uniquely positioned to directly or indirectly generate or accelerate pathways of cumulative disadvantage across the life course (Kirk & Sampson, 2013). Consequently, any impact to health or other aspects of social life associated with

juvenile system contact may endure into adulthood above and beyond any impacts associated with criminal justice contact.

Conversely, associations between justice contact and health may be relatively stronger within the criminal justice system. An unprecedented number of adults have an official criminal record (Shannon et. al., 2017), a ‘mark’ which triggers several collateral consequences upon release from the criminal justice system’s supervision. These records can have a persistent impact on individuals’ lives, as they are often immortalized online (e.g., Jacobs, 2015) and must be reported on many employment applications (Pager, 2003; Uggen, Vuolo, Lageson, Ruhland, & Whitham, 2014). Additionally, criminal justice contacts are necessarily in closer temporal proximity to outcomes in adulthood than juvenile justice contacts. Stronger associations for criminal justice contact, as driven by its relative recency and permanence, may supersede any impact of earlier juvenile contacts.

### **Empirical Roadmap**

This dissertation proceeds with three empirical chapters, each addressing a set of research questions regarding the operation of the juvenile justice system and its consequences for individuals.

#### *Chapter 2: The Administration of Juvenile Justice, 1985-Present*

Research Question 1: What are the differences in the scope and administration of juvenile justice throughout the past forty years, from 1985 to the present?

The first empirical chapter provides a description of juvenile justice across the United States from 1985 to the present. It examines trends in the administration of juvenile justice using data drawn from three parts of the system – law enforcement, court processing, and secure corrections.



Arrest data come from the Uniform Crime Reports (UCR), a compilation of local law enforcement agency data collected by the Federal Bureau of Investigation (FBI). This comprehensive dataset contains information on arrests, types of crime, and basic demographics of arrestees. For uniformity across states, the UCR uses 18 as the cutoff age for adulthood.

Court processing data are obtained through a national repository. The OJJDP has been responsible for collecting data on the number of “cases disposed” by the juvenile court across jurisdictions since 1974. These reports include cases initiated from new referrals to the court that involved some official action. Included data points capture details of the juvenile justice process, including detention, dispositions, and alternate case resolutions. However, these data are far from nationally representative: participation is voluntary and varies across years. The most comprehensive reports include data from juvenile courts with jurisdiction over 86% of the country’s juvenile population from 44 states.

The best available data capture trends in secure juvenile punishment in detention and placement facilities. The Federal government has used a series of surveys to compile information from facilities on their population and operation. The two used in this chapter are the most recent iterations. The Children in Custody (CIC) survey was collected from 1971-1997. It originally limited attention to publicly-operated facilities, but extended to private facilities as of 1986. Facility staff reported on aggregate data on their youth populations. The Census of Juveniles in Residential Placement (CJRP) replaced the CIC in 1997. It collects individual records on all juveniles in secure facilities across the

country, both public and private. Across both surveys, response rates range between 93 and 100%.

### *Chapter 3: Social Disadvantage in the Juvenile Justice System*

Research Question 2: What is the relationship between youths' social backgrounds and their likelihood and level of involvement with the juvenile justice system?

The second empirical chapter shifts the focus to individuals with juvenile justice involvement by studying how youths' pre-existing social disadvantages affect their contact with the juvenile justice system. Analyses use two large-scale social surveys to examine the connection between social backgrounds and juvenile justice involvement throughout the latter part of the 20th century. Each dataset contains rich information on youths' social backgrounds and justice involvement: the National Longitudinal Survey of Youth 1979 (NLSY79 hereafter) and the National Longitudinal Survey of Youth 1997 (NLSY97 hereafter). The NLSY79 is a household sample comprised of a cohort of youth (N=12686) born between 1957 and 1964. Youth have completed 26 waves of interviews to date, conducted annually from 1979 to 1996 and biannually to the most recent round (2014). The NLSY97 is also a household sample of a cohort of youth (N=8984) born between 1980 and 1984. Respondents have completed 17 interview waves to date.

As reviewed above, many studies of disparities in the juvenile justice system use administrative records. These data are more likely to capture individuals' full histories of juvenile system contact, but often lack detailed information on their social backgrounds above and beyond basic demographic information. The NLSY data contain measures of self-reported delinquency and justice system involvement. Relative to official data, these survey responses are more prone to recall and reporting errors. As a tradeoff, NLSY data contain much richer information on youths' social status and backgrounds that are often

inadequately measured in existing studies. The ability to include a broader set of covariates advantages all empirical sections of this chapter.

In addition, each NLSY cohort interacts with the juvenile justice system within a different policy context. NLSY79 youth interacted with the system during the early 1980s, a time when juvenile arrests and public fear of juvenile violence started to increase, yet levels of punishment remained low. NLSY97 youth interact with a juvenile system that was operating at peak levels of arrest and placement, but also had taken action to combat disproportionate minority contact (Kempf-Leonard, 2007). Cohort-specific models thus capture youths' interactions with different phases of juvenile justice administration. Despite differing age profiles, both surveys contain comparable measures of self-reported justice system involvement, delinquent behaviors, and other important covariates, such as educational histories, family processes, and contextual variables. Alignment or convergence of results across cohorts will shed light on how changing system views impacts youths' entry and processing.

#### *Chapter 4: Long-Term Consequences for Health and Wellbeing*

Research Question 3: What is the relationship between juvenile justice contact and health? Does it vary across levels of system involvement or the life course? Does juvenile justice contact matter independently from criminal justice contact?

The final empirical chapter considers the short- and long-term consequences of juvenile justice involvement for health and wellbeing. The country's punitive turn over the last fifty years has spurred a robust research literature documenting the myriad consequences of dramatic changes to sentencing policy and practice. While many studies connect incarceration in adulthood with inequality across a variety of social outcomes, this dissertation joins an emerging body of work that extends scholarly focus outside of

imprisonment in adulthood. It considers how increased levels of punishment affect outcomes following juvenile justice contact: a distinct institution in philosophy and structure that was created with a rehabilitative pretense, but has deviated from these roots throughout reforms to “get tough” on delinquency. The unique context of the juvenile justice system is likely related to cumulative disadvantage and social stress processes across the life course. Theoretical perspectives suggest that these relationships may be similar or different than those observed in conjunction with the criminal justice system, but they have yet to be thoroughly examined empirically.

This chapter presents findings from analyses that estimate the impacts of juvenile justice contact across the life course for health and wellbeing, outcomes of broad social relevance to multiple aspects of development and attainment. It makes three specific contributions: (1) the estimation of the overall and stage-specific health consequences of system contact across the juvenile justice process; (2) a comparison of juvenile-only system contact consequences to those associated with additional justice contact in adulthood; and (3) an examination of impacts throughout the life course in young and middle adulthood. These analyses also use two cohorts of the National Longitudinal Surveys of Youth (1979 and 1997). The design employs siblings fixed effects models that difference out time-stable, unobserved heterogeneity across households.

## **Chapter 2: The Administration of Juvenile Justice, 1985-Present**

In many respects, the juvenile justice system is an entirely distinct entity from the criminal justice system. While both are institutions of formal social control, each differs in its organizational structure, legal rationale, and served population. A separate juvenile system was created to treat delinquents differently than adults in the justice system, reflecting an internalization of the notion that “kids are different”. Traditionally, the juvenile system followed this directive by treating youth in their own best interests within a less formal and punitive system. Based on views of adults as more mature and accountable, the criminal justice system differs through its tendency to prioritize retribution and incapacitation in a more formal legal setting.

However, these cross-system distinctions have become less clear and consistent within the past fifty years. Throughout this time span, the Supreme Court made several rulings to increase the procedural formality of the juvenile court (Feld, 1999). In addition, a broad political movement to “get tough on crime” yielded more punitive approaches to juvenile and criminal justice policymaking. These changes have been most frequently associated with the rise of the carceral state vis a vis mass imprisonment and supervision of adults in the criminal justice system (Garland, 2001; Gottschalk, 2015; Phelps, 2013), but have also been connected to youths’ transfer to adult court (Bishop, Frazier, Lanza-Kaduce, & Winner, 1996; Fagan, 1996; Redding, 2003; Winner, Lanza-Kaduce, Bishop, & Frazier, 1997).

Just as focusing on incarceration obscures other areas of growth in the criminal justice system (e.g., Phelps, 2013), a focus on waiver also potentially obscures areas of growth and changes in the functioning of the juvenile court for youth remaining in the

juvenile system (Mears, 2002). Research infrequently assesses changes that transpired in the juvenile justice system that meaningfully impacted its operation through a departure from its intended therapeutic approach.

This chapter identifies trends in the administration of juvenile justice throughout this policy context of increased toughness on juvenile delinquents. It solely focuses on the juvenile system, bringing attention to areas of growth or retraction that impacted youth retained in the juvenile court. Using multiple sources of administrative records, the presented data explore three facets of the juvenile system, including law enforcement, court processing, and secure custody.

There are four notable findings from the analyses of this chapter. First, the magnitude of the juvenile justice system grows and retracts across multiple aspects of the system throughout the past thirty years. Available data sources indicate declining arrests, cases, and placements of youth in the system after each peaked in the mid- to late- 1990s. Second, even at its highest usage, waiver to adult court is rare: it consistently impacts the smallest portion of all cases formally processed through the juvenile court. Third, the juvenile system may have widened its net, as the relative ratio of cases formally processed and receiving alternate sanctions to a dismissal (e.g., fines and/or community service) has slightly increased throughout the past thirty years, at a faster pace than case dismissals. Finally, the experience of juvenile punishment is different than criminal justice punishment. In comparison to the criminal justice system, rates of secure juvenile confinement have consistently operated at a fraction of the magnitude of adult incarceration and have exhibited more volatility over the past twenty years. Confinement in private facilities is more common in the juvenile justice (30-40%) than the criminal

justice system (7-14%). The chapter proceeds by examining trends apparent within three segments of the juvenile justice system.

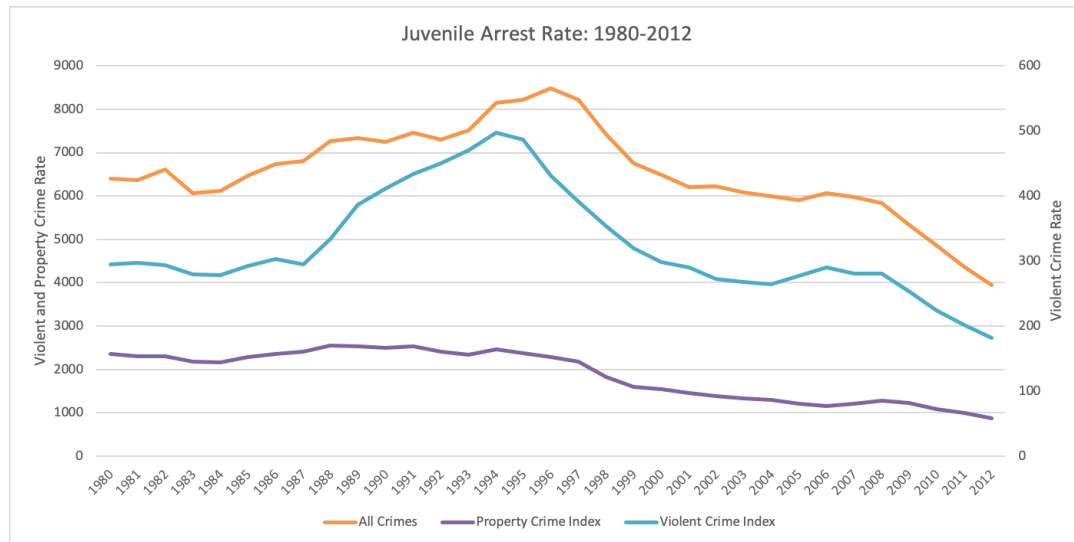
## **Results**

Each of the following sections focuses on shifts in practice across the analytic period within a single aspect of the juvenile justice system: arrests by police; caseloads in the courts; and punishment by correctional agencies.

### *Arrest*

Being arrested typically constitutes an individual's first formal involvement with the justice system, above and beyond traffic violations or citations. The most comprehensive data available on arrests in the United States comes from the Uniform Crime Report (UCR), a compilation of local law enforcement records collected by the Federal Bureau of Investigation (FBI). Juvenile arrests in the UCR refer to any arrest of an individual under the age of 18, regardless of the age of criminal responsibility in the individual's home jurisdiction. This distinction ensures uniformity in data across the country, even though states vary in their upper age of juvenile court jurisdiction. Consequently, these statistics capture some youth who are arrested and processed as adults in the criminal justice system in their respective states, but are classified as juveniles in UCR data.

The overall juvenile arrest rate gradually increased throughout the 1980s and 1990s (Figure 1, left axis). It peaked at a rate of 8,476 per 100,000 in 1996. Since, rates declined somewhat precipitously to the present, where it hovers at levels far beneath those observed in 1980. These decreases align with decreases in the crime rate observed across all age groups beginning in the late 1990s and sustained throughout the 2000s.

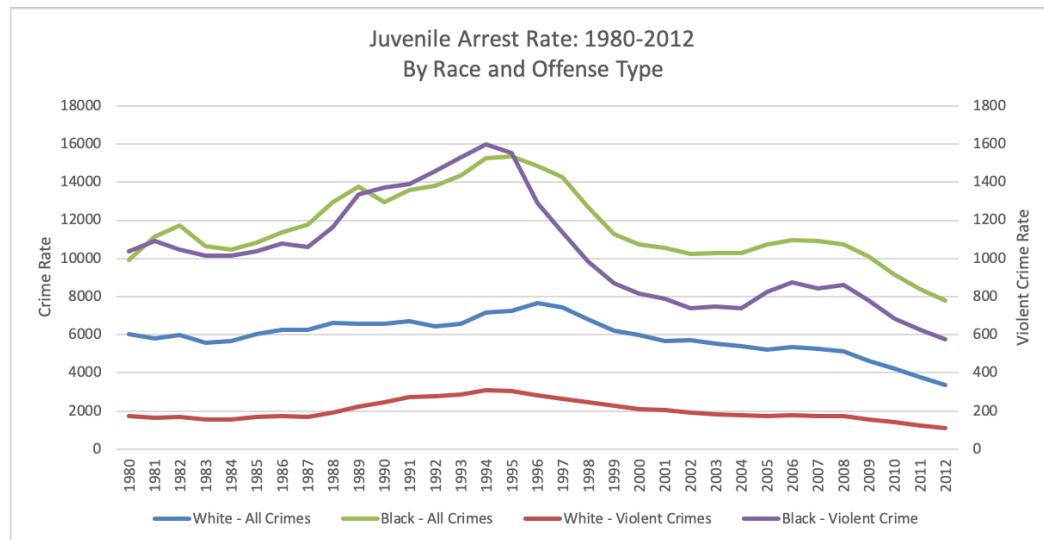


**Figure 1: Juvenile Arrest Rate (per 100,000)**

Note: Left y-axis refers to crimes and property crime index; right y-axis refers to violent crime index. Rate is calculated per 100,000 youth ages 10-17 in the resident population. Sources: Arrest estimates for 1980-2014 developed by the Bureau of Justice Statistics and disseminated through "Arrest Data Analysis Tool." Online. Available from the [BJS](#) website.

While there was growth across all types of juvenile crime, changes in juvenile violence – in particular, homicides perpetrated with firearms by black youth in urban contexts – received the most attention (Zimring, 1996). Figure 2 displays arrest rates by offense type across black and white youth. Across all years, black youth are arrested for all crimes and violent crimes at a much higher rate than white youth. The arrest rate for black youth for violent offenses grew throughout the 1990s, peaking slightly later than the overall arrest rate. Proliferating fears about this growth in black youths' violent behavior created public anxiety. In particular, people questioned the efficacy of the juvenile court to adequately control these 'new' and 'unprecedented' delinquents. Juvenile justice policies became demonstrably more punitive amid this public anxiety (Feld, 1999). This more reactive approach to juvenile social control may have influenced greater law enforcement attention to the supervision and apprehension of youth, accounting in some part for increasing arrests.





**Figure 2: Juvenile Arrest Rate (per 100,000), by Race**

Note: Rate is calculated per 100,000 youth ages 10-17 in the resident population. *Sources:* Arrest estimates for 1980-2014 developed by the Bureau of Justice Statistics and disseminated through "Arrest Data Analysis Tool." Online. Available from the [BJS](#) website.

Turning to gender (Figure 3), the arrest rate of boys is persistently higher than that of girls. Substantiating their increased involvement in the juvenile system (e.g., Snyder & Sickmund, 1999), the arrest rate for girls declined much slower than that of boys. In 2012, the gap between rates is the closest across this thirty-year span, suggesting increased delinquency among girls or increased law enforcement attention to girls' behaviors since the turn of the 21st century.

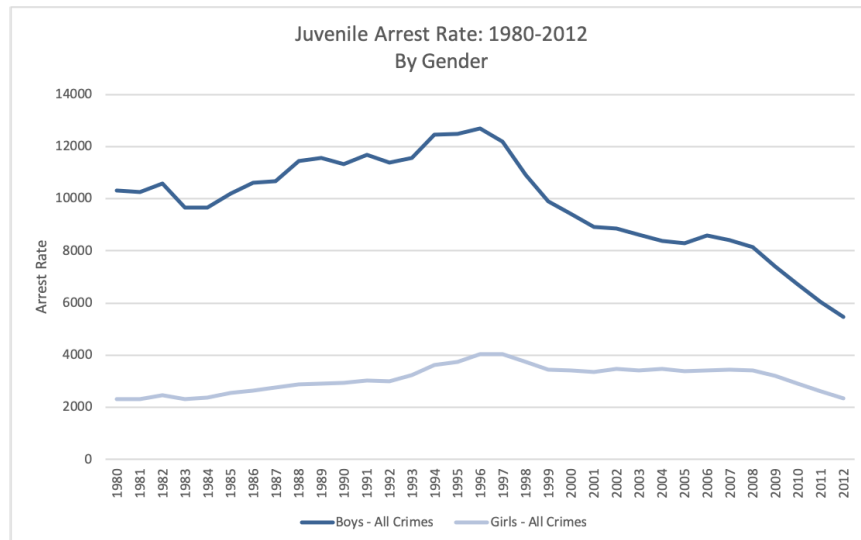


Figure 3: Juvenile Arrest Rate (per 100,000), by Gender

Note: Rate is calculated per 100,000 youth ages 10-17 in the resident population. *Sources:* Arrest estimates for 1980-2014 developed by the Bureau of Justice Statistics and disseminated through "Arrest Data Analysis Tool." Online. Available from the [BJS](#) website.

Overall, the juvenile arrest rate exhibited fifteen years of sustained growth followed by a continuous decline. However, arrest data has limitations for explaining delinquency and pathways to the juvenile justice system. Law enforcement is one possible avenue through which youth may come into contact with the juvenile justice system. Unlike the criminal justice system, individuals outside of the justice system possess formal referral authority to the juvenile court. For example, parents and schoolteachers may initiate a youth's juvenile justice contact through referrals for services for incorrigible or delinquent behaviors. Consequently, arrest statistics only capture a portion of youth involved with the juvenile court through policing. There are likely to be discrepancies between arrest and court processing data, as the latter is more inclusive of the multiple pathways to the juvenile system that occur outside of official law enforcement activity.

### *Juvenile Court Caseloads*

Since 1974, the Office of Juvenile Justice and Delinquency Prevention (OJJDP) has been responsible for collecting juvenile court data across jurisdictions. Their data is a compilation of reports from many juvenile courts across the country that include the number of “cases disposed” in a jurisdiction - that is, any case initiated from a new referral to the juvenile court where some definitive action was taken<sup>1</sup>. These reports contain the most comprehensive available information on juvenile court processing, but do not include information from all courts across the country. Researchers note that the lack of uniformity in juvenile justice administration presents a significant cost barrier to collecting nationally representative data. Report participation is voluntary, creating variation in the number of included jurisdictions across years. Overall participation has increased over the past thirty years, increasing the comprehensiveness of this data. In 1985, submitted reports came from counties’ and/or states’ juvenile justice systems having jurisdiction over 63% of the country’s juvenile population. In 2016, 86% of the country’s youth were covered, as reporting increased from juvenile courts across the nation. Over this time, at least 31 states reported data to OJJDP; at most, 44 states participated in data collection.

Because reporting is voluntary, there is an inconsistent sample across years. Consequently, it is difficult to ascertain the correct population covered by courts included in the reports to calculate processing rates across years. Rates exist for many of these metrics from 2005 and later (Juvenile Court Statistics, 2016), but these data omit the time

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<sup>1</sup> For more detail on methods and data collection, see <https://www.ojjdp.gov/ojstatbb/ezajcs/asp/methods.asp>.

period of interest to this analysis. To provide a description of the juvenile justice process during the time period of interest, court caseloads are plotted against the total national juvenile population (ages 10-17) to provide a sense of shifts in case processing relative to shifts in the ‘at risk’ population.

The number of cases processed by the juvenile court increased and decreased throughout the last thirty years (Figure 4). There was a steady increase in caseload numbers throughout the 1990s (Figure 4, left axis). Volume reached its highest point in 1997, when courts processed over 1,880,000 cases. This upward trend occurred in tandem with increases in the total juvenile population (Figure 4, right axis). It may reflect the adoption of a differing approach to juvenile justice, where court actors viewed delinquents as more accountable for their behaviors and more worthy of formal system processing. Conversely, additional cases in the juvenile court could mirror increases in the total juvenile population.

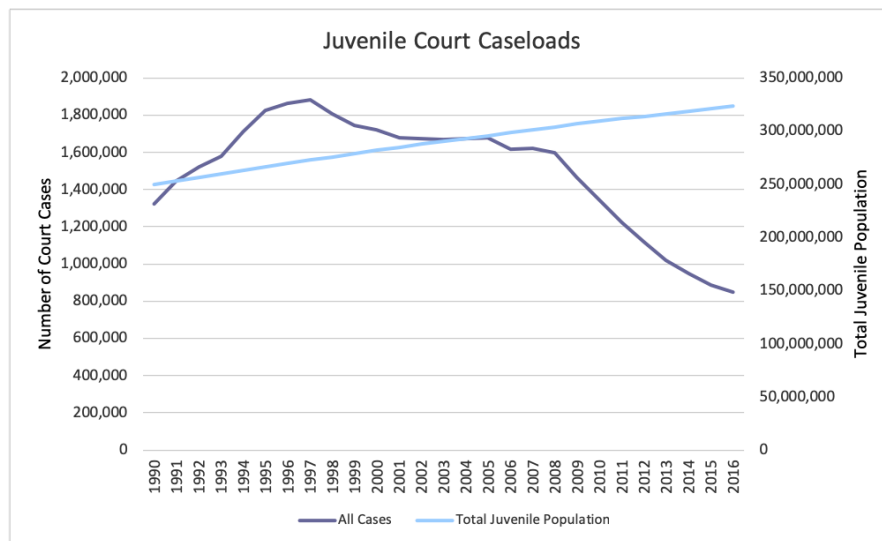
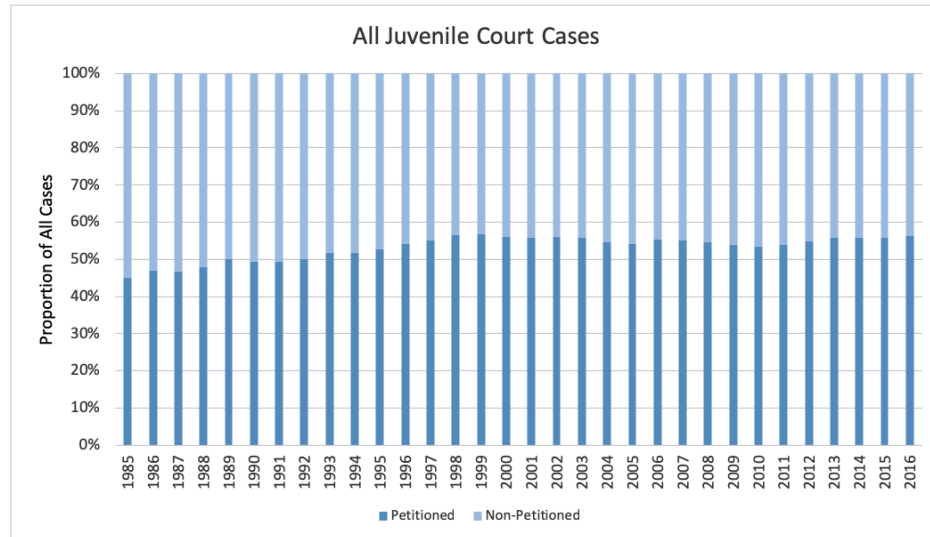


Figure 4: Juvenile Court Cases (All)

Note: Caseload estimates are rounded to nearest 100: Source: Sickmund, M., Sladky, A., and Kang, W. (2018). Easy Access to Juvenile Court Statistics: 1985-2016 Online. Available: <https://www.ojjdp.gov/ojstatbb/ezajcs/>; Puzzanchera, C., Sladky, A. and Kang, W. (2018). Easy Access to Juvenile Populations: 1990-2017. Online. Available: <https://www.ojjdp.gov/ojstatbb/ezapop/>

Since 1997, juvenile courts have handled steadily fewer cases. Declines were sustained and gradual throughout the next twenty years, with a steeper drop-off beginning in 2008. The juvenile court appears to have shrunk in magnitude, as current caseloads are lower than those of 1990. This sustained decline occurred even as the total juvenile population rose, suggesting that system involvement became a relatively less rare occurrence for youth in the late 2000s as compared to the late 1990s.

This downward trend in the number of cases going through the juvenile court possibly reflects the practical implications of system policy changes. At this time, there was overt questioning of the adequacy of the juvenile system in controlling youths' behavior, especially given unprecedented rises in juvenile firearm violence (Zimring, 1998). There was broad public support for the implementation of punitive policies in the juvenile court that restructured the system to appropriately punish and control these youths' heinous and dangerous behaviors, some of which restricted the court's jurisdiction by altering its age boundaries (Feld, 1999). It is also possible that fewer cases in the court simply reflects simultaneous declines in the juvenile arrest rate. There is general similarity between trends in the juvenile arrest rate (Figure 1) and juvenile court caseloads (Figure 4) across the past thirty years, where both witnessed increases followed by sustained declines. A smaller volume of cases could also reflect behavioral changes, where youth are less involved in delinquent behaviors.



**Figure 5: Intake Decisions in Juvenile Court**

Note: Caseload estimates are rounded to nearest 100: Source: Sickmund, M., Sladky, A., and Kang, W. (2018). Easy Access to Juvenile Court Statistics: 1985-2016 Online. Available: <https://www.ojjdp.gov/ojstatbb/ezaics/>

Total case volume provides a sense of juvenile court’s magnitude, but processing trends within the system provide insight into the nature of the juvenile justice process. The juvenile court’s adjudicatory process is similar to the criminal court, as both feature multiple stages to determine guilt and punishment. All referrals go through the intake process, where a youth may be petitioned for an adjudicatory hearing (e.g., indicted in criminal court) or non-petitioned for informal resolution.

Beginning in 1993, more than half of all cases processed in the juvenile court were petitioned (Figure 5). That is, of the total number of cases entering the juvenile system, more were selected for continued formal adjudication (about 52%) than dismissal (48%). It indicates that a larger proportion of cases were exposed to deeper system involvement and the potential of adjudication and disposition. In 2016, just over 56% of juvenile court cases were formally petitioned to the court. While these changes appear

small, these front-end processing decisions are important, as they carry a cumulative impact throughout the entirety of the adjudicatory process (Rodriguez, 2010).

Disposition data reveals the resolution type of all cases processed in the juvenile court (Figure 6). The most frequent resolution is probation or dismissal. Juvenile probation includes a relatively broad group of youth, including those receiving community supervision as a result of petitioned or non-petitioned cases – that is, formally adjudicated youth (e.g., guilty) and those given supervision at earlier processing stages. The next most common resolution is ‘other’, a category which includes a variety of miscellaneous case resolutions, including: fines, restitution, community service, and/or referral for external services. Placement and waiver to adult court are the two least common juvenile court dispositions.

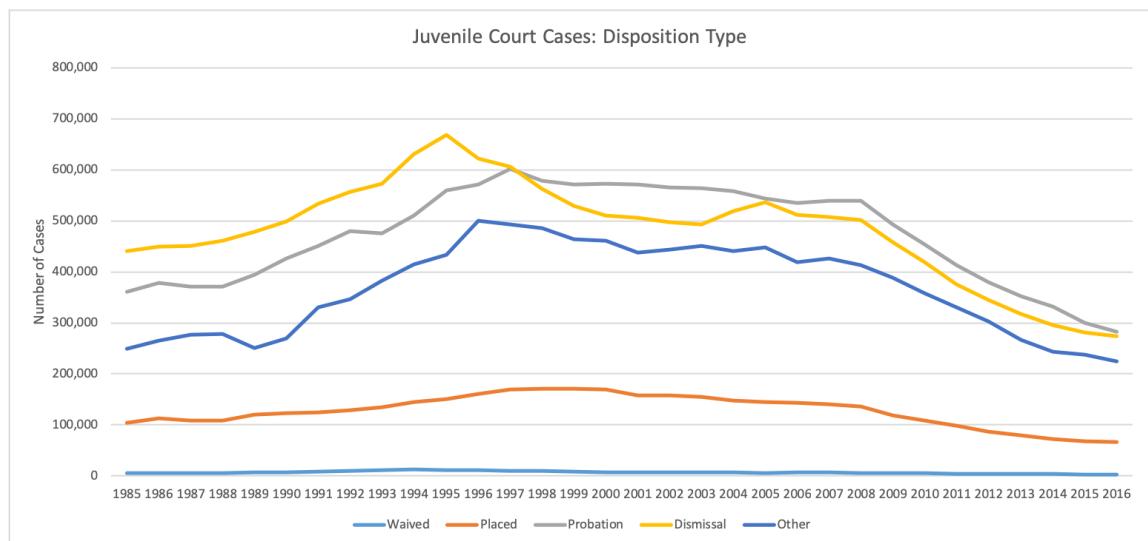


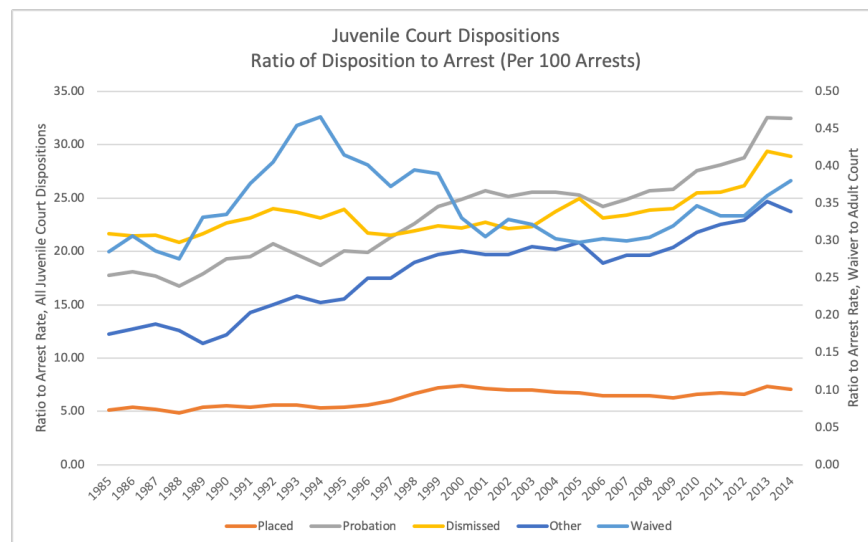
Figure 6: Juvenile Court Caseload Dispositions

Note: Caseload estimates are rounded to nearest 100: Source: Sickmund, M., Sladky, A., and Kang, W. (2018). Easy Access to Juvenile Court Statistics: 1985-2016 Online. Available: <https://www.ojdp.gov/ojstatbb/ezajcs/>

At face value, these data suggest that most cases in the juvenile court are resolved with non-custodial dispositions. They also seemingly indicate that probation impacts a relatively larger number of juveniles at the present, relative to thirty years ago. Yet, these

data count the number of cases handled in a specific way by the juvenile court, without accounting for underlying changes in the number of arrests and petitioned cases.

Following guidance from Phelps (2013), I calculated each disposition as a ratio to the arrest rate to ascertain changes in the commonality of case outcomes in conjunction with fluctuations in delinquency. This metric provides a sense of the changing frequency of dispositions that accounts for changes in the arrest rate, serving as a proxy for inputs into the juvenile justice system. It is imperfect, however, because an arrest and ensuring disposition do not necessarily occur in the same calendar year. Overall, according to the author, “it does provide a useful indicator of the overall current level of punishment, relative to the current level of crime” (Phelps, 2013: 63).



**Figure 7: Disposition to Arrest Ratios (per 100 Arrests)**

Note: Ratio calculation logic adopted from Phelps (2013). Caseload estimates are rounded to nearest 100: Source: Sickmund, M., Sladky, A., and Kang, W. (2018). Easy Access to Juvenile Court Statistics: 1985-2016 Online. Available: <https://www.ojjdp.gov/ojstatbb/ezajcs/>. Arrest estimates for 1980-2014 developed by the Bureau of Justice Statistics and disseminated through "Arrest Data Analysis Tool." Online. Available from the [BJS](#) website.

Using the total number of arrests as a baseline, Figure 7 displays the ratios of specific dispositions to juvenile arrests (all crimes, per 100 arrests) across years. The first



impression is that all types of disposition seem to be increasing relative to the delinquency rate, even as the delinquency rate sharply declined throughout the late 1990s to the present. This growth suggests that the juvenile court is handling cases more formally, net of changes in the amount of delinquency.

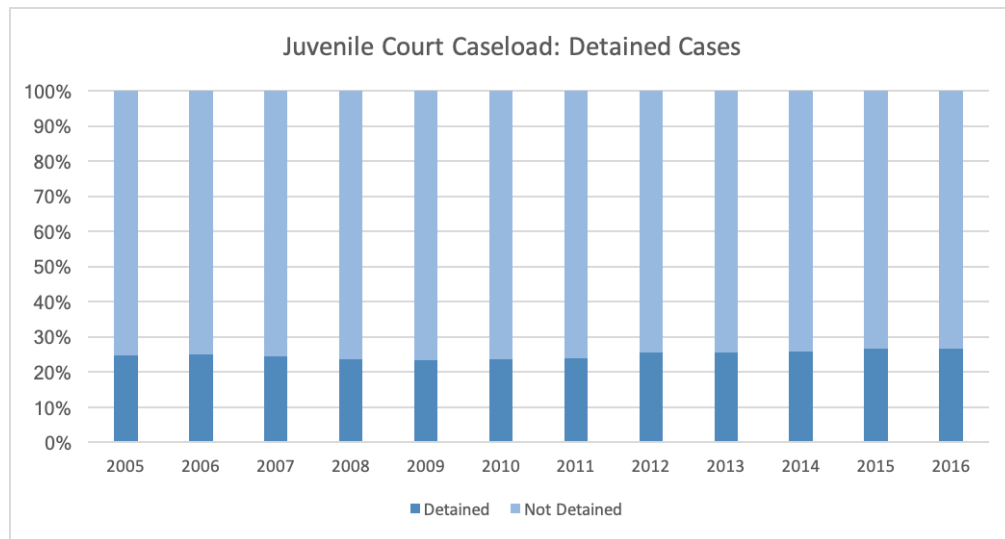
Even after accounting for the delinquency rate, more severe dispositions remain the least common outcomes in juvenile court. At its highest ratio (1994), a case was waived to adult court in just under one-half (.47) of every 100 arrests, impacting 1.4% of all formally petitioned juvenile cases. While the ratio of waived cases has increased since the mid-2000s, it still impacts a fraction of all juvenile arrests. According to these data, waiver is the rarest disposition administered by the juvenile court. Yet, waiver policies and consequences are frequent topics of scholarship (Bishop et al., 1996; Fagan, 1996; Johnson & Kurlychek, 2012; Kurlychek & Johnson, 2010; Loughran et al., 2010; Redding, 2003; Winner, Lanza-Kaduce, Bishop, & Frazier, 1997). While severe, there is a lot of attention to a policy that impacts a small portion of all youth in the juvenile court. All other dispositions from the juvenile court impact a much larger ratio of arrested youth, revealing other forms of juvenile justice contact that affect a larger number of system-involved youth.

At peak levels, 7.4 cases per 100 arrests resulted in placement (2000), a ratio approximately one-third of that of probation. While the relative ratio of placement dispositions increased, this growth was much smaller (+33%, from 4.9 in 1988) than that of non-custodial dispositions (e.g., +51%, probation). Placement became a more common outcome for juvenile court cases in light of changes in the delinquency rate, although it is far from the modal experience for court-involved youth.

Non-custodial dispositions remain the most common types of case resolutions. Net of changes in the arrest rate, the ratio of cases receiving probation exhibited the largest growth from its lowest levels of 16.8 per 100 arrests (1988) to its peak levels of 32.5 per 100 arrests (2013). ‘Other’ dispositions had the second most growth, from 12.7 per 100 arrests (1986) to 24.7 per 100 arrests (2013). While the ratio of cases resolved via dismissal also increased, its growth was smaller (+9 per 100) relative to growth in probation (+16 per 100) and ‘other’ (+13.3) dispositions. Taken together, the growth of non-custodial dispositions outpaced that of dismissals, suggesting more formality in juvenile court processing. It is also a potential indicator of net-widening, a mode of system expansion through which more cases are given some sort of disposition in lieu of dismissal. Here, the larger growth in supervision (probation) and other resolutions relative to dismissals suggests that these miscellaneous dispositions provided an avenue to keep more youth under the system’s supervision and decrease the number of outright dismissals.

As an important caveat, dispositions in the juvenile court are not perfectly analogous to sentences in the criminal court. The latter typically refers to post-conviction punishments, which may include community sentences, custodial incarceration in prisons or jails, and/or monetary sanctions. The juvenile court, however, can confer a disposition across multiple points in the justice process, prior to or entirely absent a formal adjudication (e.g., conviction) of delinquency. For example, youth may be petitioned to court but not adjudicated, and still receive a probation sentence as a precautionary measure. Dispositions are thus more indicative of how cases are resolved, rather than true punishments. The cases captured in these data constitute a relatively wider universe of

youth and experiences than referenced in analogous data in the criminal justice system, indicating the relatively broader authority possessed by juvenile court actors to intervene in youths' lives.



**Figure 8: Juvenile Detention**

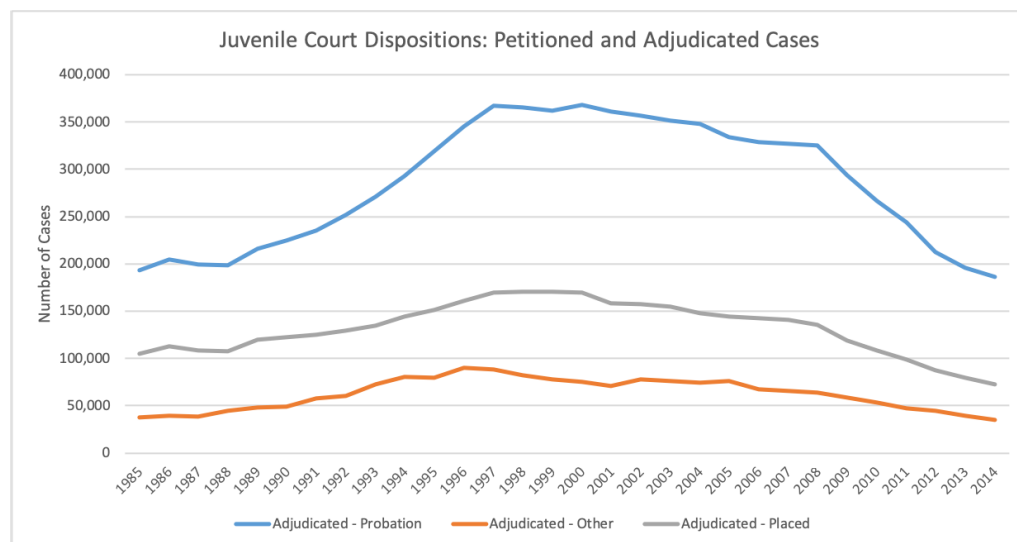
Note: Caseload estimates are rounded to nearest 100: Source: Sickmund, M., Sladky, A., and Kang, W. (2018). Easy Access to Juvenile Court Statistics: 1985-2016 Online. Available: <https://www.ojjdp.gov/ojstatbb/ezajcs/>

In the juvenile court, youth may be detained after referral but prior to their case's disposition. This form of secure custody is similar in purpose to jails for pretrial detention in the criminal justice system. Throughout the past thirty years, the proportion of cases entering the juvenile court and being detained has stayed about the same: about a quarter of all cases enter detention while awaiting adjudication (Figure 8). Despite overall changes in the number of cases in the court, a steady proportion are detained throughout court processing.

The next graph restricts attention to cases resulting in a formal adjudication of delinquency, conferred at the final stages of the juvenile justice process. This sample of cases most closely reflects sentencing decisions in the criminal justice system. Probation remains the most common disposition within this group (Figure 9). Its usage was

somewhat volatile over this thirty-year window, as it increased, plateaued, and gradually declined. However, probation maintained its position as the dominant outcome for adjudicated cases. At this stage, it is again apparent that non-carceral outcomes are the modal disposition for justice-involved youth.

‘Other’ dispositions comprise the smallest portion of dispositions among adjudicated cases. It is far less common at this final point in the adjudicatory process, relative to its commonality across total court caseloads (e.g., Figure 6). Secure placements fall in the middle, but are separated by a large gap from probation. The use of placement increased until the turn of the 21st century, but has since declined to levels beneath those observed in 1985. Overall, formally adjudicated cases are more likely to receive some sort of control or supervision, relative to alternate financial sanctions.



**Figure 9: Adjudicated Delinquent Case Dispositions**

Note: Caseload estimates are rounded to nearest 100: Source: Sickmund, M., Sladky, A., and Kang, W. (2018). Easy Access to Juvenile Court Statistics: 1985-2016 Online. Available: <https://www.ojjdp.gov/ojstatbb/ezajcs/>

### *Juvenile Placement Data*

Juvenile court data provide insight into how cases are processed through the system, but are not optimal for measuring punishment. Data sources on secure juvenile placement are vastly improved relative to caseload data. The Federal government has used a number of surveys to collect information on youth in secure care across the country. Over the past fifty years, the two main surveys are the Children in Custody (CIC) and Census of Juveniles in Residential Placement (CJRP). The CIC survey collected aggregate data on youth in public facilities from 1971 to 1997. It initially limited its sample to public facilities, but expanded to include private facilities in 1986. The CIC's response rate ranged from 95-100% of all juvenile facilities meeting inclusion criteria. The CJRP replaced the CIC in 1997, and is currently in use. It collects individual records on all juveniles in secure facilities across the country, both public and private. The CJRP's response rate ranges between 93% and 100% (1997-2010). These cross-survey differences preclude exact data comparisons throughout the 1970s to the present, but their basic structures have sufficient overlap to draw broad comparisons across sources.

The total number of youth in secure facilities gradually increased from about 1979 to the mid-1990s (Figure 10). It declined after, such that current facility populations are lower than those of 1975. Although data are not directly comparable, juvenile population counts indicate an increased use of secure placement for juveniles occurring around the same time as the rise in mass incarceration of adults in the criminal justice system. Both experienced sustained increases in custodial populations followed by somewhat sharp declines. However, the juvenile data reflect a broader population of individuals held in

facilities. Specifically, these counts capture individuals held because of an adjudication of delinquency, a status offense, detention awaiting adjudication, and other purposes as deemed necessary by the court.

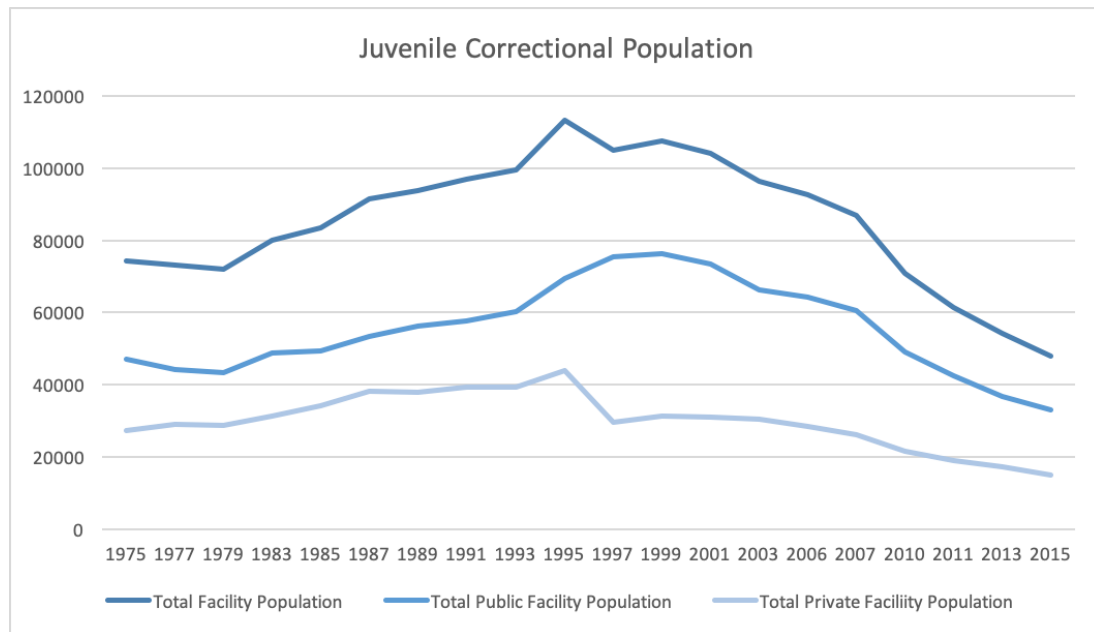


Figure 10: Population of Juveniles in Secure Placement, by Facility Type

Sources: Bureau of Justice Statistics. (1989). *Children in Custody, 1975-85* (NCJ-114065). Washington, D.C.: U.S. Government Printing Office; United States Department of Justice. Office of Justice Programs. Office of Juvenile Justice and Delinquency Prevention. Census of Public and Private Juvenile Detention, Correctional, and Shelter Facilities, 1975, 1977, 1979, 1980-1981, 1982-1983, 1984-1985, 1990-1991, 1192-1993, 1994-1995: [United States]. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2011-01-21. <https://doi.org/10.3886/ICPSR24260.v2>; Sickmund, M., Sladky, T.J., Kang, W., & Puzzanchera, C. (2017). Easy Access to the Census of Juveniles in Residential Placement." Available: <http://www.ojjdp.gov/ojstatbb/ezacjrp/>

Across this forty-year window, the majority of youth were held in publicly-run facilities (state or local government). Growth in public facility population counts continued until about 2000, even in light of overall population declines. Populations of youth held in privately-run facilities followed the same general pattern as the entire correctional population, but at a much smaller scale. The gaps in population size between public and private facility populations were especially pronounced from the late 1990s to the late 2000s. Overall, however, private facilities are more commonly used in the

juvenile system. 30-40% of all juveniles are placed in private facilities, whereas 7.6% of persons incarcerated at the State level and 13.2% incarcerated at the Federal level are held in private facilities (Kaeble & Cowhig, 2018). Thus, supervision by private providers is far more frequent in the juvenile system.

These counts provide descriptive trends of the use of secure placement for juveniles, but do not account for underlying population changes across society. Focusing just on CJRP data, the total ‘incarceration’ rate of juveniles has steadily declined since reaching peak levels of 356 youth per 100,000 in 1997 (Figure 11). Currently, this combined rate – which includes youth in custody for detention, secure placement, and diversion – is at about 152 per 100,000 youth. Although about a quarter of cases in the juvenile court are detained at any point, the rate of detention declined from about 95 youth per 100,000 (1997) to roughly 50 youth per 100,000 (2015). Approximately half of these youth were detained awaiting adjudicatory hearings, the equivalent of pre-trial detention. This group is significant, as juveniles do not have the right to bail. After peaking at about 256 (1999), the rate of secure placement precipitously declined to 100 youth per 100,000 (2015). This sharp reduction is much steeper than that of detention, and drives overall declines in the juvenile confinement rate.

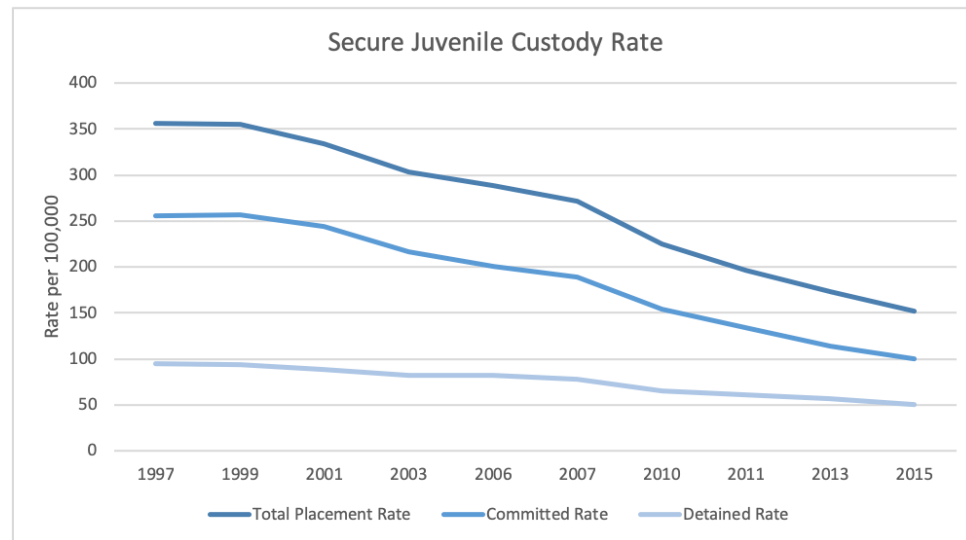


Figure 11: Juvenile Confinement Rate (1997-2015)

Source: Sickmund, M., Sladky, T.J., Kang, W., & Puzzanchera, C. (2017). Easy Access to the Census of Juveniles in Residential Placement." Available: <http://www.ojjdp.gov/ojstatbb/ezacjrp/>"

The population captured in this juvenile confinement rate is not identical to that captured in the adult incarceration rate, as the purpose and use of secure custody varies between the juvenile and criminal justice systems. Youth may be detained or placed for delinquent behaviors, status offenses, or if in some personal danger in their current living arrangement. The criteria for secure confinement of adults is more restrictive. Typically, an adult goes to jail for pre-trial detention or to serve a short sentence (in most states, less than one year), and goes to prison to serve a lengthier sentence post-conviction. Confinement data thus capture a relatively broader population of youth, reflecting differences in formal social control across systems in the secure custody of system-involved persons.

In comparison to the criminal justice system, peak usage of juvenile placement and detention were much smaller than peak usage of incarceration. Juvenile placement also reached its highest rate (1997) ten years prior to when adult incarceration reached its highest rate (2007; Carson, 2018). While rates declined in both systems following their



peaks, the decreases were much larger in the juvenile justice system. The population of youth in secure confinement at its lowest observed level (in 2015) is 45% of its maximum level in 1999, signaling a 55% decline in just 16 years. For reference, the incarcerated population in the criminal justice system has decreased by approximately 10% from 2007 to the present (Kaeble & Cowhig, 2018). Juvenile confinement is relatively more volatile than adult incarceration. However, both systems are similar in that declines in both are largely driven by changes in prison or placement populations, while detained or jailed populations remained relatively the same (jail) or exhibited smaller declines (detention).

While the rate of juvenile confinement has declined, its ratio relative to the number of arrests remains somewhat elevated – the declines are less pronounced in these ratios than rates. While these data come from different sources and are not directly comparable, this disjuncture suggests that an increasing proportion of cases result in secure confinement but its overall usage has declined. Despite processing fewer cases, the juvenile court appears to respond more punitively through an elevated ratio of placements to arrests masked by rates calculated across the entire juvenile population.

### **Discussion**

Overall, a convergence of data sources indicates that the juvenile justice system experienced a period of increasing size followed by decreasing scope. This expansion and contraction is apparent in rates of juvenile arrest, numbers of cases in juvenile court, and rates of youth in secure placement facilities. Currently, the juvenile system operates at a much smaller magnitude relative to operational levels twenty years ago.

Juvenile court case processing data reveal that harsh dispositions – that is, waiver to adult court and secure placement – are relatively rare in the system. At its highest

usage, one half of every juvenile arrest resulted in a transfer to adult court. Arguably, there has been a disparate amount of policy and empirical attention to this infrequent outcome for justice-involved youth. Placement of juveniles, while still rare, has occupied a progressively larger ratio of all juvenile arrests. Although its overall rate has declined (Figure 11), ratios suggest that this decrease is smaller than that of overall caseloads in the juvenile court. Consequently, a larger share of justice-involved youth are subject to this formal punishment, even though rates appear to be declining when calculated with general population data.

The majority of youth entering the juvenile court receive far less severe dispositions. Ratios of juvenile court dispositions to the delinquency rate indicate relatively steep growth in alternative, non-custodial sanctions, such as fines, fees, and community supervision. While the ratio of dismissals to delinquency has simultaneously increased, its growth has been much smaller than that of alternate sanctions. A relatively smaller portion of cases receives informal treatment at the front end of the system and throughout the adjudicatory process. The increasing use of community supervision and alternate sanctions suggests that the system has become more inclined towards net-widening.

The nature of secure punishment is different in the juvenile justice system than in the criminal justice system. For youth, the use of placement has exhibited more volatility during the same time span in which the adult incarceration rate persistently increased. Juvenile placement has also sharply declined since the late 1990s, while adult imprisonment has stabilized and slightly decreased in the same time frame. The magnitude of change within juvenile custodial populations far exceeds that within the

criminal justice system. In addition, youth in the juvenile system are more likely to be placed in privately operated facilities, relative to the criminal justice system.

### **Limitations**

There are several limitations in using administrative data to estimate changes in juvenile justice processing at the national level. With respect to juvenile delinquency rates, “official data to track or monitor crimes committed by juveniles and the justice system responses to juvenile offenders are clearly inadequate. They provide, at best, only a crude measure of perpetrators estimated by victims to be under 18 or of the number of arrests for the various crimes of juveniles under 18” (National Research Council, 2001: 62). These official data are subject to an unmeasurable amount of imprecision associated with inaccurate reporting and varying age boundaries, and should be interpreted with such limitations in mind.

Court processing data are especially impacted by variation in juvenile court structures across the country. Each jurisdiction is subject to dissimilarities in defined court boundaries, terminology, and processes. For example, Pennsylvania’s juvenile justice statute allows for consent decrees – a conditional petition dismissal pending no infractions for a specified time period. In other jurisdictions, such programs may be recorded in official data as a diversion or a dismissal. This one scenario illustrates how the fragmentation of juvenile justice across the country can create confusion and imprecision when collapsing practice across jurisdictions.

Available data on court processing metrics are not comprehensive. This information is obtained from a convenience sample of juvenile courts across the country, with varying participation across reporting years. Consequently, there is significant

ambiguity in the juvenile population served by participating jurisdictions, making it impossible to calculate caseload processing rates across the entire period of data availability. Nationwide participation is important for understanding broad trends in the juvenile system, especially because the system's structure grants system actors more interventional leverage into youths' lives. Absent the possibility of national reporting, a probability sampling of juvenile courts across the country may be a more plausible design to improve knowledge on system functioning in practice.

Results here are purely descriptive and subject to an unknown amount of error. All data sources align in describing increases, followed by decreases, in the magnitude of the juvenile justice system. Yet, the exact size of these shifts in the courts may be affected by the jurisdictions omitted from the sample. Juvenile courts tend to vary in formality and punitiveness across place (Feld, 1991). If the sample does not include data from a city or county with an especially large juvenile justice system, caseload data are subject to undercounting the system's true size and degree of formality.

### **Conclusion**

Administrative data provide several insights into juvenile justice functioning throughout the last thirty years. Unlike the criminal justice system, the juvenile justice system did not experience a phenomena of mass incarceration. The rate of secure placement declined precipitously after peaking in 1997, exhibiting more volatility during a period of sustained increases in adult incarceration. Trends suggest that non-custodial juvenile court dispositions, such as community supervision and fines, have become more prevalent throughout the past thirty years. These increases occurred despite overall declines in the amount of delinquency and number of juvenile court cases and outpaced

growth in case dismissals. Much research focuses on two of the more severe juvenile court dispositions: secure placement and waiver to adult court. Yet, patterns in administrative data indicate the persistence of non-custodial forms of contact as far more common. A focus on extreme forms of system involvement affords less attention to more frequent experiences within in the system that may also be consequential for youths' lives, such as probation. It is important to continue to identify how the juvenile court has increased its amount of supervision and control over the lives of youth, and the social consequences of this net expansion.

### **Chapter 3: Social Disadvantage in the Juvenile Justice System**

Beginning in the 1960s, a number of implemented policy reforms adopted punitive approaches to governance and grew the American imprisonment rate to an unprecedented level (Garland, 2001). Stratification research identifies numerous ways that the criminal justice system reflects, reproduces, and possibly generates social disadvantage. Because the likelihood of criminal justice contact and punishment is so disproportionately distributed across the population, it bears consequences for social inequality at the societal level (Wakefield & Uggen, 2010). Going to prison has become closely connected to social class membership, such that those most likely to be arrested or imprisoned tend to be impoverished young men of color with low educational attainment (Pettit & Western 2004; Western, 2006).

Contemporaneous policy changes in the juvenile justice system similarly shifted system practice system towards a punitive approach. The juvenile justice process started to more closely approximate the criminal justice process, as its procedures increased in formality and punitiveness in their treatment of youth (Feld, 1999). Policies altered the juvenile system's jurisdiction by changing its boundaries: many states passed legislation that expanded opportunities for waiver to adult court or lowered the juvenile court's maximum age limit (Fagan, 2008). As the criminal justice system witnessed massive growth in incarceration, the juvenile justice system implemented formal proceedings while restricting the population of system-eligible youth. These changes together constitute a relatively sharp departure from its historical practices and philosophies ostensibly rooted in the rehabilitative ideal.

However, little available research examines how these institutional changes altered propensities to involve more or less disadvantaged youth in the juvenile system. Selection processes into the juvenile justice system are important to understand, as juvenile contacts can have numerous social consequences, including an increased risk of later criminal justice contact (Gatti, Tremblay, & Vittaro, 2009) or initiated stratification before adulthood (Kirk & Sampson, 2013). To the extent that the juvenile system disproportionately contacts youth with pre-existing disadvantages, it can impact the circumstances of an already marginalized group. Yet, much remains to be learned regarding youths' likelihood of system contact.

This second empirical chapter identifies the relationship between youths' levels of social disadvantage and later juvenile system involvement. This research is contextualized by a rich historical and empirical base of scholarship that examines the origins of the juvenile justice in conjunction with socially marginalized youth (Chapter 1). To estimate these associations, the analysis uses two large-scale survey datasets and several regression specifications. The first set of models determine the baseline predicted probability of general juvenile justice system involvement, contingent upon a variety of background covariates. Next, processing models ascertain which background characteristics of youth, if any, influence deeper system involvement. In both groups of models, decompositional analyses reveal the ability of included covariates to explain observed group differences (e.g., race, gender, and class) in the likelihood of juvenile justice involvement.

Findings reveal a number of factors that influence a youth's involvement with the juvenile justice system. While gender exerts a consistent influence, other social

demographic measures of importance to the history of juvenile justice (e.g., race and status) have an inconsistent impact on youths' likelihood of system contact. There is a link between school discipline and the juvenile justice system, such that youth with prior suspensions persistently face an increased likelihood of juvenile system contact. Alluding to the source of system disparities, distilling group differences indicates fundamental racial, gendered, and class-based differences in pathways to the juvenile system that are not fully explained by included covariates. Across cohorts, the predictors of juvenile system involvement remained largely similar, suggesting the system has not noticeably changed in its propensity involve certain youth as it became more punitive.

### **Research Questions Contributions**

Three research questions guide this analysis: (1) what is the level of pre-existing social disadvantage among youth who are later enmeshed in the juvenile justice system?; (2) are youth of different social and demographic backgrounds processed differently in the juvenile justice system?; (3) is there evidence that social backgrounds are differently related to juvenile justice processing across a twenty-year span during which juvenile policy became more punitive? Results make four contributions to existing scholarship.

First, much of the literature seems to incorrectly measure disparities in the juvenile justice system along the lines of race, gender, and class, as existing evidence tends to be derived from significant regression coefficients (e.g., Armstrong & Rodriguez, 2005; Claus, Vidal, & Harmon, 2018; Cochran & Mears, 2015; Crutchfield et al., 2009; Leiber, 2013; Leiber, Peck, & Beaudry-Cyr, 2016; Moore & Padavic, 2010). A limited number of studies extend beyond this approach by using qualitative data to explain processes of observed disparities (Gaarder et al., 2004; Harris, 2009; Rodriguez



et al., 2009). Statistically significant coefficients can signal disparities or biases in the justice system, if covariate adjustment adequately balances pre-existing differences across groups. This presumption and threshold are difficult to meet in many applications, especially those involving race and ethnicity (e.g., Bishop, 2005; Kempf-Leonard, 2007). In practice, coefficients may capture the influence of race (or any other covariate) and omitted variables absent sufficient controls to isolate the regressor's impact. However, the influence of these persisting group differences on selection processes into the juvenile system is a theoretically relevant contribution, given critical perspectives on the juvenile system as a vehicle to perpetuate race, class, and gender disparities (Platt, 1977; Shelden & Osborne, 1989; Ward, 2012). After estimating more traditional regression models, the analysis employs decomposition models to evaluate the performance of included regressors and excluded factors in explaining youths' pathways to juvenile system involvement. Significant and unexplained differences across groups would support propositions of the juvenile system's embedded disparity, while significant and explained differences across groups would signal large dissimilarities across included covariates.

Second, an abundance of existing work focuses on disparities at a single stage of the juvenile justice process (Andersen, 2015; Engen et al., 2002; Ericson & Eckberg, 2016; Espinosa & Sorensen, 2016; Fader et al., 2014; Freiburger & Burke, 2011; Guevara, Herz, & Spohn, 2006). Studies less frequently consider how racial/ethnic and gender differences unfold across the entirety of the juvenile justice process (e.g., Fagan, Slaughter, & Hartson, 1987; Gann, 2018; Leiber, Peck, & Rodriguez, 2016; Rodriguez, 2010). There is ample evidence that these disparities are systemic (Hockenberry & Puzzanchera, 2018; Puzzanchera & Ehrmann, 2018). Consequently, an isolated focus to

certain system points (e.g., intake or adjudication) may overlook sources of disparity across the justice process. Assessing multiple levels of juvenile system contact can reveal how race, class, and gender impact decision-making from arrest to disposition (Engen et al., 2002). Results here reveal differences in the relative importance of demographic factors as youth progress through the juvenile system.

Third, this study uses survey data to study differences in juvenile justice processing. Most existing studies use administrative data drawn from official court records, which provide more accurate and comprehensive measures of system contact histories and allow for more extensive exploration (or control) of the role of legal factors. However, these administrative records often lack information on individuals' backgrounds outside of basic sociodemographic data and often come from a single jurisdiction (e.g., Armstrong & Rodriguez, 2005; Evangelist et al., 2017; Harris, 2009; Higgins, Ricketts, Griffith, & Jirard, 2013; Leiber & Fox, 2005; Rodriguez, 2007). Despite its prevalence in studies of criminal justice contact and incarceration, survey data is less frequently used to study juvenile justice contact (but see Andersen, 2015; Andersen & Ouellette, 2019; Crutchfield et al., 2009). This analysis examines how youths' social backgrounds impact their likelihood of juvenile system contact by using survey data that features larger, nationally-drawn samples and richer social background information, such as ascribed status and school disciplinary history.

Fourth and finally, scholarship does not often consider how the changing dynamics of juvenile justice throughout the 1980s and 1990s may have affected the population of youth involved with the system (but see Stevens & Morash, 2015). There is widespread acknowledgement that punitive policy changes impacted the character of

juvenile justice (National Research Council, 2001), but research less often considers how these changes impacted the practice of juvenile justice. Longitudinal research on the criminal justice system, motivated by the implementation of similar punitive policies, reveals the system's role in reflecting and reproducing social inequality via the management of marginalized persons (e.g., Gottschalk, 2015; Wacquant, 2001). The juvenile system may have similarly increased its propensity to control disadvantaged youth throughout this policy period, but relatively little research adopts a comparative or longitudinal view to assess these changing dynamics. Motivated by the concept of history and lives in context (e.g., Elder, 1998), the analysis descriptively assesses changes in selection processes into juvenile system contact by comparing results across two cohorts of youth – one which contacted the juvenile system in the 1980s, and one which contacted the juvenile system at the turn of the century. Points of convergence or disjuncture may suggest how disadvantage improves or worsens youths' experiences as the juvenile system became more punitive.

### **Analytic Plan and Methods**

This analysis describes how social disadvantage is related to juvenile justice involvement prior to any criminal justice contact in adulthood. Each analytical section begins with an estimation of baseline models to establish associations between juvenile contact and included covariates within cohorts. The decomposition of group differences further interrogates these baseline relationships, revealing the performance of included covariates and unmeasured factors in explaining youths' juvenile justice involvement. Descriptive comparisons of cohort-specific models allude to changing dynamics across somewhat distinct policy contexts.

The first analytic section identifies the correlates of general juvenile contact within each cohort. Multivariable logistic regression models estimate cohort-specific predicted probabilities of juvenile justice involvement, contingent on included background covariates. These baseline associations are further explored in three ways. First, models are re-estimated using an interaction term that captures the intersecting influence of social demographics (e.g., race/ethnicity and gender) on juvenile justice contact. When possible, models use prospective measures of juvenile justice contact by restricting attention to youth with first-time system involvement after the first survey wave. This strategy uses improved ordering of covariates and ‘treatment’ experiences, as prior research indicates complicated relationships between juvenile system contact and social disadvantage (e.g., Sweeten, 2006; van der Geest, Bijleveld, et. al., 2016). Finally, decompositional models determine the sources of group differences in the correlates of juvenile justice contact. The comparison of results from all specifications in this section descriptively indicates changes in the relative impact of youths’ backgrounds on the juvenile justice process across policy contexts.

The second analytic portion examines the influence of social background factors throughout the juvenile justice process. This section limits attention to youth with any prospective juvenile court contact in the NLSY97 cohort. It capitalizes on this survey’s repeated measures of justice involvement across waves to obtain a large estimation sample and create more plausible comparison groups. These models estimate differences in youths’ depth of system involvement, ranging in severity from being charged to being placed in a secure facility. After estimating baseline logistic regression models,

decompositional analyses evaluate included covariates' ability to explaining group-level differences in system processing.

This research design adopts a slightly different approach to studying disparities in the juvenile justice system. Typical methodologies employ ordinary least squares or logistic regression to identify differences in the likelihood of justice involvement. There are inherent flaws in determining race or gender biases through significant regression coefficients of group membership indicators (e.g., Gann, 2018). In their study of racial differences in sentence lengths, Sorensen and colleagues (2012) point out that such conclusions are implausible in most scenarios where "the average case characteristics differ substantially across race since the coefficient on the dummy variable measures differences in sentence lengths of individuals with the same average characteristics but of different race" (257). Effectively, covariate adjustment is often inadequate for creating the necessary group-level equality in case characteristics and social backgrounds to determine disparities.

Decompositional regression models are an alternative, but infrequently used, approach to identifying differences in system involvement and processing. These models were developed in literatures studying wage discrimination (Blinder, 1973; Oaxaca, 1973). They are of great theoretical utility to many enduring research questions in criminology, but their use is limited to studies of system processing and sentencing, especially following a policy's implementation (Sorenson, Sarnikar, & Oaxaca, 2012; Starr & Rehavi, 2012; MacDonald et al., 2014; Donnelly, 2018). The main contribution of these models is their ability to parse out observed group differences into those attributable to explained (e.g., included covariates) and unexplained (e.g., omitted

variable bias) sources. Least-squares regression can conflate these sources absent adequate measurement of all relevant explanations.

These models extend the present analysis beyond a mere identification of group differences by parsing out the *source* of these differences. In this application, they reveal the relative influence of included and omitted variables in driving race, class, and gender group differences in individuals' likelihood and level of juvenile system involvement. Decompositional models are thus better suited to attributing observed differences in system treatment to individuals' pre-existing differences or systemic biases than significant regression coefficients, providing more insight into differential selection processes into and through the juvenile system across groups.

### **Data**

This chapter uses data from two National Longitudinal Survey of Youth (NLSY) cohorts: the NLSY79 and the NLSY97. The choice of data is strategic and serves several purposes. As stated, the preponderance of existing studies utilizes administrative data records to study inequality in juvenile justice processing. Relative to surveys, administrative records are less prone to recall errors and consequently, more likely to precisely measure individual histories of justice involvement. Survey data is more prone to measurement error to the extent that respondents incorrectly remember their level of involvement with the justice system. However, this weakness comes at a tradeoff for a relative wealth of individuals' background information, describing a more comprehensive portrait of the youths' social life prior to system contact typically unavailable in administrative data. Further, NLSY cohorts are drawn from national household samples, capturing youths' experiences with juvenile systems across the country. Many analyses of

administrative data draw on a single or handful of jurisdictions, potentially capturing idiosyncrasies of local context in juvenile court processing. Although an interesting research question for other applications, results here are less likely to be impacted by these factors. Together, there several reasons that the use of survey responses may provide a different perspective on the correlates of system involvement and processing than much existing scholarship.

In addition, each NLSY cohort interacts with the juvenile justice system within a different policy context. NLSY79 youth interacted with the system during the early 1980s, a time during which juvenile arrests and public fear of juvenile violence increased, but levels of punishment remained low. NLSY97 youth interacted with the juvenile system while it operated at peak levels of arrest and placement, but also took policy action to combat disproportionate minority contact (Kempf-Leonard, 2007). Cohort-specific models thus capture youths' interactions with different contexts of the administration of juvenile justice. Despite differing age profiles, both surveys contain comparable measures of self-reported justice system involvement, delinquent behaviors, and other import covariates, including educational histories, family processes, and contextual variables. Alignment or convergence of results across cohorts will shed light on how changing system views impacted youths' juvenile justice entry and processing.

### Measures

#### *Dependent Variables: Juvenile Justice System Involvement*

Respondents' self-reported contacts with the justice system are the primary measures of system involvement. Youth in both NLSY surveys respond to a battery of questions regarding lawbreaking behavior and justice system involvement since the last interview

(typically, one year). Because many of these survey items fail to draw distinctions across systems, I delineate responses using several criteria to identify those occurring within the juvenile justice system, including triangulating reference windows, birthdays, and event dates. This dissertation uses 18 as the age of criminal responsibility. States vary in the upper level of the juvenile justice system's age jurisdiction, and this boundary has changed over the past thirty years. Because it is (and has been) the most common age boundary across states (Zang, 2017), age eighteen is used to distinguish the juvenile and criminal justice systems. Justice system contacts are coded within the juvenile system if they are reported during survey waves when the respondent was 17 or younger at the time of interview or during the reference period. Supplementary distinctions pull from survey questions that reference specific-system language, such as being adjudicated/convicted in juvenile court or going to a training school or juvenile facility.

Table 1: Measures of Justice System Contact in the NLSYs

<b>Contact Stage</b>	<b>NLSY79</b>	<b>NLSY97</b>
Police Stop	Yes	No
Arrest	No	Yes
Charging	Yes	Yes
Adjudicated (Convicted)	Yes	Yes
Probation/Community Service	Yes	Yes
Placement (Incarceration)	Yes	Yes

Variable coding indicates both general incidence of contact and specific stages (levels) of involvement (Table 1). System contact is considered across a continuum of severity, spanning an informal police stop to secure confinement. Included measures are nearly the same across surveys, with one exception. NLSY79 respondents are not asked about arrest histories, which will slightly undercount the number of formal system



contacts. NLSY97 respondents are not asked about police stops, an omission that will undercount the number of informal system contacts preceding arrest.

The analyses here focus on processing stages that confer a status or signal continued processing: those that initiate contact or proceedings (police stop, arrest, or charging), issue a new status (adjudication), or confer punishment (probation or secure placement). Using punishment as a singular metric of justice system involvement will obscure important contemporaneous changes in the system's magnitude outside of prisons, as highlighted in Chapter 2 and other empirical analyses (Kohler-Hausmann, 2018; Phelps, 2017). The examination of non-carceral justice contacts are especially important for juveniles, as juvenile probation has been described as the "workhorse" of the juvenile justice system (Torbet, 1997).

#### *Dependent Variables – Predictors of Juvenile Justice Contact*

Drawing on prior research, I use variables from several domains of social life to characterize the relationship between youths' social backgrounds and juvenile justice involvement. All included measures are drawn from respondents' initial questioning about each topic, occurring at the baseline or second interview.

Youths' *race and ethnicity* is captured using three categories: white, black, and Hispanic/other. *Male* is dummy-coded, equaling one if a youth is a boy and zero if a girl. *Age* at time of first interview is included in linear and quadratic form. *Delinquent behavior* is computed as a variety score that captures the incidence of several illegal behaviors. In the NLSY97, this scale (0-6) includes destruction of property, petty theft, grand theft, other property offenses, attacking someone, and selling drugs. In the NLSY79, the scale (0-8) includes fighting, shoplifting, theft, attacking someone, selling

drugs (marijuana or hard drugs), breaking and entering, and selling stolen goods.

Delinquency scales not only control for legal factors in the juvenile justice process, but also control for behavioral-based disadvantages, as they have been linked to educational failure independent of institutional involvement (Ward & Williams, 2015).

I also include controls for health, as youth in the juvenile system disproportionately suffer from health and physical disabilities (Morris & Morris, 2006; Quinn et al., 2005). NLSY79 youth self-report on *health limitations* that inhibit the amount or kind of work they can perform. Parents of NLSY97 youth report on their children's *health limitations* that hinder the child's ability to regularly attend school, do schoolwork, or work for pay. Youths' histories with harsh school discipline are measured through *suspension*, a dummy measure that indicates youth who have ever been suspended from school (any grade, any duration). It is a persistent predictor of low educational attainment, dropout, and arrest (Mittleman, 2018; Noltemeyer, Ward, et. al., 2015), effectively serving as a precursor to well-established links between schooling attainment and criminal system involvement (e.g., Western, 2006).

Socioeconomic status measures include whether a youth lives in *poverty*, as assessed by his/her family's income falling at or below the poverty line. *Worked* indicates if a youth reported working for at least one week within the past year. With respect to family backgrounds, both mother and father's education levels (*Mom/Dad's Highest Grade Completed*) are included as a proxy measure to social class membership. An additional control captures *family size* through the number of co-residents under 18 living in the youth's household. Finally, contextual variables control for structural context of the youths' residence and juvenile court's locale. *Urban* indicates that a youth lives in an

urbanized context, relative to a rural area. A dummy variable captures region of residence (*South*) relative to all other locales.

## Results

Table 2: Juvenile Justice Involvement and Social Disadvantage Across Cohorts

	NLSY79	NLSY97
<u>Juvenile System Magnitude</u>		
Any Juvenile Justice Contact	16.4% (N=2,083)	20.40% (N=1,832)
Police Stop (79) /Arrest (97)	12.9% (N=1,565)	17.70% (N=1,589)
Charged	6.0% (N=721)	15.0% (N=1,344)
Adjudicated (Convicted)	3.2% (N=387)	9.9% (N=891)
Probation	1.4% (N=175)	5.2% (N=467)
Placement (Incarcerated)	1.3% (N=158)	4.4% (N=395)
<u>Social Disadvantage (Wave 1)</u>		
Mother's Education (Grade Level)	11.87	12.5
Father's Education (Grade Level)	11.95	12.7
In Poverty	25%	17%
On Welfare	4%	2%
Income, Household Average	\$34,453.61*	\$46,361.70
Resides in Urban Context	78%	73%

\* = inflation-adjusted for December 1996 levels. Proportions of juvenile justice involvement capture youth with a specific type of level of contact, relative to all other sample youth. They are not mutually exclusive measures. Proportions are calculated using sample weights.

Beginning descriptively, there is a non-trivial amount of juvenile justice contact in both NLSY cohorts (Table 2). About 16-20% of each sample reports system involvement at any level. Earlier stages of contact are more common than later stages of contact. In general, all forms of system involvement are more common in the NLSY97 sample. These descriptive patterns broadly corroborate results estimated using official data (Chapter 2), as these youths interacted with the juvenile system at its peak magnitude. The bottom panel of Table 2 contextualizes the relative advantage levels of each NLSY cohort. By all metrics, youth and families in the NLSY97 cohort are more advantaged than those in the NLSY79. Yet, the prevalence of juvenile justice involvement is much smaller in the more disadvantaged cohort – the NLSY79. This pattern preliminarily suggests changing magnitude and selectivity of the juvenile justice system across cohorts.

Looking at racial differences in juvenile system involvement, youth of color are more highly represented in system-involved populations in the NLSY97, relative to the NLSY79 (Figure 12). While white youth still comprised the largest group involved with the system in both cohorts, a larger portion of justice-involved youth were black or Hispanic in the NLSY97 cohort. These increases occurred after the widespread implementation of funding initiatives to combat overrepresentation of youth of color in the juvenile justice system (Kempf-Leonard, 2007).

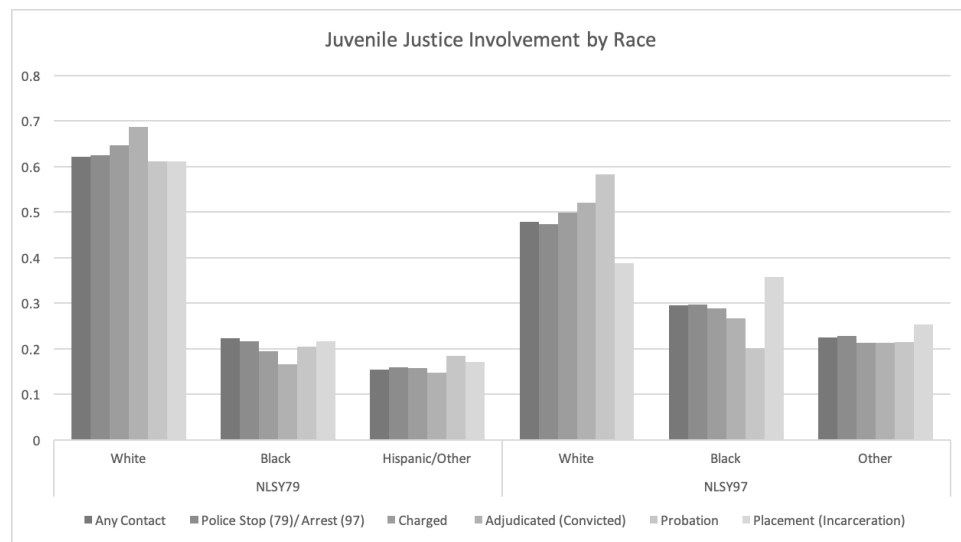


Figure 12: Juvenile Justice System Involvement Across NLSY Youth, by Race

Across stages, there is some preliminary evidence of racial disparities in system processing that negatively impact black and Hispanic NLSY97 youth. For example, black youth in the NLSY97 make up a fairly small portion of all youth on probation, while they comprise a relatively larger portion of all youth in placement. Considering probation as relatively lenient, this pattern preliminarily suggests that black youth face harsher treatment in the NLSY97 cohort. Differences across system stages are less apparent for NLSY79 youth.

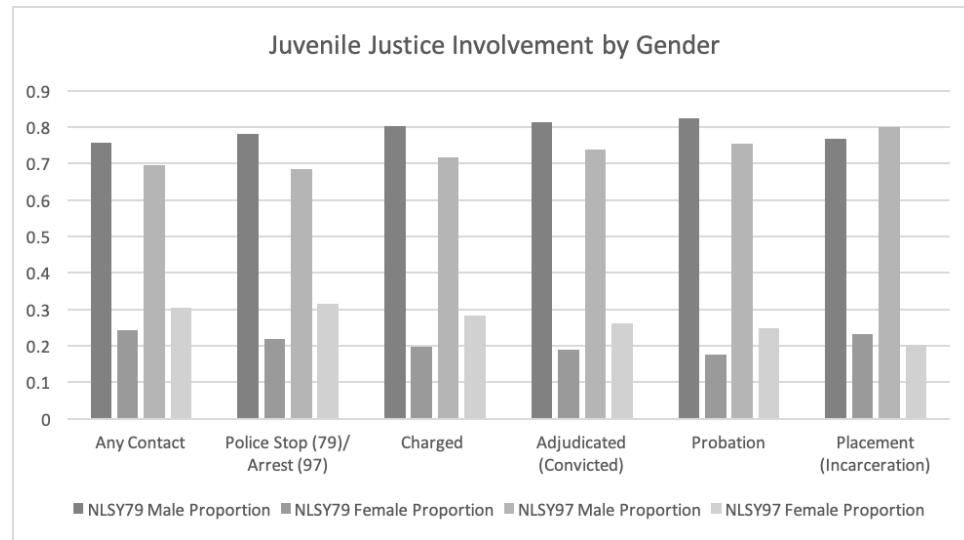


Figure 13: Juvenile Justice System Involvement Across NLSY Youth, by Gender

Turning to gender, the vast majority of youth in the juvenile justice system at any level are male (Figure 13). Girls make up a larger proportion of all justice-involved youth in the in the NLSY97, reflecting reductions in the gender gap in system contact emergent in the late 1990s (e.g., Snyder & Sickmund, 1999). The gender gaps appear smaller at each stage for NLSY97 youth, relative to NLSY79 youth. While this closure suggests decreasing processing disparity, the gaps remain quite large. In addition, there is no immediately discernable evidence of girls receiving different treatment than boys – for example, an increased representation in probation relative to other system points.

#### *Results – Predicted Probabilities of Juvenile Justice Involvement*

These apparent differences in involvement across race and gender are purely descriptive. This first analytic section estimates youths’ predicted probabilities of general juvenile justice involvement, contingent on included social background covariates. Descriptive statistics of regressors (Table 3) indicate that youth, on average, have engaged in at least one delinquent behavior. About a quarter of youth in each cohort have been suspended from school.

Table 3: Descriptive Statistics of Covariates

	<b>NLSY79</b>	<b>NLSY97</b>
Male	.50 (.50)	.51 (.50)
White	.59	.52
Black	.25	.26
Hispanic	.16	.22
Poverty	.25 (.43)	.17 (.38)
Age	17.90 (2.31)	14.35 (1.49)
Delinquency	.94 (1.40) (Range 0-8)	1.00 (1.36) (Range 0-6)
Ever Suspended	.25 (.43)	.29 (.46)
Health Limitations	.05 (.22)	.07 (.26)
Intelligence	4.91 (28.82) (Range 1-99)	96.55 (19.54) (Range 55-142)
Resides in City	.78 (.41)	.73 (.44)
Resides in South	.37 (.48)	.37 (.48)
Employed	.50 (.50)	.37 (.48)
Mother's Education	11.87 (3.17)	12.50 (3.66)
Father's Education	11.95 (3.93)	12.66 (4.23)
Family Size	3.85 (2.64)	2.45 (1.28)

Results from baseline multivariable regression models estimated in the NLSY79 and NLSY97 cohorts are presented in Table 4. Models estimation proceeds in two steps: the first iteration includes basic background information, while the second iteration includes the full set of background covariates. For ease of interpretation, coefficients are presented as marginal effects calculated at included covariates' means. Here, a marginal effect represents the change in the probability of a youth's involvement with the juvenile justice system for a unit change in the specified covariate.

Several background characteristics matter for youths' system involvement. Beginning with basic demographic models in the NLSY79 cohort (Table 4, Column 1), socioeconomic status and gender significantly impact a youths' likelihood of system contact: boys are 17% more likely and poor youth are 4% more likely to be involved with the juvenile system in the NLSY79 relative to girls and nonpoor youth, respectively. Older youth are 2% less likely to contact the juvenile system. With respect to race and

ethnicity, youth of color have a slightly *lower* risk of juvenile system contact relative to white youth, by 4% (black youth) or 3% (Hispanic youth). This relationship is in the opposite expected direction.

Table 4: Logistic Regression Predicting Juvenile Justice System Involvement (Marginal Effects)

	NLSY79		NLSY97	
	(1) Demographics Marginal Effect (Standard Error)	(2) Full Model Marginal Effect (Standard Error)	(3) Demographics Marginal Effect (Standard Error)	(4) Full Model Marginal Effect (Standard Error)
Male	<b>.11 (.01) ***</b>	<b>.11 (.01) ***</b>	<b>.10 (.01) ***</b>	<b>.11 (.02) ***</b>
Black (reference=white)	<b>-.03 (.01) ***</b>	<b>-.04 (.01) ***</b>	<b>.04 (.01) **</b>	-.01 (.02)
Hispanic (reference=white)	<b>-.02 (.01) *</b>	-.02 (.01)	<b>.02 (.01) +</b>	.003 (.02)
In Poverty	<b>.03 (.01) ***</b>	<b>.03 (.01) **</b>	<b>.07 (.01) ***</b>	<b>.08 (.03) ***</b>
Age	<b>-.01 (.00) ***</b>	<b>-.02 (.00) ***</b>	<b>- .01 (.00) *</b>	<b>.03 (.01) **</b>
Delinquency	<b>.06 (.00) ***</b>	<b>.04 (.00) ***</b>	<b>.08 (.00) ***</b>	<b>.06 (.01) ***</b>
Suspended		<b>.13 (.01) ***</b>		<b>.14 (.02) ***</b>
Health Limitations		<b>.06 (.02) **</b>		.03 (.03)
Intelligence		-.00 (.00)		-.001 (.00)
Resides in City		<b>.03 (.01) **</b>		<b>.03 (.02) +</b>
Resides in South		<b>-.03 (.01) ***</b>		<b>-.05 (.02) **</b>
Employed		.001 (.01)		<b>.03 (.02) +</b>
Mother's Education		.002 (.00)		-.0004 (.00)
Father's Education		-.00 (.00)		-.0004 (.00)
Family Size		.00 (.00)		-.002 (.01)
N	10,195	6,493	8,984	2,190

Note: Marginal effects calculated at covariate means. +  $p < .10$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Using the full set of covariates (Table 4, Column 2), several characteristics still significantly impact youths' likelihood of juvenile system involvement. Boys and poor youth remain at a higher risk of system contact, and older youth remain at a lower risk of contact. While the difference for Hispanic youth is no longer significant, black youth are still 4% less likely to be involved with the system relative to white youth. Other background factors matter: youth with additional self-reported delinquencies have a 4% higher probability of system contact. Somewhat strikingly, youth who have previously

been suspended from school are 13% more likely to contact the juvenile system. The magnitude of this increased probability exceeds all other included covariates. Limitations on physical health are associated with a 6% increase in the likelihood of juvenile system contact. Urban contexts also increase (+3%) a youth's probability of involvement, but residing in the south decreases (-3%) this probability.

Among NLSY97 youth, basic demographic models (Table 4, Column 3) again reveal that boys (+10%) and poor (+7%) youth have higher probabilities of juvenile system contact. Older youth are slightly less likely (-1%) to enter the juvenile system. There are no significant differences between Hispanic and white youth. However, black youth have a 4% higher probability of juvenile contact than white youth, suggesting some racial disparity in general measures of system involvement. Each additional delinquent behavior increases a youth's probability of juvenile contact by 8%.

The inclusion of all regressors changes some relationships for NLSY97 youth (Table 4, Column 4). Boys and poor youth remain at a heightened risk of juvenile system contact. The impact of age is now positively associated (+3%) with involvement. More delinquency increases the probability of system involvement by 6%. Significant differences between black and white youth disappear with the addition of all covariates. Other background characteristics emerge as significant – for example, prior suspensions increase a youth's probability of contact by 14%. In light of inequities in exclusionary school discipline, racial differences in juvenile system contact may operate indirectly through suspension histories for NLSY97 youth (e.g., Nicholson-Crotty et al., 2009). Urban youth are more likely (+3%) and youth from the south are less likely (-3%) to



contact the juvenile system. Marginally, being employed increases a youth's probability of juvenile system contact.

On balance, there are more similarities than differences across cohorts in significant covariates associated with general juvenile system contact. Youth who are male, poor, more highly delinquent, live in cities, or have previously been suspended from school are all at a higher probability of juvenile system contact. The magnitude of the probability increase associated with suspension is the highest of all covariates, suggesting a strong and persistent impact of exclusionary discipline on youths' system involvement. With respect to differences, age has an opposite impact across cohorts, negatively affecting NLSY79 youth but positively impacting NLSY97 youth. Physical health limitations were only significant for NLSY79 youth. Most notably, significant racial differences were in the opposite expected direction or not detectable.

#### *Interactive Models*

To the last point, models may have failed to detect significant independent impacts of race on the likelihood of juvenile justice contact because these differences operate indirectly through the intersection of race, gender, and class membership. Multivariable logistic regression models are re-estimated with the inclusion of an interaction term for race and poverty status. For simplicity of interpretation, marginal effects are presented graphically to illustrate relative differences in the predicted probability for juvenile system contact across groups.

Beginning with NLSY79 youth (Figure 14), results affirm a persistent importance of gender. NLSY79 boys of any race or class are more likely to enter the juvenile justice system. Regardless of poverty status, white boys and girls have the highest likelihood of

juvenile system involvement. Being poor increases the odds of system contact for white and Hispanic boys and girls, suggesting an additional penalty associated with social status. Poverty does not appear to differentiate juvenile justice involvement for black boys and girls, as there is little - if any - noticeable change in their predicted probabilities of system contact. In all, socioeconomic status does not seem to differentiate contact likelihood above and beyond differences associated with race and gender.

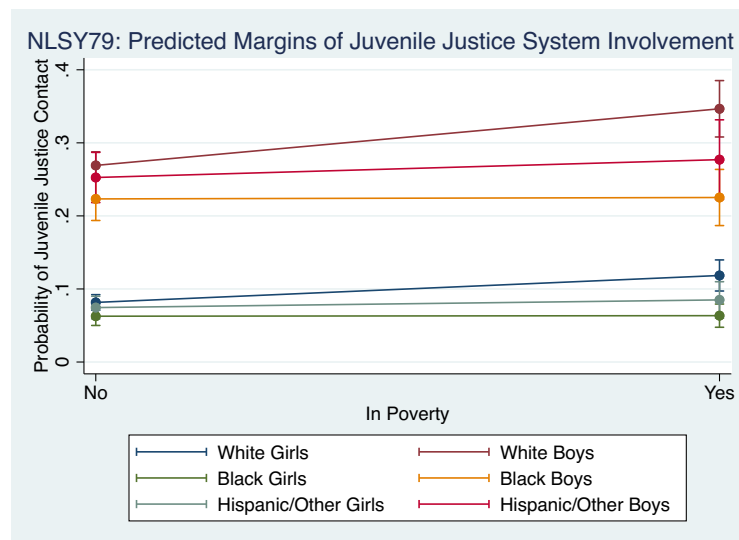


Figure 14: Predicting Juvenile Justice Involvement, Demographic Interactions (NLSY79)

The joint impact of race, class, and gender looks different for NLSY97 youth (Figure 15). The degree of differentiation across racial/ethnic groups is smaller among NLSY97 youth, relative to NLSY79 youth. Again, boys are more likely to be involved with the juvenile justice system, regardless of poverty or race/ethnicity. All youth are disadvantaged by poverty, as they have a higher likelihood of system contact. The combination of race, class, and gender seems to harm white boys and girls the most. Overall, the confluence of social demographics does not distinguish individuals' odds of juvenile justice involvement as starkly as was apparent for NLSY79 youth.

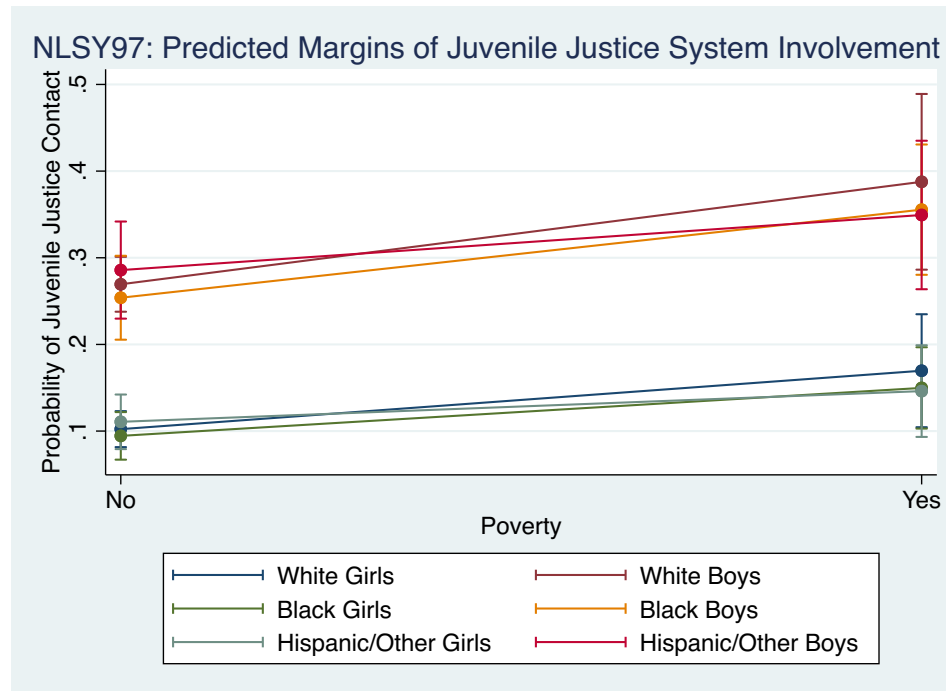


Figure 15: Predicting Juvenile Justice Involvement, Demographic Interactions (NLSY97)

### *Prospective Measurement of Juvenile Justice Contact*

As a sensitivity analysis, these regression models are repeated using a restriction to all first-time juvenile contacts occurring during the survey period. This prospective measurement ensures correct temporal ordering of covariates and system contact, as prior research demonstrates bi-directional relationships between juvenile system contact and outcomes. For example, educational disadvantage predicts system entry (e.g., van der Geest, Bijleveld, et. al., 2016) and is impacted by system contact (Cuellar & Dave, 2016; Cuellar & Markowitz, 2015; Hjalmarsson, 2008; Sweeten, 2006). Importantly, this restriction is only possible within the NLSY97 sampling design<sup>2</sup>. Table 5 presents results

<sup>2</sup> Prospective measurement is only possible in the NLSY97, as the survey repeatedly asked respondents about their histories of system involvement. Thus, it is possible to restrict attention to the subsample who first contact the juvenile system at Wave 2 or later. This qualification is not possible in the NLSY79, as respondents are only asked about histories of system involvement at Wave 2. The restriction ensures proper ordering

predicting first-time juvenile justice contact. Basic demographic models (Table 5, Column 1) again point to the increased risk of juvenile contact among boys (+13%), poor (+4%), and more delinquent (+4%) youth. Older youth are at a slightly lower probability (-1%) of juvenile system contact. Black youth have a 2% higher probability of juvenile system contact than white youth, but there are no significant differences distinguishing Hispanic and white youth.

Table 5: Logistic Regression Predicting First-Time Juvenile Justice System Involvement, Marginal Effects

	<b>NLSY97 (Prospective)</b>	
	(1) Demographics Marginal Effect (Standard Error)	(2) Full Model Marginal Effect (Standard Error)
Male	<b>.10 (.01) ***</b>	<b>.09 (.01) ***</b>
Black ( <i>reference=white</i> )	<b>.02 (.01) *</b>	-.004 (.02)
Hispanic ( <i>reference=white</i> )	-.01 (.01)	-.03 (.02)
In Poverty	<b>.04 (.01) ***</b>	<b>.05 (.02) **</b>
Age	<b>-.01 (.00) ***</b>	.004 (.02)
Delinquency	<b>.04 (.00) ***</b>	<b>.03 (.01) ***</b>
Suspended		<b>.05 (.05) **</b>
Health Limitations		-.02 (.02)
Intelligence		-.003 (.00)
Resides in City		.02 (.01)
Resides in South		-.02 (.01)
Employed		<b>.03 (.01) +</b>
Mother's Education		<b>.01 (.00) **</b>
Father's Education		<b>-.10 (.00) ***</b>
Family Size		-.002 (.01)
<i>N</i>	8,979	2,189

Note: Marginal effects calculated at covariate means. +  $p < .10$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Boys and poor NLSY97 youth are again at elevated risk of juvenile system contact in full models (Table 5, Column 2). Significant differences between black and white youth again disappear in these more inclusive models. Delinquency and prior

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of pre-contact covariates and system involvement, but comes at a tradeoff for cross-cohort comparisons.

suspensions continue to positively impact youths' risk of juvenile system contact, at +3% and +5%, respectively. While contextual variables are not significant in these models, characteristics of ascribed social status emerge to impact youths' likelihood of juvenile system contact. More highly educated mothers slightly increase (+1%) a youth's predicted probability of juvenile system, whereas fathers with higher educational attainment significant decrease a youth's risk of contact by 10%. Under a more stringent specification, youth interacting with a relatively larger and more punitive juvenile system are affected by their school discipline histories and ascribed status, net of sustained impacts for gender and class.

#### *Decompositional Analyses of General Juvenile Justice Contact*

As discussed above and elsewhere (e.g., Gann, 2018), regression coefficients have limited utility for identifying sources of group-level variation in the juvenile justice process. The final assessment of youths' likelihood of juvenile justice contact assesses group-level differences using decompositional regression techniques. These models ascertain the relative contribution of observed (e.g., from covariates) and unobserved (e.g., from excluded sources) variation to group differences in the likelihood of system involvement and level of system processing. Model specification requires the use of a binary variable to indicate group membership. Race indicator variables are collapsed to black/nonblack youth, as much research and policy attention has focused on this dichotomy in the juvenile justice system (e.g., Kempf-Leonard 2007). Here, the importance is on significant group differences, rather than significant group regressors.

Table 6: Decompositional Results, Group Differences in Any Juvenile Justice Involvement

	(1) NLSY79 Coefficient (Standard Error)	(2) NLSY97 Coefficient (Standard Error)	(3) NLSY97 (Prospective) Coefficient (Standard Error)
<b>I. Race</b>			
Nonblack	.18 (.01) **	.20 (.01) ***	.14 (.01) ***
Black	.15 (.01) ***	.24 (.02) ***	.17 (.01) ***
Difference	<b>.02 (.01) *</b>	-.04 (.02)	-.03 (.02)
<i>Explained</i>	<b>-.02 (.01) ***</b>	<b>-.06 (.01) ***</b>	-.03 (.01)
<i>Unexplained</i>	<b>.05 (.01) ***</b>	.02 (.02)	-.00 (.02)
<b>II. Gender</b>			
Female	.08 (.00) ***	.11 (.01) ***	.08 (.01) ***
Male	.26 (.01) ***	.29 (.01) ***	.21 (.01) ***
Difference	<b>-.18 (.01) ***</b>	<b>-.17 (.02) ***</b>	<b>-.14 (.01) ***</b>
<i>Explained</i>	<b>-.08 (.00) ***</b>	<b>-.07 (.01) ***</b>	<b>-.04 (.01) ***</b>
<i>Unexplained</i>	<b>-.11 (.01) ***</b>	<b>-.10 (.02) ***</b>	<b>-.09 (.01) ***</b>
<b>III. Poverty</b>			
Not in Poverty	.16 (.01) ***	.18 (.01) ***	.14 (.01) ***
In Poverty	.20 (.01) ***	.31 (.02) ***	.21 (.02) ***
Difference	<b>-.04 (.01) ***</b>	<b>-.13 (.03) ***</b>	<b>-.07 (.02) ***</b>
<i>Explained</i>	-.01 (.01)	<b>-.05 (.01) ***</b>	-.02 (.01)
<i>Unexplained</i>	<b>-.03 (.01) **</b>	<b>-.08 (.03) **</b>	<b>-.05 (.02) *</b>
<i>N</i>	6,911	2,190	2,189

Note: Coefficients and standard errors estimated using linear probability model. Models estimated with robust standard errors. The difference value is obtained by subtracting the coefficient for the non-member group (e.g., nonblack) from the coefficient of the member group (e.g., black). Values may be inexact due to rounding. *Explained* and *unexplained* sources of variation in group differences will not sum to 1; their value adds up to the total group difference. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

The first decompositional results present estimates from linear probability models<sup>3</sup> including the full set of regressors predicting juvenile justice contact. Starting with race, group differences in the probability of any juvenile justice contact of only significant for NLSY79 youth (Table 6, Column 1, Panel I). Nonblack youth in the NLSY79 are 3% more likely to be involved with the juvenile justice system than black youth. Both explained and unexplained factors significantly contribute to this group

<sup>3</sup> All decompositional results are estimated using linear probability models for a binary outcome, in accordance with prior research using these models to estimate differences in sentencing outcomes (e.g., MacDonald et al., 2014).

difference, with unexplained factors contributing a larger portion. It suggests that the included covariates insufficiently explain differences across black and nonblack youth in pathways to the juvenile system. Again, there are no detectable significant group differences for black and nonblack youth in either NLSY97 model.

Gender differences in system involvement are significant across all cohorts and model specifications (Table 6, Panel II, Columns 1, 2, and 3). The pattern of differences is similar across cohorts: boys are more likely to contact the juvenile system than girls by approximately the same magnitude. Significant group differences are partly driven by explained sources. A smaller (but significant) portion comes of these differences comes from unexplained sources. These results suggest a sustained difference in pathways to juvenile justice involvement across boys and girls inadequately modeled with included regressors. Persisting variation from unexplained sources may reflect a continued gendered standard in the juvenile system's power across boys and girls.

There are also apparent group differences across socioeconomic status in both cohorts and all model specifications (Table 6, Panel III, Columns 1, 2, and 3). While poor youth are more likely to enter the juvenile system across the board, group differences are largest for NLSY97 youth. These differences are only attributable to explained sources in the most general NLSY97 model that utilizes the entire sample. For NLSY79 youth and prospective juvenile contact for NLSY97 youth, poverty group differences are only significantly impacted by unexplained sources, which many be influenced by a number of important contextual variables capturing concentrated disadvantage that are not included (or measurable) in these models.

*Results – Juvenile Justice Filtering*

While youths' backgrounds affect their entry into the juvenile justice system, it is also important to identify how these characteristics impact youths' level of involvement with the system. To estimate these relationships, the next analytic step restricts attention to the subsample of youth who were at least arrested for the first time before their 18th birthday but after the first wave of survey data collection. This sample limitation likely eliminates some unobserved differences by using a more plausible comparison group. Instead of referencing all sample youth, relationships here reference youth with a specific level of system contact (e.g., probation) relative to youth with the lowest type of system contact (e.g., arrested). This tradeoff comes at the sacrifice of estimating these relationships among NLSY79 youth.

Table 7 presents results from multivariable logistic regression models estimating the level of juvenile system contact, contingent on any formal contact and the full set of regressors. There are fewer apparent differences across youth throughout the middle and back end of the adjudicatory process relative to the number of differences in baseline models using whole sample comparisons. This difference has two possible explanations, both of which may be partially correct. Youth may be more starkly differentiated at the entry point of the system, or youth with and without justice involvement are more dissimilar than youth with varying levels of any justice involvement.



Table 7: Prospective Juvenile Justice Processing, NLSY97 Youth

NLSY97 Youth	(1)	(2)	(3)	(4)
	<b>Charged</b>	<b>Adjudicated</b>	<b>Probation</b>	<b>Placement</b>
Male ( <i>Reference=Girls</i> )	<b>.17 (.09) *</b>	<b>.19 (.09) *</b>	.11 (.05) +	<b>.14 (.05) *</b>
Black ( <i>Reference=White</i> )	<b>-.20 (.11) *</b>	<b>-.30 (.10) **</b>	-.14 (.07)	-.02 (.09)
Hispanic ( <i>Reference=White</i> )	-.08 (.10)	<b>-.30 (.11) *</b>	-.13 (.08)	-.12 (.07)
In Poverty	.07 (.08)	.09 (.10)	-.13 (.06)	<b>.19 (.09) *</b>
Age	.07 (.06)	<b>.16 (.07) *</b>	<b>.11 (.04) *</b>	.04 (.04)
Delinquency	-.01 (.02)	.01 (.02)	.01 (.02)	.02 (.02)
Ever Suspended	<b>.19 (.07) *</b>	<b>.19 (.08) *</b>	.04 (.06)	.07 (.06)
Health Limitations	.06 (.13)	.11 (.16)	<b>.28 (.16) *</b>	.03 (.13)
Intelligence	.004 (.00) +	.002 (.00)	-.001 (.00)	-.0001 (.00)
Resides in City	.01 (.09)	-.02 (.09)	-.01 (.06)	-.07 (.07)
Resides in South	.14 (.07) +	.14 (.09)	-.03 (.06)	.05 (.06)
Employed	.03 (.08)	-.01 (.02)	-.06 (.06)	-.02 (.06)
Mother's Education	.01 (.02)	-.01 (.02)	-.01 (.01)	-.02 (.1)
Father's Education	-.01 (.01)	-.03 (.02)	.00 (.01)	-.02 (.01)
Number of Siblings in Home	<b>.07 (.03) *</b>	.004 (.03)	.02 (.02)	-.01 (.02)
N	193	193	193	193

Note: Marginal effects calculated at covariate means. Sample is restricted to all youth who have at least been arrested. +  $p < .10$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Across system stages, males are at a 14-19% higher probability of juvenile system contact than females. The gender difference is marginally significant for probation.

Racial and ethnic differences are only apparent at court processing stages: black youth are 20% less likely to be formally charged than white youth, while black and Hispanic youth are both 30% less likely to be adjudicated delinquent than white youth. This finding runs counter to much existing research that finds increasingly formal and punitive treatment of youth of color across all stages of the juvenile justice process. This finding possibly reflects a correction of perceiving unfairness in policing, whereby juvenile court actors decline to formally processing these youth through the juvenile court. While the negative direction of the relationship remains, these differences fail to reach significance for determinations of probation or placement, suggesting no direct impact of race for dispositions in the juvenile system among NLSY97 youth.

A youth's social status, as ascertained by the family's poverty level, only significantly impacts placement decisions. Arrested poor youth have a 19% higher probability of entering juvenile placement, relative to arrested nonpoor youth. It suggests an emergent importance of socioeconomic status at deep stages of system involvement and a connection between class membership and secure punishment, a finding well-established among incarcerated adults (e.g., Western, 2006).

Across system stages, delinquency does not impact youths' level of processing among arrested youth. The delinquency variety score failed to reach conventional significance levels in all models, despite its persistent importance for models predicting general juvenile contact (Tables 4 and 5). This finding is contrary to sentencing research that finds a consistent impact of legal history variables on system processing and punishment (e.g., Roberts, 1997). Age is significant: among all arrested youth, older youth are more likely to be adjudicated or placed on probation. Since self-reported delinquent behavior is an inexact proxy for full legal histories, the impact of age may capture some variation associated with unmeasured prior records (e.g., Bushway & Piehl, 2007).

With respect to other background covariates, school suspensions are positively associated with charging and adjudication, but have no significant impact on dispositions. These relationships are quite large: arrested youth with a prior suspension have a 19% increased probability of being formally charged or adjudicated. Histories of harsh school discipline not only impact youths' entry into the system, but also the level of formality in processing experienced while in the system. However, these differences do not distinguish youth at case disposition, indicating a limited importance throughout the

adjudicatory process that disappears when determining the case's resolution. Youth from larger households are more likely to be charged for their delinquent behavior, but are not distinguishable at other system stages. Youth who have been arrested and have health limitations have a 28% increased probability of receiving probation, potentially indicating an empathetic response from the juvenile court for youth facing physical and emotional challenges.

Overall, the relatively limited number of differences between youth with baseline levels of justice contact suggests the largest differences distinguish youth with and without any system involvement, rather than youth with varying levels of involvement. Nonetheless, there are noticeable differences between processing stages that indicate a persistent influence of youths' social backgrounds on the adjudicatory process. Delinquent behaviors do not appear to significantly impact the adjudicatory or disposition process. This absence of a relationship may reflect truncated variation in delinquency histories associated with sample restrictions to all arrested youth, or the absorption of behavioral impacts through age variation. In addition, prospective measurement and limited attention to arrested youth greatly reduced the estimation sample size, potentially reducing its power to detect significant relationships among theoretically important covariates like delinquency and contextual measures.

#### *Decompositional Analyses of Juvenile Justice Dispositions*

Maintaining attention on youth with any formal system contact<sup>4</sup>, decompositional models identify group differences at the disposition phase for NLSY79 and NLSY97

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<sup>4</sup> For NLSY79 youth, this restriction limits attention to youth who have at least been formally charged by the court prior to their 18th birthday. Police stops are not considered a type of formal contact, as the survey question text allows for responses that did not result in an arrest. For NLSY97 youth, this restriction captures youth who have at least been arrested prior to their 18th birthday.

youth. Here, attention is restricted to the back end of the juvenile justice process to assess group differences in case resolutions of probation or placement, based on findings that these dispositions became more common throughout the late 1990s and 2000s (Chapter 2). For consistency across cohorts, system involvement is measured sample-wide in the NLSY97 to align with the NLSY79. The first impression is that there are no significant group differences for NLSY79 youth across race, gender, or class at probation or placement for this sample and under this specification (Table 8, Columns 1 and 2, Panels 1, 2, and 3). Yet, unexplained elements of the decomposed group difference are significant for race and gender, indicating the omission of important regressors in models.

For NLSY97 youth (Table 8, Panel I, Column 2), there is evidence of harsher treatment of black youth: compared to nonblack youth, black youth are significantly less likely to receive probation (-14%) but significantly more likely to receive placement (+11%). Considered here as a more lenient disposition, the decreased odds of probation for black youth is entirely attributable to unexplained sources, suggesting that omitted criteria seem to play a sizable role in the determinants of community supervision across race. Explained sources marginally contribute to significant race group differences at placement in the NLSY97 (Table 8, Panel 1, Column 4). This decomposition suggests that black youths' increased risk of secure placement is partially attributable to included covariates, such as suspension history, poverty, or ascribed status. As a note, significant race differences in this model may reflect the different construction of comparison groups (e.g., black and white vs. black and nonblack) or different sample restriction (e.g., all arrested youth or entire sample).

Table 8: Decompositional Results at Disposition

Differences among Youth with Any Level of Formal Juvenile Justice Contact

	<b>Probation</b>		<b>Placement</b>	
	<b>(1) NLSY79</b> Coefficient (Standard Error) N=407	<b>(2) NLSY97</b> Coefficient (Standard Error) N=395	<b>(3) NLSY79</b> Coefficient (Standard Error) N=407	<b>(4) NLSY97</b> Coefficient (Standard Error) N=395
<b>I. Race</b>				
Nonblack	.28 (.02) ***	.27 (.03) ***	.16 (.02) ***	.19 (.03) ***
Black	.24 (.05) ***	.13 (.03) ***	.22 (.05) ***	.30 (.06) ***
Difference	.04 (.06)	<b>.14 (.04) **</b>	-.06 (.05)	<b>-.11 (.05) *</b>
<i>Explained</i>	-.10 (.03) **	-.01 (.03)	-.06 (.03) *	-.05 (.03) +
<i>Unexplained</i>	.14 (.06) *	.15 (.05) **	-.00 (.06)	-.06 (.05)
<b>II. Gender</b>				
Female	.20 (.05) ***	.17 (.04) ***	.14 (.04) ***	.12 (.03) ***
Male	.29 (.03) ***	.26 (.03) ***	.18 (.02) ***	.25 (.03) ***
Difference	-.09 (.05)	<b>-.09 (.04) *</b>	-.04 (.04)	<b>-.13 (.04) **</b>
<i>Explained</i>	-.07 (.03) *	.01 (.02)	-.07 (.02) **	.00 (.02)
<i>Unexplained</i>	-.02 (.05)	-.10 (.04) *	.03 (.04)	-.13 (.04) **
<b>III. Poverty</b>				
Not in Poverty	.24 (.03) ***	.24 (.02) ***	.15 (.02) ***	.17 (.02) ***
In Poverty	.33 (.04) ***	.23 (.04) ***	.22 (.04) ***	.34 (.05) ***
Difference	-.09 (.05)	.01 (.05)	-.08 (.04)	<b>-.16 (.05) **</b>
<i>Explained</i>	-.05 (.03)	.02 (.03)	-.07 (.02) **	-.01 (.02)
<i>Unexplained</i>	-.04 (.05)	-.01 (.05)	-.01 (.04)	-.15 (.06) **

Note: The estimation sample is limited to youth who were at least formally charged (NLSY79) or arrested (NLSY97) as a juvenile. Coefficients and standard errors estimated using linear probability model. Includes robust standard errors. *Explained* and *unexplained* sources of variation in group differences will not sum to 1; their value adds up to the total group difference. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

There are apparent gender differences at the disposition stage for NLSY97 youth only (Table 8, Panel II, Column 2). Among all arrested youth, boys are more likely to receive probation or placement relative to girls. Both of these differences are (nearly) fully attributable to unexplained sources. Thus, for each type of disposition, included covariates fare relatively poorly in explaining differences for boys and girls in the juvenile system.

Socioeconomic status, as indicated by poverty level, is only significant in distinguishing placement for NLSY97 youth (Table 8, Panel III, Column 4). Poor youth are 16% more likely to be in placement, a significant difference is attributable nearly in full to unexplained sources. This difference indicates that included measures are somewhat ineffective at explaining observed differences in the juvenile justice process for poor and nonpoor youth. There are a number of excluded covariates that are correlated with class that may contribute to unexplained sources. For example, these disparities may arise from differences in legal representation in court, which in turn, impacts youths' ultimate outcomes in the juvenile justice system (Kupchik & Harvey, 2007).

### **Discussion**

While lauded as an innovation in child welfare, the creation of the juvenile justice system was, in part, an effort to implement new forms of social control for young people (Platt, 1977). Its mission to promote child welfare was unequally implemented across youth, suggesting embedded disparities in the system's use of power since its creation. A rich literature studies sources of disproportionate contact with the juvenile system, yet several gaps remain. This chapter contributes to existing scholarship by identifying the relative influence of youths' backgrounds on juvenile system processing using social survey data. There are several apparent takeaways. First, there is evidence of continued disproportionate contact of certain sociodemographic groups of youth. Boys and poor youth are more likely to come into any contact the juvenile justice system across all model specifications and cohorts. While gender differences are present across all system

stages, poor arrested youth are significantly more likely to enter secure placement, relative to arrested, nonpoor youth.

With one exception, models did not replicate a prevalent relationship in existing scholarship – specifically, significant differences across race/ethnicity in youths’ probability of juvenile system contact. The only detected difference was for black youth in the NLSY79, who had a 4% *lower* probability of juvenile system contact relative to white youth – a finding in the opposite expected direction. Decompositional models indicated that this group difference was driven by explained and unexplained sources. Included covariates only partially explain differences across racial groups’ likelihood of juvenile contact among youth interacting with a smaller and less punitive system. Black youth in the NLSY97 were 4% more likely to contact the juvenile system in models only using basic demographic covariates. While this relationship was in the expected direction, it did not persist with the inclusion of additional covariates, especially school suspensions. Race group differences were apparent at disposition to suggest differential treatment: black NLSY97 youth were less likely to receive probation and more likely to receive secure placement than nonblack youth. Group differences in probation were impacted by unexplained sources, suggesting that included regressors performed poorly in explaining why black youth were less likely to receive community supervision than nonblack youth. At placement, explained variation marginally contributes to significant group differences that increase black youths’ likelihood of secure placement. This difference may arise from substantial differences in black and nonblack youths’ social backgrounds, in alignment with critiques on the use of significant coefficients to derive evidence of disparity.

School suspensions significantly increased both NLSY79 and NLSY97 youths' probability of juvenile justice involvement and deeper adjudicatory processing, but did not matter at placement in this specification. Importantly, significant race coefficients disappeared in NLSY97 models after the addition of suspension variables. Because harsh school disciplinary practices are unequally distributed across schools and students of color (Hirschfield, 2018), the impact of school suspension may indirectly capture associations with race. In most specifications, the magnitude of the impact of suspension exceeded that of other included covariates. Results thus point to suspension as an important precursor to juvenile justice involvement and formal processing in the system.

Altogether, findings from logistic regression models mostly fail to reproduce significant relationships between race/ethnicity and juvenile justice involvement and processing apparent in the literature. When significant, race and ethnicity coefficients indicated relatively improved outcomes for youth of color in the NLSY79, such that black and Hispanic youth were less likely to be involved with the juvenile system than white youth. For NLSY97 youth, increased probability of system processing among black youth disappears with the inclusion of additional background information. Because these estimates are derived from survey data, more extensive data on youths' background experiences may indirectly capture racial differences apparent in administrative data that lacks such insights.

While gender, poverty, delinquency, and prior suspensions had the most consistent impact on a youth's likelihood of system contact, the role of other social background factors differed under certain specifications and across system stages. Contextual variables failed to reach significance for general juvenile system contact after



restricting attention to NLSY97 youth with first-time involvement during the survey period. They also failed to have a consistent impact in system processing models. NLSY data does not include sufficiently granular data on micro-contexts and concentrated disadvantage of theoretical importance. This lack of significance may thus reflect a data limitation, rather than a theoretical refutation.

Prospective measurement did, however, illuminate the importance of ascribed social status through parental education measures. This significance may reflect attributional processes whereby perceptions of youth by juvenile justice actors are affected by interactions (or lack thereof) with their parents (e.g., Rodriguez, Smith, & Zatz, 2009). The importance of social class membership does matter for adult incarceration (Western, 2006); to the extent that parental education is a proxy measure for social class, it appears to have a similar impact on youths' juvenile justice contact.

Further, the relative influence of social background factors varies throughout juvenile system processing and adjudication. Fewer differences distinguish youth within the juvenile system than youth with no system contact. Among NLSY97 youth who were at least arrested prior to their 18th birthday but after the start of survey data collection, there are distinct associations at earlier system processing points and disposition phases. Gender is the only covariate with a significant impact across all processing stages. Race differences emerge in the court processing stages of charging and adjudication, where black and Hispanic youth have a lower probability of these experiences relative to white youth. Similarly, the influence of prior school suspensions is only visible at charging and adjudication. Youth with health limitations are significantly more likely to receive probation, but such limitations did not impact any other form of juvenile system contact.

Poverty was only significant at placement, indicating that poor youth were at a higher risk of secure custody relative to nonpoor youth. It is possible that the sample restriction used here – focusing on youth who were at least arrested – creates a more comparable sample by reducing biases associated with unobserved variation.

Across cohorts, there are more similarities than differences in significant associations predicting juvenile system contact. Social background measures and contextual variables operate in the same direction across cohorts to impact a youth's probability of juvenile system contact. These similarities exist, despite a gap of approximately twenty years between the timing of each cohort's possible involvement with the juvenile justice system. During this span, the system altered its response to juvenile delinquency by becoming more punitive and formal. Yet, a descriptive comparison of findings across cohort-specific models suggests that general pathways to system involvement remained similar across these two distinct policy contexts.

The combined influence of sociodemographic backgrounds was more pronounced for NLSY79 youth than NLSY97 youth. Gaps in the predicted probabilities of juvenile system contact are more readily apparent across groups in the NLSY79. White youth suffered the most from a “poverty penalty”: social status most largely differentiated the likelihood of system contact for white boys and girls. Being poor did not substantially alter the probability of system involvement for black youth. These differences are less noticeable among NLSY97 youth, but poor white youth still face the steepest penalty.

The final takeaways are contributions from decompositional models used to shed light on the sources of observed differences in logistic regression models. They are used to focus on groups that have historically received differential treatment in the juvenile

justice system: racial minorities (black/nonblack), gender, and the poor. Across all specifications, 56% of group differences are statistically significant. Within these differences, 90% are significantly attributable to unexplained sources – that is, variation originating outside of included covariates. Even further, unexplained differences are the only significant decomposed difference for half of all group differences. There is primary evidence of fundamentally different pathways and processes across groups in the juvenile justice system. Because most reflect unobserved differences, included covariates insufficiently explain juvenile justice involvement, adjudication, and disposition. Further, it is also likely that significant coefficients in regression models inaccurately characterize group differences, as these relationships likely conflate the impact of included covariates with omitted variables.

Across models, there are persistent gender and poverty group differences in the likelihood of juvenile system involvement for NLSY79 and NLSY97 youth. Group differences are only significant among NLSY97 youth at disposition and are largely a product of unobserved variation. Importantly, they are observed among youth with some baseline level of juvenile justice contact. This sample restriction creates more similar groups of youth and suggests a true impact of unobserved differences from a comparison closer to ‘apples to apples’. A number of unobserved factors may contribute to these differences. They may reflect biases in treatment whereby group membership disadvantages youth at this stage of the juvenile justice process. The existence and influence of biases from system actors is plausible but cannot be definitively measured and tested with available data. These differences may also be impacted by inadequate measurement of important contextual factors that drive juvenile court processing,

including (but not limited to) population demographics, poverty levels and welfare usage in each youths' local jurisdiction. Court resources, such as the availability of skilled juvenile public defenders, may also play a role. These potential sources merely scratch the surface of unobserved but theoretically important factors that could impact the juvenile justice process. Regardless of the exact source, the prevalence of unobserved differences highlights that regression coefficients can mischaracterize disparities (e.g., Gann, 2018).

### **Limitations**

These analyses are not without limitations. First, NLSY data do not provide key variables of theoretical interest to this analysis. As an example, measures of child welfare system involvement or parental criminality and punishment would be important to include as an added layer of understanding in pre-contact inequality and pathways to the system. Other measures of educational attainment, such as grades and grade retention, might shed more light on the connections between schools and juvenile justice. These areas may be best explored in future research that links several sources of administrative data across systems, to the extent that such connections are possible.

Next, group differences in decomposition models cannot be definitively attributed to system biases or discrimination in this analysis. As noted by Cotton (1988):

Since the second component is a residual, for it to be an exact measure of labor market discrimination all of the factors that determine the wage must be present and properly accounted for. If they are not, if perhaps because of data limitations some have been excluded and others poorly measured, then the residual will reflect these omitted influences as well, and will over - or under-estimate the extent of discrimination. (237)

To confidently conclude that unobserved differences are fully driven by bias, regression models must include information on all possible covariates that affect the

outcome variable. While the NLSY data include several important correlates of juvenile justice contact, the surveys are far from able to comprehensively model selection processes into and through the juvenile system. A number of important measures are missing. NLSY data contain few relevant legal factors, such as behavioral history, petition/charge severity, and prior system involvement. The included delinquency variety score captures some behavioral history but does not capture relatively serious behaviors. While an imperfect solution, limiting attention to prospective juvenile justice contacts limits the influence of these unobserved prior history measures by restricting the sample to youth with first-time system contact during the survey period. Further, differences in experiences within the system, such as courtroom resources or geographic context are unaccounted for in this data. The re-estimation of models that connect geocoded NLSY data with localized measures of advantage could better parse out the influence of omitted legal history variance from unobserved social differences. Absent these and other important variables, it cannot be concluded that remaining group differences are attributable to systemic biases against race, gender, or class.

Finally, differences across cohorts are purely descriptive. The changing directionality of race effects from NLSY79 to NLSY97 cannot be attributed to increased bias in system processing, as a number of other intervening mechanisms may be driving this relationship. Cohort-specific models are not exact replicas, as survey differences preclude estimating the exact same set of regressors on both sets of youth. In addition, the NLSY97 data contains repeated measures of juvenile system involvement, whereas NLSY79 youth only reported on involvement at one survey wave. For the latter, it is not possible to prospectively measure system involvement; consequently, models are less

methodologically rigorous. More broadly, there was movement towards reducing systemic racial disparities in the juvenile justice system during the gap between cohorts (Davis & Sorensen, 2013; Donnelly, 2017). There are a number of additional potentially countervailing events that cannot be quantified and controlled for in this analysis, but indicate possible future research areas.

### **Conclusions**

Youths' probability and level of juvenile justice system involvement is associated with a number of factors relating to their social backgrounds. Results affirmed the importance of gender and school discipline on juvenile system processing but failed to detect a consistently significant impact of race. The intersection of race, class, and gender uniquely disadvantages poor white boys in the juvenile justice process, but these distinctions are less apparent for youth in the juvenile system towards the turn of the 21st century. Finally, there are fundamental differences across sociodemographic groups in their constituents' experiences with the juvenile system. Many of these differences indicate an inadequate performance of included regressors to accurately model group differences and affirm continued discrepancies in the juvenile system's use of control that originated as early as its founding. But, it is not clear that these disparities have worsened in tandem with the juvenile system's shift towards punitiveness.

## **Chapter 4: The Long-Term Consequences of Juvenile Justice Involvement for Health and Wellbeing**

The American criminal justice system operates at a globally and historically unprecedented scale in its use of carceral punishment (Garland, 2001). A vast research literature identifies numerous and mostly harmful social consequences associated with imprisonment in adulthood (Apel & Sweeten, 2010; Clear, 2009; Comfort, 2008; Weaver & Lerman, 2010; Lopoo & Western, 2005; Massoglia & Pridemore, 2015; Pettit & Western, 2004; Wakefield & Wildeman, 2013; Western 2006; Wildeman & Mueller, 2012). Incarceration, however, is a narrow subset of all possible forms of justice involvement. There is a need to adopt a broader approach to identifying the consequences of justice system involvement (Kirk & Wakefield, 2018; Sampson, 2011). In response, emerging literatures address this theme in numerous ways, including: contacts that precede or replace imprisonment, such as community supervision (Phelps, 2013), arrest (Apel & Powell, 2019; Sugie & Turney, 2017), and misdemeanor justice (Kohler-Hausmann, 2018); the timing of incarceration (Bačák, Anderson, & Schnittker, 2018); variation in collateral consequences (Turney & Wildeman, 2015); and the dosage of imprisonment (Kling, 2006; Porter & DeMarco, 2018).

What remains missing, however, are contacts with the juvenile justice system. Both the juvenile and criminal justice systems are institutions of formal social control, but they are far from replicas that interact with different age groups. The present penal context all but ensures a proliferation of punishment across social institutions (Beckett 2018; Beckett & Murakawa, 2012), prompting research on its numerous repercussions. Yet, the juvenile justice system remains largely omitted from consideration as an impactful institution in conjunction with processes of social disadvantage. Widely

permissible control is deeply embedded, recently expanded and unequally applied within the juvenile justice system (Feld, 1999; Platt, 1977). It presents an intriguing yet overlooked institutional context to study the consequences of system contact (Kirk & Sampson, 2013). There are equally compelling reasons to expect juvenile justice contact will matter – in similar or distinct ways from criminal justice contact – across social outcomes.

The analyses presented in this chapter examine the consequences of juvenile justice system contact for focal outcome measures levels of health and wellbeing, key correlates of development and attainment throughout the life course. Prior research demonstrates health impacts associated with many types of justice involvement, including: police stops (Baćak & Nowotny, 2018; Geller et al., 2014), arrests (Sugie & Turney, 2017), and incarceration (Dirkzwager & Nieuwbeerta, 2018; Massoglia, 2008a, 2008b; Patterson, 2010; Schinittker & John, 2007). In reviewing the literature, Massoglia and Pridemore (2015) highlight gaps in scholarship on health and incarceration and call for examinations of variation in the incarceration experience. This study addresses some of this need by assessing varying consequences for health outcomes in two ways. It uses clear delineations of juvenile and criminal justice contact to estimate the system-specific and cumulative impact of juvenile justice involvement for mental health. It assesses baseline associations between non-carceral and carceral juvenile justice contacts and mental health, then calculates the accumulated impact of all experienced justice involvement (juvenile and criminal) across the life course.

As many existing studies focus on system contact in adulthood, findings here contribute by identifying the consequences of contact with the juvenile justice system for



health. In this chapter, I present analyses of sibling fixed-effects models using data from the National Longitudinal Survey of Youth (NLSY) 1979 and 1997 cohorts, a new application of this method to the health consequences literature. Findings demonstrate that juvenile justice system contact is independently meaningful from adult criminal justice system contact for health and wellbeing. Non-carceral juvenile justice contacts are associated with improved mental health through young adulthood *and* worsened outcomes in middle adulthood. Importantly, juvenile justice contacts retain importance even when accounting for repeated contact with the criminal justice system later in the life course. The independent and enduring influence of juvenile justice system involvement for health highlights the continued importance of early experiences across the life course. Methodologically, the analysis underlines a need for clearly constructed measures of justice system contact to correctly identify institution-specific social consequences. Results reveal a complicated but significant relationship between juvenile justice involvement, where youth experience some benefits and some harms to mental health. Accumulative model estimates challenge existing evidence by demonstrating enduring consequences of juvenile justice contact, even among individuals with criminal justice contact in adulthood.

### **Differentiating the Juvenile and Criminal Justice System**

The juvenile and criminal justice systems are distinct institutional contexts, as each is purported to adopt a different philosophy to formal social control. The criminal justice system tends to be oriented towards individual accountability and administering punishment. These goals are particularly evident in the current penal climate, where lengthy prison sentences are not uncommon case outcomes (National Research Council,

2014). The juvenile justice system, however, ostensibly emphasizes youths' rehabilitation and second chances (Platt, 1977). Early juvenile courts catered to the interests of both social control and child welfare by implementing a treatment-oriented model which featured procedural informalities and broad judicial discretion to work in the child's best interests (Platt 1977; Fagan 2008; Hinton 2015). This hybrid mission reflects the juvenile court's ongoing struggle to jointly meet the goals of treatment and punishment throughout its existence (Tanenhaus, 2004).

Over the last fifty years, changes to the juvenile justice process have blurred these distinctions. It experienced its own "get tough" policy movement, contemporaneous to the buildup of adult mass incarceration. Waiver to adult court is often referenced as the hallmark of these changes (e.g., Bishop, 2000; Fagan & Zimring, 2010), but other reforms had a significant impact on youth retained in the juvenile system (Mears, 2002). The system increased its use of secure placement (e.g., incarceration) as punishment (Sentencing Project, 2016) and formalized its adjudicatory process to more closely resemble criminal justice procedure (Feld, 1999). To some, these changes have transformed the juvenile court into a scaled-down criminal justice system that no longer fully recognizes the goals of rehabilitation or punishment (Butts & Mears, 2001; Feld, 1993). Yet, the system retains some adherence to therapeutic principles, as it still administers programs with promising results for reducing youths' aggression and future delinquency (Greenwood, 2008).

In light of these changes, punitive justice system interactions are not limited to the criminal justice system: they can happen prior to adulthood within the juvenile justice system. Yet, they are often omitted or inadequately measured in existing research that

emphasizes the consequences of justice contact in adulthood. If juvenile justice system involvement does matter, then existing research may misstate the impact of criminal justice contact among individuals with histories of juvenile justice contact.

### **Research Questions & Contributions**

This chapter analyzes three research questions. First, what is the relationship between juvenile justice contact and health? Does it vary across levels of system involvement or the life course? Answers to this question establish the baseline relationship between juvenile justice contact and mental health and interrogate sources of variation throughout the adjudication process. Both areas are in need of research attention to fully identify cumulative disadvantage processes associated with the justice system (Kurlychek & Johnson, 2019). Next, does juvenile justice contact matter independently from criminal justice contact? Here, findings estimate the accumulative impact of all justice involvement throughout the life course to assess the relative importance of the juvenile and criminal justice contact for individuals involved with both systems. Finally, does juvenile justice contact matter differently across the life course? That is, are there differences in its short- and long-term impacts for health and wellbeing?

These analyses make several contributions to literatures on the consequences of justice involvement, cumulative disadvantage across the life course, and the intersection of health and the justice system. First, it takes seriously the qualitative differences in institutional settings across the juvenile and criminal justice systems. Analyses use clear delineations of systems to discern each's independent consequences for health and wellbeing. Further, these distinctions may refine existing knowledge on the health impacts of cumulative justice involvement by utilizing individuals' full histories of

system contact across institutions. Second, existing scholarship on the consequences of juvenile justice contact predominately focuses on future deviant behavior, status outcomes (e.g., education and employment), or waiver to adult court. The analyses here join literatures that highlight the health consequences of justice involvement and impacts associated with more common forms of justice contact that precede punishment (e.g., Apel and Powell, 2019; Kohler-Hausmann, 2018; Sugie & Turney, 2017) by considering a range of severity of juvenile system contacts. Finally, the models use relatively long reference periods to detect possible delay, decay, or amplification of consequences throughout the life course.

### **Data**

The analysis again draws on NLSY79 and NLSY97 cohort data. It restricts attention to the first 22 waves of NLSY79 data, when all respondents have completed a battery of questions on their health at age 40 (middle adulthood). The NLSY97 data is restricted to the first 16 waves of data. These two surveys have been frequently used to study outcomes associated with juvenile justice contact (Hjalmarsson, 2008; Sweeten, 2006; Makarios et al., 2017), and criminal justice contact (Baćak & Wildeman, 2015; Massoglia, 2008a; Massoglia, 2008b; Schnittker & John, 2007; Sugie & Turney, 2017). To the author's knowledge, this study is one of the first to distinguish all self-reported justice involvement across the juvenile *and* criminal justice systems when estimating health outcomes following institutional contact. Because each cohort is identified using different birth year windows, both surveys are again used to analyze the impact of system contact throughout early and middle adulthood. Cross-survey comparisons of estimated relationships are feasible because each contains similar measures of self-reported justice

system involvement, delinquent and/or criminal behaviors, mental health, and other important covariates that control for selection processes.

Table 9 provides social context for each cohort. Unsurprisingly, NLSY97 youth interacted with a relatively larger juvenile justice system that made more arrests and removed more youth from their home than NLSY79 youth. The 97 cohort interacted with a juvenile system during the late 1990s operating at peak levels (Chapter 2) following the implementation of “get tough” policies enacted to combat increasing juvenile violence (Feld, 2017). The bottom panel reveals differences in the socioeconomic backgrounds of youth with juvenile system contact across cohorts. Juvenile justice-involved NLSY97 youth were relatively advantaged as compared to juvenile justice-involved NLSY79 youth: they were less likely to be in poverty and came from homes with higher income levels. Together, these data suggest changing selectivity of the juvenile justice system: NLSY79 youth interacted with a smaller and more selective system, while NLSY97 youth contacted a larger and seemingly less selective system. The ‘goalposts’ of system involvement appear to have changed in the twenty-year gap across cohorts, such that NLSY79 youth have higher pre-existing risk levels. This distinction is important for understanding the varying social contexts and for interpreting any varying relationships across cohorts.

Table 9: Changes in Juvenile Justice and Socioeconomic Status Across NLSY Cohorts

	<b>NLSY79 (1979)</b>	<b>NLSY97 (1999)</b>
<i>Juvenile System Magnitude Metrics</i>		
Arrest	6,397 +	6,757
Placement	251	355
<i>Social Disadvantage at Wave 1</i>		
Mother's Education	1.83	11.94
Father's Education	1.88	11.72
In Poverty	33%	26%
On Welfare	2%	2%
Income, Household Average	\$34,453.61*	\$35,73.07
Resides in Urban Context	85%	77%

Notes: + = rate per 100,000 in 1980. \* = inflation-adjusted for December 1996 levels. Statistics obtained from sibling subsample of each NLSY cohort. Sources: Puzzanchera, C. and Kang, W. (2017). "Easy Access to FBI Arrest Statistics 1994-2014" Online. Available: <http://www.ojjdp.gov/ojstatbb/ezaucr/>; Sickmund, M., Sladky, T.J., Kang, W., & Puzzanchera, C. (2017). "Easy Access to the Census of Juveniles in Residential Placement." Available: <http://www.ojjdp.gov/ojstatbb/ezacjrp/>; Bureau of Justice Statistics (1989); Bureau of Justice Statistics. (1989). *Children in Custody, 1975-85* (NCJ-114065). Washington, D.C.: U.S. Government Printing Office

### Measures

#### *Focal Dependent Variables: Health and Wellbeing Across the Life Course*

The analysis measures health impacts throughout adulthood (Table 10). Models using NLSY97 data assess *mental health problems* using an average of responses to the shortened form of the Mental Health Inventory (MHI-5; range=1-4). Higher values on this scale indicate more frequently experienced symptoms of depression and anxiety in the past month. Starting at wave 4, survey respondents are asked about their mental health biannually. This analysis uses responses from waves 10 and later to ensure proper temporal ordering and to allow exposure time to criminal justice system involvement (minimum three years). For models using the NLSY79, *depression* is measured using the Center for Epidemiological Studies 7-item scale (CESD-7; range=0-21). Respondents indicate how frequently they felt a series of symptoms, where higher values indicate more depression symptoms in the past week. For this analysis, I use responses from Wave 12

(ages 27-35) and the Health at 40 question battery (asked of each respondent at the first interview following their 40th birthday). Scales are standardized to ensure compatibility across surveys.

Table 10: Focal Dependent Variables - Levels of Health and Wellbeing

	<u>Measure</u>	<u>Items</u>
<b>NLSY97</b>	Mental Health Problems (MHI-5)	<i>In the past month, how often have you:</i> Been a nervous person? + Felt calm and peaceful? Felt downhearted and blue? + Been a happy person? Felt so down in the dumps nothing could cheer you up? +
	Self-Rated Health	In general, how is your health?
<b>NLSY79</b>	Depression (CESD-7)	<i>In the past week, how often have you felt:</i> I did not feel like eating; my appetite was poor. I had trouble keeping my mind on what I was doing. I felt depressed. I felt that everything I did was an effort. My sleep was restless. I felt sad. I could not get “going”.
	Physical Health SF-12, Physical Component Summary (PCS)	<i>In a typical day, does your health limit:</i> moderate activities? climbing several flights of stairs? <i>During the past four weeks:</i> have you accomplished less than you would like because of physical health limitations? were you limited in the kind of work or other activities? how much did pain interfere with your normal work?
	Self-Rated Health	In general, how is your health?

+ indicates item has been reverse-coded.

The Physical Components Subscale (PCS) of the Short-Form, 12 Question (SF-12) health survey assesses a variety of physical limitations (short-form, 12-question) experienced by respondents in the NLSY79 cohort. Positive values indicate above-average physical health, while negative values indicate below-average levels of physical health. Respondents’ *self-rated health*, ranging from 1 (excellent) - 5 (poor) is an increasingly robust predictor of mortality risk (Schnittker & Baćak, 2014) and is available in both NLSY cohorts.

*Focal Independent Variables: Juvenile Justice System Contact*

Independent variables are created from self-reported justice system involvement from both NLSY surveys. They are coded to capture any system contact and stages of contact, and are delineated as occurring within the juvenile and criminal justice systems by triangulating reference windows, birthdays, and events dates of system contacts. Using 18 as the age of criminal responsibility<sup>5</sup>, contacts are coded as occurring within the juvenile justice system if they transpire when the respondent was 17 or younger at the age of reported experience and/or in the reference period of the survey wave in which it was reported; contacts at or after the 18th birthday are coded as occurring within the criminal justice system. Supplementary distinctions are used for questions that reference specific-system language, such as being adjudicated/convicted in juvenile court, going to a training school or juvenile facility, or serving time in an adult prison.

Given the connections between stigma and health (e.g. Link et al., 1997), the analysis includes stages of system involvement that present a risk of stigmatization by conferring a status or signaling continued system involvement: those that initiate contact or proceedings (police stop, arrest, or charging), issue a new status (adjudication), or confer punishment (probation or secure confinement). To ensure proper temporal ordering, these variables restrict attention to justice contacts occurring up to the wave prior to the outcome's measurement.

It is worth noting that each survey varies in how frequently respondents are asked about their justice system involvement. The NLSY97 repeats a battery of questions about

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<sup>5</sup> Despite changing age boundaries of juvenile justice, 18 remained the predominant threshold of criminal responsibility across the country. For this reason, it is used as the cutoff here.



justice involvement across all waves, comprehensively capturing juvenile and criminal justice involvement throughout the survey period. However, NLSY79 respondents directly report on justice contact *only* when they are 15-23 years old (Wave 2). Later contacts can be indirectly ascertained for respondents that were interviewed while in prison (e.g., Western, 2002). This survey feature is typically noted as a limitation in studies of adult incarceration, but it is less problematic for the present focus on juvenile justice contacts. By Wave 2, two-thirds of respondents are at least 18 years old. Direct measures of justice contact thus capture full histories of juvenile justice contact for a large majority of the sample<sup>6</sup>, but less serious system contacts in adulthood are likely undercounted.

### *Covariates*

I include similar covariates across surveys that capture background information associated with health problems and justice contact. Included measures are detailed in Table 15 (Appendix). With respect to individual-level risk factors, I control for gender, delinquent behaviors, age (and age squared), marital status (married or divorced), intelligence, health insurance, substance abuse histories, and prior health limitations (NLSY79) or behavioral problems (NLSY97). Indicators of socioeconomic status include living under the poverty line, being employed, highest grade level, and welfare receipt. Family background measures include parents' education level and the number of siblings/under 18 residents. Final controls capture living in the south, in urban areas, and exposure (number of completed interviews in reference period). Descriptive statistics for

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<sup>6</sup> Eighty percent of the sample is at least 17 at the time of interview during Wave 2, so many juvenile contacts are included.

all included covariates are detailed in Table 15 (Appendix). For simplicity, results in the body of paper focus on main effects of justice contacts for health. Full model results are available in Tables 16-29 (Appendix).

### **Analytic Strategy**

There are several empirical challenges in identifying the consequences of involvement with the justice system using observational data. An individual's likelihood of justice system involvement and poor health shares several known and unknown correlates. Socioeconomic disadvantage is strongly associated with levels of health (Elo, 2009; Link & Phelan, 1995) and justice involvement (Sampson, 1986; Western, 2006). Poor health can increase delinquent behaviors (Semenza, 2018). Justice-involved juveniles and adults alike suffer from heightened rates of health problems prior to and following system involvement (Shufelt & Coccozza, 2006, Wildeman & Wang 2017). Models may inaccurately attribute an impact of justice involvement to later health outcomes absent sufficient controls for competing explanations, including (but not limited to) pre-existing levels of health and social disadvantage.

As a corrective strategy, this analysis uses sibling fixed-effects models to remove the influence of unobservable, time-stable heterogeneity from the estimation of the health consequences of juvenile justice contact. These models are a variation on traditional fixed effects models that measure within-person change by using individuals as their own control over time to difference out unobserved, time-stable differences across persons. This sibling specification applies this same logic, but differs in that it removes time-stable *within household* variation from siblings raised in the same home who shared developmental and contextual environments (Amato, 2010). Estimated coefficients

represent differences in siblings with and without a certain experience – here, juvenile justice involvement. For the present purposes, model coefficients represent the difference in mental health between same-household siblings with and without the specified level of justice contact, net of unobserved, time-stable household variation *and* included, time-varying covariates.

This design capitalizes on the NLSY surveys' sampling strategy, which recruited all youth of a survey-eligible home who met inclusion criteria (e.g., birth year) for participation. Each cohort includes a sizable proportion of multi-respondent households (NLSY79: N=5,863, 46.2%; NLSY97: N=4035, 44.9%). The analysis limits attention to these subsamples. Instead of using individuals as their own control over time, sibling fixed-effects estimate coefficients by differencing out time-stable variation stemming from shared backgrounds and environments among these NLSY subsamples of siblings.

At the time of writing, I could not locate any published research that used fixed-effects identified on sibling groups to study the relationship between justice involvement and health. Existing research uses several methods to correct for selection biases, including least-squares regression (Barnert et al., 2017), propensity scores (Baćak & Wildeman, 2015; Gilman et al., 2015; Massoglia 2008a; Porter, 2014), individual fixed-effects (Schnittker & John, 2007; Sugie & Turney, 2017), and natural experiments (Baćak, Andersen, & Schnittker, 2018). While each of these strategies has benefits and tradeoffs, a sibling fixed effects specification is especially advantageous for this analysis. It nullifies stable unmeasured differences associated with household contexts and developmental environments that affect an individual's health (e.g., Beckley, Palmer, Roque, & Whitfield, 2019). This is a sizable benefit to the analysis, as the NLSY surveys

contain few controls for these influences. The ability to eliminate these unmeasured confounders comes at a tradeoff for sample size and external validity, as the sample restriction sacrifices generalizability of findings. It is likely, then, that this modeling strategy produces relatively conservative estimates of the relationship between juvenile justice contact and health outcomes.

Identification in these models invokes strong assumptions about similarity in family life experiences across siblings (Amato & Anthony, 2014), violations of which are not easily identified. Despite their relatively narrow birth year windows, I include additional measures that can account for differences in exposure to shared environmental contexts and family processes among siblings, such as the number of siblings living in the home across survey years and early childhood experiences. As an additional control, models include a lagged dependent variable when possible to eliminate biases associated with unmeasured, persisting differences across individuals *and* households.

## **Results**

There is a non-trivial amount of justice involvement across the sibling subsample of each NLSY cohorts (Figure 16). A higher proportion of the NLSY97 sample reports all forms of system contact. This elevated level is expected, given the different sociolegal contexts in which 97 and 79 youth came into contact with the justice system (see Table 9). Looking to the left of the graph, about 18-22% of each cohort experiences some involvement with the juvenile justice system, while 17-25% reports any involvement with the criminal justice system. Earlier stages of system contact – such as being stopped by the police or arrested – are more common than carceral punishments in both cohorts.

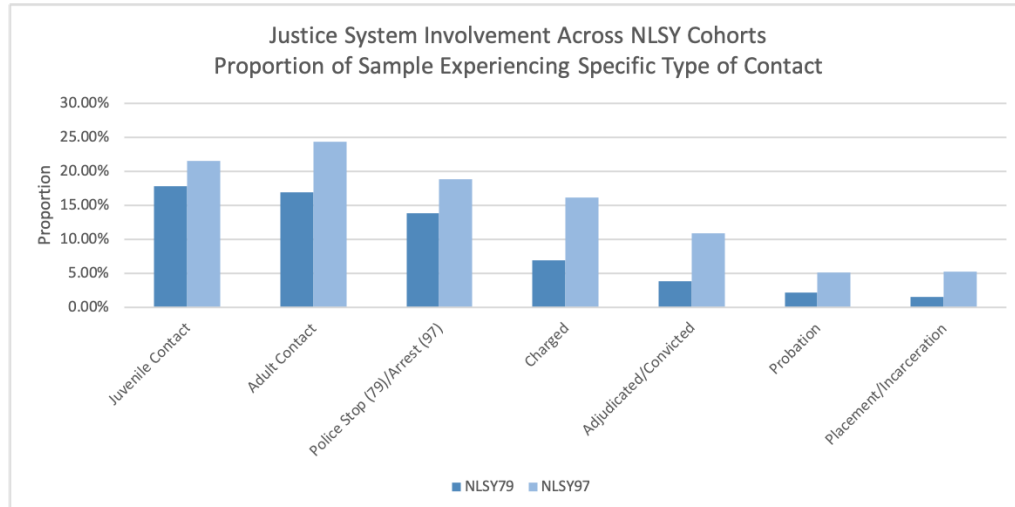
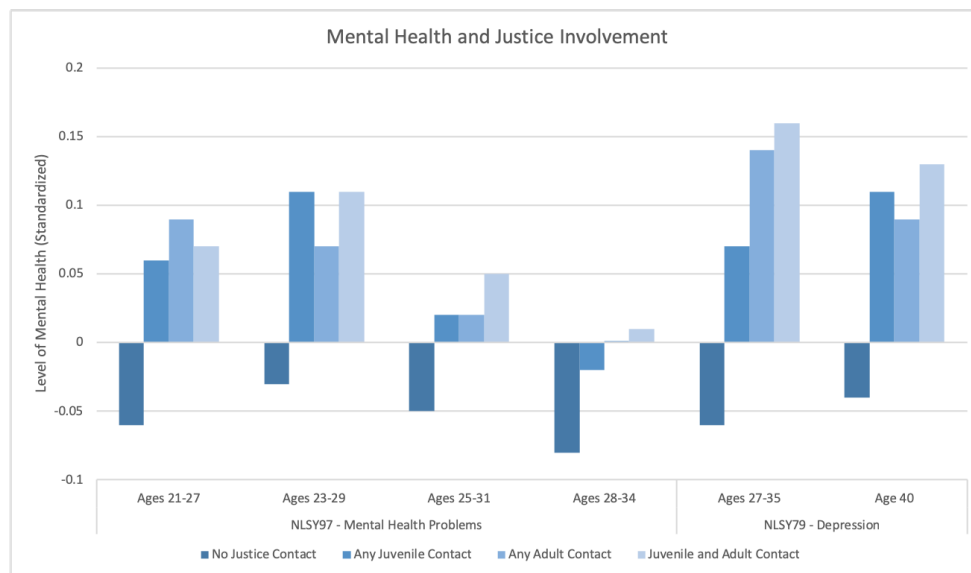


Figure 16: Juvenile Justice Contact in the NLSY79 & NLSY97

Across both surveys, juvenile- and criminal-justice involved persons are more similar than distinct: 54% (NLSY79) and 75% (NLSY97) of all individuals with any juvenile justice system involvement *also* report adult criminal justice involvement. A singular system defines the extent of contact for some individuals, but the modal experience is involvement with both systems. This pattern corresponds with research relating juvenile justice contact with an increased likelihood of criminal justice contact in adulthood (e.g., Gatti et al., 2009). It further indicates that referrals to the juvenile or criminal justice system as the sole form of system contact will accurately capture only some individuals' experiences. Preliminarily, it appears that the exclusion of some portion of justice involvement histories will implicitly measure contact in two systems for a nontrivial number of individuals.



**Figure 17: Descriptive Levels of Mental Health**

Note: Positive values indicate relatively *worse* mental health (above average levels), while negative values indicate relatively *better* mental health (below average levels). NLSY97 values reflect responses to the MHI-5 scale of depression and anxiety; NLSY79 values reflect responses from the CESD-7 depression scale.

Across the life course, individuals with no justice system contact have better mental health (lower than average mental health problems) than those with any system contact (Figure 17). Individuals with any justice system involvement experience above average – or worse – mental health relative to those without contact. Descriptively, there is no apparent pattern in the relative magnitude of mental health problems among individuals with juvenile or criminal justice contact. However, at nearly every observation point, persons with contact in both institutions experience the most mental health problems. It is worth noting that NLSY79 youth appear to have slightly worsened mental health, relative to NLSY97 youth. While the exact scales and measures differ, there is nonetheless an appearance that youth in the 79 cohort suffer from more mental health issues than 97 youth to potentially impact outcomes observed following juvenile system contact.

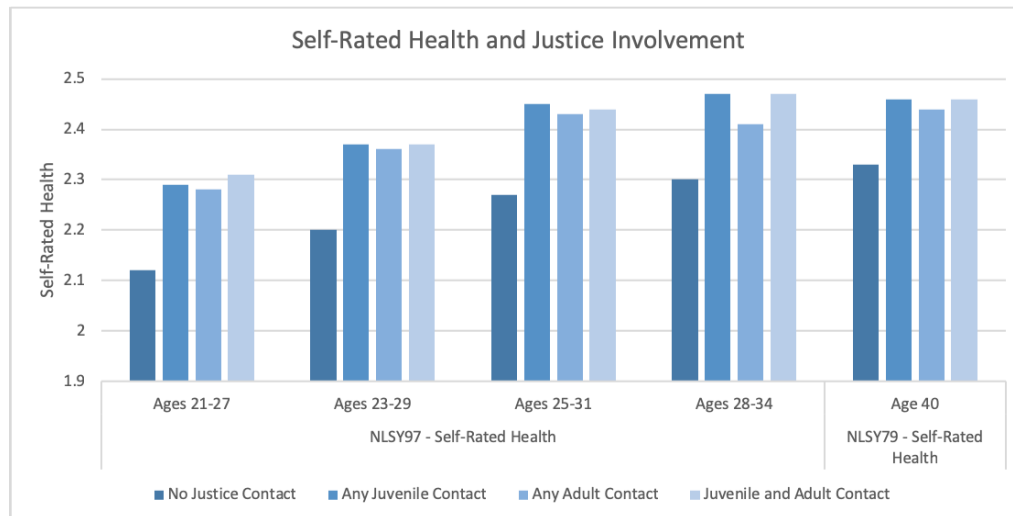


Figure 18: Descriptive Levels of Self-Rated Health

Note: Higher values indicate worse self-rated health, while lower values indicate relatively better self-rated health.

Turning to physical health, individuals without any justice system contact consistently have the highest self-rated health (Figure 18). The largest distinctions are between persons with and without any system involvement. There are just slight differences across different populations of individuals with justice system contact. Physical health scores are similarly lower among individuals with any level of justice system involvement (Table 11). Persons without any justice contact exhibit the best physical health. Small differences distinguish the physical wellbeing of individuals with varying levels of justice contact.

Table 11: Descriptive Levels of Physical Health

	NLSY79: Physical Health at 40 Range=11.22-65.92
No Justice Contact	52.34 (7.57)
Any Juvenile Contact	51.52 (8.57)
Any Adult Contact	51.34 (8.47)
Juvenile and Adult Contact	51.03 (9.05)

*Notes on interpretation: The Physical Health Scale (PCS-12) has a mean of 50 and standard deviation of 10 in large national surveys. Scores of 50 and above indicate better health than the average American. One-point differences in the scale value correspond with 1/10 of a standard deviation. All group differences are statistically significant at  $p < .05$ .*

Thus, there appears to be some relationship between justice system involvement and health, whereby individuals with justice involvement tend to exhibit worse mental and physical health. Multivariable analyses determine if these associations exist net of additional controls for selection biases and competing explanations.

*Baseline Models – Juvenile Justice Involvement and Mental Health*

The first set of results (Table 12) compiles estimates from a series of sibling fixed effects models that identify the impact of juvenile justice involvement on mental health associated with general contact or a given system stage. Standardized coefficients constitute differences in mental health between siblings with and without each specified type of juvenile system involvement. There are few significant relationships between juvenile contact and mental health in early and middle adulthood.

Of those that can be differentiated from zero, findings suggest a complicated story. The first impacts materialize approximately 5-10 years later following system involvement (Column 3). Siblings with juvenile justice involvement have significantly fewer mental health problems than siblings with no juvenile system contact. The magnitude of the relationship increases slightly with deeper system involvement, suggesting a stronger impact as youth remain in contact with the juvenile system. These improvements are consistent with research demonstrating short-term improvements to mental health during incarceration in adulthood. They differ, however, in that they are observed at system stages occurring before secure custody and are apparent 5-10 years following the experience. Despite the importance of preceding stages, secure placement (incarceration) fails to reach significance. This somewhat surprising finding may indicate



that selection biases drive the relationship between youths' confinement and mental health and have been inadequately corrected in prior research.

Table 12: Consequences of Juvenile Justice Contact for Mental Health

	<b>NLSY97: Mental Health Problems</b>				<b>NLSY79: Depression</b>	
	(1) Ages 21-27	(2) Ages 23-29	(3) Ages 25-31	(4) Ages 28-34	(5) Ages 27-35	(6) Age 40
Any Contact	-.12 (.14)	<b>-.38 (.14) **</b>	-.12 (.13)	<b>-.25 (.14) +</b>	.07 (.07)	<b>.17 (.07) *</b>
Arrested	-.12 (.14)	<b>-.45 (.15) **</b>	-.12 (.14)	<b>-.26 (.15) +</b>	.06 (.08)	<b>.14 (.08) +</b>
Charged	.04 (.16)	<b>-.33 (.16) *</b>	-.12 (.14)	-.08 (.16)	-.02 (.11)	.16 (.11)
Adjudicated/ Convicted	.15 (.18)	<b>-.37 (.19) +</b>	.04 (.18)	<b>-.31 (.19) +</b>	-.02 (.15)	.16 (.15)
Probation	<b>.44 (.14) +</b>	<b>-.50 (.26) +</b>	-.12 (.25)	-.40 (.25)	-.01 (.18)	<b>.44 (.18) *</b>
Placement/ Incarceration	-.18 (.30)	.24 (.32)	-.23 (.29)	<b>-.51 (.29) +</b>	.10 (.23)	<b>.51 (.23) *</b>
<i>N</i>	<i>1400</i>	<i>1412</i>	<i>1402</i>	<i>1283</i>	<i>3369</i>	<i>3329</i>

+  $p < .10$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$  Note: Coefficients are standardized. Models include controls for all covariates listed in Table 1A. Waived youth are not included in these models, as their experience necessarily occurs within the criminal justice system. Full model results available in Tables xvi-xxi (Appendix).

In addition, there is a marginally significant impact of juvenile justice contact on mental health age ages 28-34, approximately 10-15 years following the experience. The direction of these relationships across processing and placement again indicates some benefits of juvenile system contact for mental health. Primary conclusions indicate that NLSY97 youth can experience some benefits to health across levels of system involvement, including deep-end secure punishment. Possibly, these youths may receive effective treatment at earlier system stages to improve their mental health (e.g., Greenwood, 2008). This relationship remains even with sensitivity analyses (not shown) for intervening recent justice contacts (arrest and incarceration) in adulthood. NLSY97

youth appear to receive some benefits after involvement with a more punitive juvenile system

General and stage-specific juvenile justice contacts are not associated with depression among similarly aged NLSY79 youth (ages 27-35, Column 5). Impacts of juvenile system involvement for mental health are only detected again later in adulthood among NLSY79 youth (age 40; Column 6). The direction of the relationship changes: positive coefficients indicate that siblings with juvenile justice contact report more symptoms of depression, or worsened mental health, than their siblings without any juvenile contact. These harms are driven by early and later system contacts; intermediate processing stages do not reach conventional significance levels. A police stop that doesn't necessarily result in an arrest is associated with more depression symptoms, consistent with prior research identifying police stops as detrimental to mental health for young adults (Baćak & Nowotny, 2018; Geller et. al., 2014). Further, juvenile probation and secure placement are also associated with more depression symptoms. The magnitude of this relationship is larger than that associated with police stops, suggesting more conferred harm with deeper juvenile system involvement. These impacts are detected over twenty years after system contact, suggesting a delayed impact and harm to mental health following juvenile involvement with a system that is smaller and relatively less harsh.

#### *Baseline Results – Juvenile Justice Contact and Physical Health*

Results from baseline models estimating the impacts of physical health following juvenile justice involvement (Table 13) fail to detect any significant relationships at conventional thresholds. Adjudication and probation are associated with marginally

significant improvements to self-rated health among NLSY97 youth at ages 28-34. Any level of juvenile contact does not significantly affect individuals' self-reported health or physical capabilities among NLSY79 youth. While siblings descriptively reported worse physical health, these differences did not materialize in multivariable regression, suggesting that differences are small or accounted for by included covariates and controls for household differences.

Table 13: Consequences of Juvenile Justice Involvement for Physical Health

	NLSY97				NLSY79	
	(1) Self-Rated Health Ages 21-27	(2) Self-Rated Health Ages 23-29	(3) Self-Rated Health Ages 25-31	(4) Self-Rated Health Ages 28-34	(5) Self-Rated Health Age 40	(6) Physical Health Age 40
Any Contact	.06 (.14)	.14 (.12)	-.03 (.13)	-.14 (.13)	.09 (.07)	-.17 (.54)
Arrested	.09 (.14)	.19 (.13)	-.09 (.13)	-.15 (.14)	.11 (.07)	-.27 (.59)
Charged	.14 (.15)	.17 (.14)	-.07 (.14)	-.14 (.14)	-.05 (.10)	.41 (.85)
Adjudicated/Convicted	.22 (.18)	.05 (.16)	-.03 (.17)	<b>-.31 (.17) +</b>	-.01 (.14)	.40 (1.16)
Probation	.31 (.24)	-.08 (.22)	.16 (.23)	<b>-.41 (.23) +</b>	-.00 (.17)	-.80 (1.40)
Placement/Incarceration	.10 (.30)	.26 (.27)	.29 (.27)	-.05 (.28)	-.01 (.23)	-.57 (1.84)
<i>N</i>	1330	1417	1416	1303	3457	3435

Note: models include prior measure of self-rated health. +  $p < .10$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ . Full regression output included in Tables xxii-xxvii (Appendix).

Results thus far implicate the juvenile justice system as consequential for mental health, but conclusions about the nature of its impact are contingent on the timing of outcomes and the level of system involvement. NLSY97 youth experience some *improvement* to their mental health 5-10 years later, while NLSY79 youth have *worsened* mental health over 20 years later. This divergence in relationship direction may be produced by a number of underlying mechanisms. It is possible that it signals the long-

term erosion of any benefits of system-administered treatment for a long-term net negative impact. In a different scenario, the juvenile justice system which contacted NLSY79 youth may have been functionally much worse for mental health than the system which contacted NLSY97 youth. It is also plausible that health benefits for justice-involved NLSY97 youth materialize because of differences in system boundaries and populations across cohorts. Specifically, policy changes that impacted the population of youth eligible for juvenile system involvement removed relatively high-risk youth to the criminal justice system via waiver processes. Waived youth tend to have disparately high levels of mental health problems (Washburn et al., 2015). Consequently, apparent benefits for NLSY97 youth may reflect a difference within a relatively lower risk sample of youth retained in the system. Available data, however, cannot adjudicate between any of these explanations. Juvenile justice contact does not appear to significantly impact physical health.

*Interactive Results – Cumulative Justice System Involvement*

Table 14: Health Consequences of Cumulative Justice Involvement

	<b>Mental Health</b>			<b>Physical Health</b>		
	(1) NLSY97 Mental Health Problems Ages 23- 29	(2) NLSY97 Mental Health Problems Ages 28- 34	(2) NSY79 Depression  Age 40	(4) NLSY97 Self- Rated Health Ages 28- 34	(3) NLSY79 Self- Rated Health  Age 40	(5) NLSY79 Physical Health  Age 40
Any Juvenile Justice Contact	<b>-.58 (.27)</b> *	.10 (.25)	<b>.33 (.09)</b> ***	-.21 (.24)	<b>-.21 (.09)</b> *	-.74 (.73)
Any Criminal Justice Contact	<b>-.37 (.17)</b> *	.14 (.17)	-.02 (.09)	.22 (.17)	-.09 (.09)	-.05 (.73)
Juvenile <i>and</i> Criminal Justice Contact (Interaction)	-.50 (.33)	<b>-.55 (.31)</b> +	<b>-.29 (.14) *</b>	-.04 (.30)	<b>.30 (.14)</b> *	1.13 (1.14)
Net Impact	--	--	.04	--	.09	--
<i>N</i>	1412	1283	1803	1417	3457	3435

+  $p < .10$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$  Note: Coefficients are standardized. Models include controls for all covariates listed in Table 1A. Full regression results available in Table xxviii-xxix (Appendix).

Because most NLSY individuals involved in the juvenile system were also involved in the criminal justice system, it is important to consider if these baseline relationships change after accounting for all justice involvement across the life course. Table 6 presents estimates from cumulative models that estimate system-specific (main effects) and additive (interaction) impacts of juvenile and criminal justice involvement. Findings largely affirm the importance of juvenile contact for mental health (Table 14, Columns 1, 2, and 3). Restricting attention to the points at which contacts were consequential in baseline models, juvenile justice system involvement mostly retains its importance, in significance and direction, for explaining levels of mental health in interactive models that include all system contacts throughout the life course for NLSY97 and NLSY79 youth. At both time points, the magnitude of the juvenile contact main

effect is larger relative to that estimated for juvenile-only models. This primarily affirms the independent significance of juvenile system involvement, as the inclusion of adult contacts did not undermine their impact on mental health. The exception is for mental health at ages 28-34 (NLSY97), where the baseline marginal significance of juvenile justice contact measures disappeared in this estimation.

Relationships between justice contact and physical health remain largely insignificant, with the exception of self-rated health at age 40. Juvenile justice involvement is significantly associated with slightly worsened self-rated health among NLSY79 youth, approximately 20 years following system contact. This lapse suggests a delayed onset of negative health ramifications following juvenile system contact, in accordance with findings for depression at the same age window.

Criminal justice contacts do not consistently have a direct significant relationship to mental health. The main effect of this relationship reaches significance for the NLSY97 cohort only. Similar to juvenile contact, criminal justice contact in the NLSY97 is associated with fewer mental health problems. This relationship conflicts with existing research that finds negative implications of arrest for mental health among NLSY97 adults using individual fixed-effects models (e.g., Sugie & Turney, 2017). This difference may be a product of varying assumptions embedded in research designs, differential accounting for selection processes, the inclusion of cumulative justice measures, or a combination of the three. Yet, the magnitude of the impact associated with adult contact is relatively smaller than the juvenile coefficient, indicating a moderately weaker relationship. Both experiences matter for mental health, but the relationship remains in an unexpected direction. For NLSY79 youth, however, the main impact of criminal justice

contact is negligible and insignificant. Similarly, criminal justice contact is also not significantly related to self-rated health at age 40.

Interaction terms added to each model estimate the accumulated impact of juvenile and criminal justice involvement throughout the life course. These relationships capture unique impacts of contact across both systems that exist *in addition to* established main effects associated with each system. This term only reaches significance for the NLSY79 cohort: the cumulative impact of juvenile and criminal justice involvement is associated with fewer symptoms of depression and improved self-rated health. This relationship is in the opposite direction of that observed for juvenile contacts, indicating a unique impact of accumulated contacts across systems for mental health and self-assessments of health. Involvement with both systems has a positive benefit, indicating some erosion of the damage associated with juvenile contact among NLSY79 youth. Overall, however, the net impact for both depression and self-rated health is negative, driven by the relatively larger magnitude of harms associated with juvenile contacts. Criminal justice contacts are indirectly related to depression and self-rated health among NLSY79 youth: their impact operates through the interaction term, rather than the main effect variable.

There are two takeaways from interactive models including full individual histories of justice system involvement. First, the relationship between juvenile justice contact and health mostly persists in the presence of criminal justice contact measures. It retains its significance and direction for later mental health for both NLSY79 and NLSY97 youth, and the absolute value of the juvenile contact coefficient is persistently of greater size than that of criminal justice contacts. When independently significant

(NLSY97 youth), the importance of criminal justice contact does not undermine the importance of juvenile contact. For NLSY79 youth, criminal justice contact is only significant for individuals with contact in both systems through the interaction term; it makes no independent significant contribution. Thus, relationships detected in models only including juvenile contacts are not sensitive to later justice involvements.

The second conclusion is that there is still an apparent disjuncture across cohorts in the direct of impact of juvenile justice contact for mental health. This association with juvenile involvement (as is the association with criminal justice contact) is beneficial for NLSY97 and confers a net harm for NLSY79 youth. The intervening mechanisms driving this changing relationship are still unclear, but they are not sensitive to criminal justice contact.

### **Discussion**

There are ample theoretical and practical reasons to study the social consequences of juvenile justice contact, yet the experience remains understudied relative to criminal justice system contact. Juvenile system involvement could plausibly be harmful, beneficial, or unrelated to physical and mental health through system-specific mechanisms. This research adds to understanding about the social importance of justice system contact by identifying the importance of juvenile justice system involvement across the life course, independently and in conjunction with criminal justice contact, for measures of health and wellbeing using sibling fixed-effects models that minimize biases associated with unobserved, household-level variation.

Descriptively, there is a nontrivial degree of institutional contact across cohorts. Many of these individuals were involved with both the juvenile and criminal justice



systems – approximately 10-15% of each NLSY cohort. Existing research that studies justice contacts exclusively within the scope of a single justice system – juvenile or criminal – may be unintentionally assessing the consequences of multi-system involvement if they do not fully account for repeated institutional contact. These datasets are frequently used to study the impacts of the justice system; existing evidence may be inadvertently attributing consequences to the wrong institution absent clear, correct measurement. To this point, it appears to be of great importance for future scholarship to consider the totality of institutional contact across systems and the life course to best understand where involvement matters for social lives.

Findings from sibling fixed effect regression models reveal that the juvenile justice system is an important intervention of formal social control and a meaningful event in the life course. There are significant short- and long-term impacts of juvenile justice involvement for mental health. Five to ten years later, youth in the NLSY97 cohort who were involved with the juvenile system have fewer mental health problems than their siblings who were not involved in the juvenile system. This relationship is driven by contact with early stages of system involvement, not secure punishment. In the long-term, NLSY79 youth involved in the juvenile justice system report more symptoms of depression than siblings without any system involvement over twenty years after system contact. Being stopped by the police, on probation, or in secure custody were significantly associated with worsened mental health. The size of this relationship increased throughout system processing, suggesting that deeper system involvement is more problematic for mental health. Baseline results indicate short-term improvements and long-term detrimental impacts of juvenile system contact to mental health, with

varying degrees of impact across system stages. There were no significant associations detected for baseline models of physical health.

For the majority of NLSY survey respondents reporting any justice contact, the most accurate characterization of their experience is both juvenile *and* criminal justice contact. Yet, many studies using this data study the ramifications associated with just one system. The second set of models considered the impact of the ‘dosage’ of justice system involvement for health (e.g., Massoglia & Pridemore, 2015). They utilized full individual histories of justice system involvement – those occurring in both the juvenile and criminal justice systems – to assess any enduring significance of juvenile contact throughout the life course. Results did not alter conclusions about the importance of juvenile justice system involvement for mental health; they mostly affirmed their importance. In addition, juvenile contacts emerged as significant predictors of self-rated health at age 40 among NLSY79 youth.

There are additional impacts of contact in both systems observed in the long-term. At age 40, juvenile and criminal justice contact was associated with a unique added impact on depression and self-rated health. Involvement in both systems was associated with fewer depression symptoms and improved self-rated health. The net impact for both mental health and self-rated health is negative, as the total impact of juvenile justice involvement is larger than the ‘recovery’ associated with joint system involvement. The additional information provided by these interactions affirms the importance of cumulative assessments of justice involvement in advantage and disadvantage processes across the life course (e.g., Kurlychek & Johnson, 2019).

In these models, the importance of criminal justice contact mattered differently across cohorts. It was independently and significantly related to mental health problems in the same direction – but of a smaller magnitude – than juvenile justice contacts among NLSY97 youth in young adulthood. This relationship suggested improvements to mental health following criminal justice contact, a finding that contradicts existing scholarship (e.g., Sugie & Turney, 2017). This difference is likely to stem from variation in methods, as the specification employed here utilizes a relatively smaller subset of the data to reduce omitted variable biases. Dual system contact failed to reach significance, suggesting no additional impact associated with repeated contact across institutions in young adulthood.

Criminal justice contact does not reach independent significance for mental health or self-rated health among NLSY79 youth but does matter in conjunction with juvenile justice contact, as indicated by the significance of the interaction term. This absence of significant main effects of adult contact may be a byproduct of the survey construction that is likely to undercount criminal justice involvements relative to juvenile contacts in this particular survey. Despite differences across cohorts, the conclusion nonetheless is that all justice contacts matter as some part of a process of cumulative disadvantage experienced by those with continual institutional involvement.

#### *Potential Mechanisms*

The changing directionality of the relationship between juvenile justice contact and mental health across cohorts is a surprising finding. Potential mechanisms driving this difference are not readily testable in this analysis, but nonetheless merit discussion as avenues of exploration for future research. Results revealed juvenile justice system-

involved youth had fewer mental health problems in young adulthood, in alignment with prior work finding improvements to health during incarceration. Removal from risky environments or access to healthcare are two proposed mechanisms in scholarship on adult imprisonment. Yet, these explanations stem from institutional settings and do not translate to the present findings, where benefits were concentrated among non-custodial juvenile system contacts and were apparent five to ten years after the contact experience. It may be the case that treatment processes are initiated earlier in the juvenile justice process, relative to the criminal justice process.

Positive associations with juvenile justice contact may track broader developmental trends in mental health disorders. Population-level estimates find that the median age of onset of mood-related disorders, including major depressive symptoms, is about 30 years of age (Kessler et al., 2005). In young adulthood, apparent improvements to mental health associated with juvenile justice contact may reflect benefits experienced by those with fewer pre-existing problems ahead of the expected manifestation of relatively more serious problems. On the other hand, the positive correlation between juvenile justice contact and depression at age 40 – a relationship that persists in light of symptoms from ages 27-35 – seems to indicate an actual impact of the system, rather than an artifact of normative developmental patterns across the life course. Further, it may reflect the continued and cumulative influence of justice contact as a stressor (Thoits, 2010).

NLSY79 youth with low-level and late-stage system contacts reported more depression symptoms than their siblings without these juvenile contacts, suggesting that relatively superficial system involvements as a juvenile can carry a lasting impact for

mental health. This finding aligns with prior literature (Baćak & Nowotny, 2018; Barnert et al., 2017; Sugie & Turney, 2017) and the social stress perspective, where system contact acts as an enduring stressor that cumulatively affects health (Thoits, 2010). Since this relationship exists in the presence of a lagged dependent variable and controls for unobserved variation across environments, it increases the possibility that the nature of system involvement is associated with levels of mental health, holding constant pre-existing levels and independent of normative developmental patterns across the life course. Because the NLSY97 cohort is too young, the presence of long-term detrimental impacts cannot yet be assessed for these youths.

Diverging relationships across cohorts may also be explained by the varying socio-legal contexts in which youth interacted with the justice system. Relative to the NLSY79 cohort, NLSY97 youth transitioned to adulthood during a relatively more punitive era of justice policy. Several legal mechanisms implemented during the time intervening between cohorts' interaction with the system increasingly exposed juveniles to the possibility of criminal justice processing and punishment, including expanded waiver provisions (Redding, 2003) and blended sentencing (Schaefer & Uggen, 2016). To "get tough" on delinquency, these policies effectively filtered "serious" delinquents out of the juvenile system and into the criminal courts while retaining youth with less serious petitions. If severity of delinquent behaviors is correlated with pre-existing health problems and/or susceptibility to stress, these policies may have sorted out the most disadvantaged youth to the criminal courts. Indeed, youth waived to adult court tend to have more pre-existing mental health problems (Washburn et al., 2015).

The contextual variables described above (Table 9) support the plausibility of this underlying process. Juvenile justice-involved youth in the NLSY97 were more socially advantaged and interacted with a larger and more punitive juvenile justice system than youth in the NLSY79 cohort. These patterns together indicate a less selective, more expansive justice system interacting with NLSY97 youth who are less disadvantaged – and possibly at a generally lower risk of health problems. Conversely, the NLSY79 youth contacted a system that had yet to implement such laws on a wide scale and was consequently more likely to have interacted with a more diverse set of juveniles with respect to disadvantage and risk. Observed detriments in this cohort may be driven by the most disadvantaged youth with the highest risks for health problems in a context where fewer policies existed to sort these youths out of the juvenile court. As a consequence, improvements to mental health may reflect that the system interacted with less disadvantaged youth who experienced some benefit with relatively superficial levels of contact. Nonsignificant findings for secure placement may reflect selection biases.

### **Limitations**

Several limitations merit discussion to contextualize findings. First, although siblings fixed-effects are advantageous for ruling out biases associated with unobserved correlates of health across the life course, relationships presented here constitute associations and cannot be interpreted as causal. Specifications invoke strong assumptions about shared experiences across siblings within households that are not readily testable. It is unclear as to whether these assumptions are met or violated, but models are bolstered by included lagged measures of the dependent variable and time-varying correlates. However, causal inference remains elusive.

Second, the analysis relies on secondary survey data that was collected to broadly assess the transition to adulthood in two cohorts of American youth. Measures of justice involvement are reliant on accurate recall and reporting during interviews, and mistakes that may undermine the integrity of results are not easily identifiable. It is possible that respondents conflated or inaccurately attributed stages of justice system contact in their survey responses.

Relatedly, in most specifications, adult criminal justice involvement does not emerge as independently significant in predicting health. It more frequently exhibits importance when jointly considered with juvenile justice contacts to indicate that repeated institutional contact is associated with unique additional consequences for individual health and wellbeing. While it does not emerge as statistically significant, it is difficult to imagine that criminal justice system involvement is not substantively significant. The absence of significant findings in the NLSY79 for adult contacts may be a byproduct of the survey construction, as its lack of repeated questioning about justice contacts undercounts criminal justice involvements relative to juvenile. Regardless of its independent importance, it seems that all justice contacts matter as part of a process of cumulative disadvantage experienced by those with continual institutional involvement.

The analysis limits attention to multi-respondent households in each cohort. At a tradeoff for internal validity, the analysis uses a smaller sample size that precludes specific examination of the variation in these consequences across sample subgroups. Specifically, cell sizes become too small to estimate models that would reveal differences in the connection between system contact and health across sociodemographic groups. Research demonstrates varying responses to delinquency contingent on the youth's race

and gender (e.g., Pisciotto, 1983). Because there is little racial/ethnic variation within sibling pairs, it is not possible to estimate these associations with this specification. An intersectional approach to studying delinquency would reveal interesting insights into variations across groups that likely reflect differences in the nature of their involvement with the system, and remains an area to be explored with future research.

Finally, it is not clear what mechanisms drive these relationships. With available data, it is not possible to test hypotheses connecting varying socio-legal contexts to observed differences associated with institutional involvement. Thus, findings cannot confirm if youth interact with juvenile systems with varying degrees of commitment to the system's rehabilitative ideal, as evidenced through receipt of treatment services, length of custodial stay, or other intervening variables.



## **Conclusion**

Involvement with the juvenile justice system has a persistent and long-term impact on youths' mental health throughout the life course. Conclusions about the exact nature of this relationship vary throughout the life course and across socio-legal contexts, but the baseline importance of juvenile system involvement remains even with the inclusion of criminal justice contacts. Unique impacts of cumulative justice system involvement are apparent but fail to supersede the importance of juvenile system contact.

Relatively recent juvenile justice involvement is associated with improvements to mental health, whereas juvenile system involvement prior to the "get tough" era is associated with worsened mental health. The changing direction of this research cannot be explained with available data, presenting an area of future inquiry to determine the mechanisms through which juvenile contact improves or worsens individuals' health.

Scholarship producing estimates of justice system involvement for some aspect of social life stemming from a single system – juvenile or adult – are likely to fail to fully capture the contingent and complex relationships between justice involvement and cumulative disadvantage over the life course. This research may be unintentionally assessing the consequences of multi-system involvement absent adequate modeling of all reported justice contacts across institutions. It appears to be of great importance for future scholarship to consider the totality of contact across the life course to best understand where involvement matters for social lives.

Policy implications from this research reveal a need to understand the processes which explain why harm is evident at differing points in the justice process and across systems. Observed improvements to health suggest that the justice system can serve as a

point of intervention to provide health and therapeutic services to individuals in need, especially in the juvenile justice system. Future research should identify best practices for effectively delivering services in this institutional context to avoid harm – and potentially provide benefits.

## **Chapter 5: Conclusions and Future Directions**

This dissertation examined the forms and consequences of changes to juvenile justice throughout an era distinguishable for its harsh treatment of delinquent youth. Using several data sources, the preceding three empirical chapters provide several substantive and methodological contributions to the study of juvenile justice.

### **Conclusions**

The focus of Chapter 2 was to bring together three sources of administrative data to illustrate how punitive rhetoric impacted the administration of juvenile justice throughout the last thirty years. It drew from official arrest data from the Uniform Crime Report, a compilation of court processing data collected from a nationwide nonprobability sample, and two national surveys of secure juvenile placement facilities. Together, these data sources shed light on the functioning of three parts of the juvenile justice system – law enforcement, the courts, and punishment. Overall, the delinquency rate, number of cases in the juvenile court, and use of secure punishment have all declined since the 1990s. There are two main takeaways within these broad trends.

First, waiver to adult has arguably received the most policy and empirical attention out of all changes to juvenile justice implemented throughout the 1980s and 1990s. However, the ratio of juvenile court cases sent to adult court is consistently small in relation to the delinquency rate, as compared to all other court dispositions. While the frequency of waiver increased throughout the 1980s and 1990s, its baseline remained low throughout this entire period. Secure placement has also received much attention, yet it similarly involved a small number of cases in comparison to all other possible court outcomes. Thus, the first takeaway is the scarcity of the most extreme punitive outcomes

in the juvenile justice system relative to the amount of commanded attention from policymakers and researchers.

Relatedly, non-custodial juvenile court dispositions are far more common throughout this entire period. The ratio of cases resolved through probation, fees, and other similar sanctions has increased relative to the delinquency rate, despite overall declines in the number of cases processed in the juvenile court. Additionally, the magnitude of growth in the ratio of cases receiving probation or other sanctions has outpaced growth in the ratio of dismissed cases. Together, these trends suggest increased formality and net-widening in the juvenile justice process. These dispositions impact a much larger population of youth than waiver or placement yet receive much less attention in existing scholarship. The second takeaway is that a focus on more severe dispositions omits a significant number of youth who experience other outcomes from the juvenile court. Consequently, future research should focus on the experiences of youth retained in the juvenile court who do not enter secure facilities, as this constitutes the extent of involvement for many more system-involved youth.

Chapter 3 shifted the focus to individuals' experiences within the juvenile justice system. Historically, the juvenile court has differed in its use of control along the lines of race, gender, and poverty. This chapter examined how these (and other) characteristics of youth related to their probability of system involvement and level of processing. To explore these relationships further, follow-up analyses assessed the relative performance of covariates in explaining group differences in juvenile system contact. The analysis used two large scale survey datasets – the NLSY79 and NLSY97 – to estimate these relationships, constituting a different approach from many existing studies that utilize

administrative data records. A twenty-year gap separates the transition to adulthood across cohorts, such that each contacted the juvenile system in a different policy context. There are three main takeaways from a series of regression models.

Social background information exerts a persistent and significant influence on youths' probability of juvenile justice contact in expected and unexpected ways. The impact of background characteristics varies across points in the juvenile justice process. As expected, boys and poor youth have a heightened risk of juvenile involvement and deeper processing relative to girls and nonpoor youth. Race was not significantly related to a youth's likelihood of juvenile system contact in most models, with one exception: it was significantly associated with a reduced risk of contact for black NLSY79 youth, running counter to expectations. Black NLSY97 youth had a higher probability of system contact that disappeared with the addition of other background covariates – most notably, school suspension histories. In fact, prior suspensions had a significant and sizable impact on general involvement and formal court processing across both cohorts, indicating the importance of exclusionary school discipline for juvenile justice involvement and processing.

There were significant race, gender, and poverty group differences in the probability of juvenile justice involvement and the level of system processing. Decompositions indicated that included covariates did not perform exceedingly well in explaining the group differences in pathways to the system. To this point, 90% of significant group differences were attributable to unexplained sources that could reflect an influence of omitted variables (e.g., contextual disadvantage), systemic biases, or other possible explanations. While available data cannot adjudicate between the possible

explanations, these differences are an important finding in and of themselves for indicating the persisting variation in pathways to the system even after covariate adjustment.

There are more similarities than differences in the role of background factors impacting juvenile system contact across cohorts, suggesting similar selection processes to and through the juvenile system over a twenty-year period. From this data, it is not clear that punitive changes to the juvenile justice system altered the institution's propensity to involve more or less disadvantaged youth. Rather, the same background characteristics continued to have an impact on youths' likelihood of system contact, suggesting persistent disparities associated with these disadvantaging circumstances.

The final empirical chapter estimated the long-term consequences of juvenile justice involvement for health and wellbeing, in light of any criminal justice contact in adulthood. It again used two NLSY cohorts to identify the enduring impact of justice involvement prior to adulthood for an aspect of social life that broadly impacts functioning and attainment throughout the life course. To estimate these relationships, the research design employed clear institutional delineations to examine the health consequences associated with juvenile and criminal justice contact. Models used a sibling fixed effect specification to parse out the influence of unobservable variables stemming from household-level differences. Analyses yield two broad conclusions.

Juvenile justice contact is persistently related to later health and wellbeing, with most associations concentrated within mental health outcomes. Among NLSY97 youth, juvenile contact is associated with improvements to mental health. This relationship is driven by non-carceral forms of system involvement. For NLSY79 youth, juvenile

contact is associated with deteriorating mental health for individuals with early (e.g., police stop) and later (e.g., placement) system contact. The changing direction of impacts of juvenile contacts across cohorts may result from a number of untestable mechanisms relating to system selectivity, processes of deterioration across the life course, or other competing explanations.

This impact of juvenile justice involvement on mental health is retained even after accounting for individuals' full histories of justice contact. Later criminal justice system contact does not erode the baseline consequences of juvenile system involvement. Indeed, criminal justice contact has a smaller or indirect impact on mental health across cohorts. The persisting significance of earlier justice contacts in the juvenile system indicates a need for improved measurement of the institution of individuals' justice involvement to correctly attribute consequences of system involvement to derive policy implications.

Together, results from all empirical analyses bring attention to the juvenile justice system as a consequential social institution. The system did not experience a phenomena of mass incarceration, but rather, it increased its use of community supervision and alternate sanctions to resolve cases. Despite the prevalence of discussion regarding waiver and placement, youth are most likely to receive probation as a result of their juvenile system involvement, the consequences of which are important to identify in future research. The juvenile system persistently selects on certain youth, especially males, the poor, and previously suspended youth. Sociodemographic groups experience different pathways to the juvenile system that are poorly explained by traditional research designs. Finally, juvenile contacts have enduring consequences for mental health

throughout the life course that remain even among individuals with later criminal justice involvement. In all, juvenile justice system involvement is a consequential experience that can impact individual lives prior to adulthood and criminal justice contact. It is important for future research to give careful attention to the institutions of justice contact and the full history of system involvement to correctly attribute processes of selection and collateral consequences.

### **Future Directions**

This dissertation research serves as a foundation to a research agenda on related topics throughout the next five to ten years. Future directions of each empirical chapter are discussed in the following paragraphs.

#### *Administration of Juvenile Justice*

Given the challenges presented by a lack of national uniformity, case studies of single states or jurisdictions may be a more informative way to study of changes to the administrative of juvenile justice. State- or county-level administrative records will likely contain more granular data on specific processes and programs available within that jurisdiction. In addition, changes in data could be tied to legislation or resource appropriation across place.

Another potential research area is the availability of resources within juvenile facilities. As the population of youth in secure custody got smaller, additional funds may have been made available for service delivery within placement facilities for mental health, education, or other treatment areas. Youth may have more potential benefits associated with their contact if any increased programming improves their circumstances, net of any detrimental impacts associated with system contact.



*Social Disadvantage in the Juvenile Justice System*

To continue studying pathways to and through the juvenile justice system, the analyses in Chapter 2 can be expanded by addressing persistent substantive questions and methodological questions. One extension of this research is to capitalize on the longitudinal nature of the NLSY97 to assess the relation between social disadvantage and justice involvement throughout the life course. Structural equation or pathway models can be used to link childhood disadvantage, juvenile justice contact, and criminal justice involvement, and determine if juvenile justice involvement mediates connections between disadvantage and criminal justice contact.

A different extension involves more situated research using administrative data. Juvenile justice systems are idiosyncratic across states, as each adopts a unique administrative structure. Jurisdiction-specific research may be needed to understand court processes in a specific political, social, and economic context. These analyses can be conducted with administrative data from one state or multiple cities to restrict the empirical setting. To the extent possible, the researcher will combine data from multiple sources - for example, youths' educational histories, child welfare contact, and parental system involvement - to better ascertain cross-system involvement processes.

Because NLSY data are collected using a household sampling frame, they necessarily include relatively low-risk youth within the sample. Such approaches to data collection omit the experiences of relatively high-risk youth that are of interest to theory and policy (Hagan & McCarthy, 1998). Collecting data on youths' pathways to juvenile system involvement among those already in secure facilities may add additional

knowledge to how these youths understand and navigate their system involvement and would add to existing rich qualitative studies (e.g., Cox, 2018; Fader, 2013).

### *The Health Consequences of Juvenile Justice Involvement*

Findings on the health consequences of juvenile justice contact pose several future research questions. First, there are well-established disparities in the juvenile justice system: disadvantaged youth are disproportionately represented in the juvenile justice system (Kempf-Leonard, 2007; Ward, 2012). The concentration of incarceration among disadvantaged adults can uniquely contributed to population-level health disparities (Wildeman & Wang, 2017). To assess such processes for juvenile justice involvement and youths' health disparities, follow-up analyses can identify the (1) race-specific consequences of juvenile justice contact and (2) its implications for social inequality at the population level.

A mixed methods approach applied within a single state could reveal critical disjunctures between policy mandates and service delivery within the juvenile justice system. Because of variation in system structures and funding, states likely vary in the level of resources dedicated to youths' mental and physical health in the juvenile justice system. Administrative data from local juvenile justice authorities could highlight the availability and use of services for youth in secure care or on community supervision, while interviews with local practitioners could illuminate practical challenges to meeting stated objectives – for example, availability of services and adequacy of screening instruments.

Third, survey data is subject to an unknown amount of imprecision in measuring stages of justice system contact. A follow-up study might re-estimate the impact of

accumulative juvenile system involvement using administrative records that more accurately capture individual histories of system contact.

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## Appendix

Table 15: Descriptive Statistics

	<b>NLSY97</b>	<b>NLSY79</b>
Male	.52 (.50)	.52 (.49)
Delinquency	2.93 (4.19) <i>Range=0-40</i>	1.01 (1.44) <i>Range=0-8</i>
Married	.72 (1.58) <i>Range=0-10</i>	7.35 (5.81) <i>Range=0-21</i>
Divorced	n/a	1.23 (2.69) <i>Range=0-17</i>
Age	23.92 (1.44) <i>Range=21-27</i>	4.78 <i>Range=39-49</i>
Intelligence	98.01 (19.74) <i>Range=55-142</i>	39983.35 <i>Range=0-100000</i>
Prior Health Limitations (NLSY79)/ Behavioral Problems (NLSY97)	2.21 (1.56) <i>Range=0-8</i>	.89 (1.88) <i>Range=0-20</i>
Health Insurance	.95 (.22)	.79 (.40)
Hard Drug Usage	.46 (1.11) <i>Range=0-9</i>	.16 (.36)
Smoked	3.21 (3.24) <i>Range=0-9</i>	n/a
Alcohol Abuse	.66 (1.05) <i>Range=0-9</i>	n/a
Poverty	1.44 (1.81) <i>Range=0-10</i>	2.85 (3.77) <i>Range=0-20</i>
Employment	6.36 (2.65) <i>Range=0-10</i>	11.21 (4.98) <i>Range=0-18</i>
Highest Grade Completed	12.86 (2.54) <i>Range=5-20</i>	13.26 (2.45) <i>Range=0-20</i>
Welfare Receipt	.25 <i>Range=0-1</i>	1.27 (2.70) <i>Range=0-14</i>
Mom's Education Level	12.15 (3.01) <i>Range=1-20</i>	1.77 (3.21) <i>Range=1-20</i>
Dad's Education Level	12.27 (3.37) <i>Range=2-20</i>	1.77 (4.08) <i>Range=2-20</i>
Number of Siblings	3.32 (1.43) <i>Range=1-13</i>	4.32 (2.66) <i>Range=0-22</i>
Urbanicity	6.71 (3.51) <i>Range=0-10</i>	14.98 (6.18) <i>Range=0-22</i>
South	3.40 (4.37) <i>Range=0-10</i>	7.45 (8.87) <i>Range=0-22</i>
Exposure	8.93 (2.02) <i>Range=1-10</i>	18.33 (1.97) <i>Range=2-21</i>

Note: Descriptive variables capture experiences up to the first point of outcome observation. NLSY97 variables are observed at Wave 9; NLSY79 covariates are observed at age 40 (Waves 18-22).

Table 16: Consequences of Juvenile Justice Contact for Mental Health, Ages 21-27 (NLSY97)

	(1) Any Contact	(2) Arrest	(3) Charged	(4) Adjudicated/ Convicted	(5) Probation	(6) Placement/ Incarceration
Juvenile System Involvement	-.12 (.14)	-.12 (.14)	.04 (.16)	.15 (.18)	.44 (.24) +	-.18 (.30)
Mental Health Problems (Prior Measure)	.97 (.11) ***	.97 (.11) ***	.97 (.11) ***	.97 (.11) ***	.97 (.11) ***	.97 (.11) ***
Male	-.24 (.10) *	-.24 (.10) *	-.24 (.10) *	-.24 (.10) *	-.24 (.10) *	-.24 (.10) *
Delinquency	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)
Married	.00 (.04)	.00 (.04)	.00 (.04)	.00 (.04)	.00 (.04)	.00 (.04)
Age	.07 (2.54)	.07 (2.54)	.07 (2.54)	.07 (2.54)	.07 (2.54)	.07 (2.54)
Age Squared	-.00 (.06)	-.00 (.06)	-.00 (.06)	-.00 (.06)	-.00 (.06)	-.00 (.06)
Intelligence	-.00 (.00)	-.00 (.00)	-.00 (.00)	-.00 (.00)	-.00 (.00)	-.00 (.00)
Behavioral Problems	.10 (.03) **	.10 (.03) **	.10 (.03) **	.10 (.03) **	.10 (.03) **	.10 (.03) **
Health Insurance	-.45 (.35)	-.45 (.35)	-.45 (.35)	-.45 (.35)	-.45 (.35)	-.45 (.35)
Hard Drug Usage	.05 (.06)	.05 (.06)	.05 (.06)	.05 (.06)	.05 (.06)	.05 (.06)
Smoked	.02 (.02)	.02 (.02)	.02 (.02)	.02 (.02)	.02 (.02)	.02 (.02)
Alcohol Abuse	-.03 (.05)	-.03 (.05)	-.03 (.05)	-.03 (.05)	-.03 (.05)	-.03 (.05)
Poverty	.01 (.04)	.01 (.04)	.01 (.04)	.01 (.04)	.01 (.04)	.01 (.04)
Employment	-.03 (.03)	-.03 (.03)	-.03 (.03)	-.03 (.03)	-.03 (.03)	-.03 (.03)
Highest Grade Completed	-.02 (.03)	-.02 (.03)	-.02 (.03)	-.02 (.03)	-.02 (.03)	-.02 (.03)
Welfare Receipt	.00 (.03)	.00 (.03)	.00 (.03)	.00 (.03)	.00 (.03)	.00 (.03)
Mom's Education Level	-.27 (.16)	-.27 (.16)	-.27 (.16)	-.27 (.16)	-.27 (.16)	-.27 (.16)
Dad's Education Level	-.04 (.13)	-.04 (.13)	-.04 (.13)	-.04 (.13)	-.04 (.13)	-.04 (.13)
Number of Siblings	.21 (.18)	.21 (.18)	.21 (.18)	.21 (.18)	.21 (.18)	.21 (.18)
Urbanicity	-.04 (.05)	-.04 (.05)	-.04 (.05)	-.04 (.05)	-.04 (.05)	-.04 (.05)
South	.10 (.06)	.10 (.06)	.10 (.06)	.10 (.06)	.10 (.06)	.10 (.06)
Exposure	.05 (.17)	.05 (.17)	.05 (.17)	.05 (.17)	.05 (.17)	.05 (.17)
Constant	1.54 (29.26)	1.54 (29.26)	1.54 (29.26)	1.54 (29.26)	1.54 (29.26)	1.54 (29.26)
<i>N</i>	1400	1400	1400	1400	1400	1400

Note: Standard errors in parentheses. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

Table 17: Consequences of Juvenile Justice Contact for Mental Health, Ages 23-29 (NSLY97)

	(1) Any Contact	(2) Arrest	(3) Charged	(4) Adjudicated/ Convicted	(5) Probation	(6) Placement/ Incarceration
Juvenile System Involvement	-.38 (.14) **	-.45 (.15) **	-.33 (.16) *	-.37 (.19) +	-.50 (.26) +	.24 (.32)
Mental Health Problems (Prior Measure)	.79 (.11) ***	.79 (.11) ***	.79 (.11) ***	.79 (.11) ***	.79 (.11) ***	.79 (.11) ***
Male	-.01 (.11)	-.01 (.11)	-.01 (.11)	-.01 (.11)	-.01 (.11)	-.01 (.11)
Delinquency	.05 (.02) **	.05 (.02) **	.05 (.02) **	.05 (.02) **	.05 (.02) **	.05 (.02) **
Married	.01 (.03)	.01 (.03)	.01 (.03)	.01 (.03)	.01 (.03)	.01 (.03)
Age	3.05 (2.90)	3.05 (2.90)	3.05 (2.90)	3.05 (2.90)	3.05 (2.90)	3.05 (2.90)
Age Squared	-.06 (.06)	-.06 (.06)	-.06 (.06)	-.06 (.06)	-.06 (.06)	-.06 (.06)
Intelligence	-.01 (.00)	-.01 (.00)	-.01 (.00)	-.01 (.00)	-.01 (.00)	-.01 (.00)
Behavioral Problems	.04 (.04)	.04 (.04)	.04 (.04)	.04 (.04)	.04 (.04)	.04 (.04)
Health Insurance	-.44 (.43)	-.44 (.43)	-.44 (.43)	-.44 (.43)	-.44 (.43)	-.44 (.43)
Hard Drug Usage	-.01 (.05)	-.01 (.05)	-.01 (.05)	-.01 (.05)	-.01 (.05)	-.01 (.05)
Smoked	-.01 (.02)	-.01 (.02)	-.01 (.02)	-.01 (.02)	-.01 (.02)	-.01 (.02)
Alcohol Abuse	-.08 (.05)	-.08 (.05)	-.08 (.05)	-.08 (.05)	-.08 (.05)	-.08 (.05)
Poverty	.03 (.04)	.03 (.04)	.03 (.04)	.03 (.04)	.03 (.04)	.03 (.04)
Employment	-.02 (.03)	-.02 (.03)	-.02 (.03)	-.02 (.03)	-.02 (.03)	-.02 (.03)
Highest Grade Completed	.04 (.03)	.04 (.03)	.04 (.03)	.04 (.03)	.04 (.03)	.04 (.03)
Welfare Receipt	.04 (.03)	.04 (.03)	.04 (.03)	.04 (.03)	.04 (.03)	.04 (.03)
Mom's Education Level	-.04 (.16)	-.04 (.16)	-.04 (.16)	-.04 (.16)	-.04 (.16)	-.04 (.16)
Dad's Education Level	.15 (.12)	.15 (.12)	.15 (.12)	.15 (.12)	.15 (.12)	.15 (.12)
Number of Siblings	.12 (.16)	.12 (.16)	.12 (.16)	.12 (.16)	.12 (.16)	.12 (.16)
Urbanicity	.12 (.16)	.12 (.16)	.12 (.16)	.12 (.16)	.12 (.16)	.12 (.16)
South	-.04 (.05)	-.04 (.05)	-.04 (.05)	-.04 (.05)	-.04 (.05)	-.04 (.05)
Exposure	.05 (.11)	.05 (.11)	.05 (.11)	.05 (.11)	.05 (.11)	.05 (.11)
Constant	-4.36 (36.30)	-4.36 (36.30)	-4.36 (36.30)	-4.36 (36.30)	-4.36 (36.30)	-4.36 (36.30)
N	1412	1412	1412	1412	1412	1412

Standard errors in parentheses. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 18: Consequences of Juvenile Justice Contact for Mental Health, Ages 25-31 (NSLY97)

	(1) Any Contact	(2) Arrest	(3) Charged	(4) Adjudicated/ Convicted	(5) Probation	(6) Placement/ Incarceratio n
Juvenile System Involvement	-.12 (.13)	-.12 (.14)	-.12 (.14)	.04 (.18)	-.12 (.25)	-.23 (.29)
Mental Health Problems (Prior Measure)	.87 (.10) ***	.87 (.10)***	.87 (.10) ***	.87 (.10)***	.87 (.10)***	.87 (.10)***
Male	-.19 (.10)	-.19 (.10)	-.19 (.10)	-.19 (.10)	-.19 (.10)	-.19 (.10)
Delinquency	.01 (.01)	.01 (.01)	.01 (.01)	.01 (.01)	.01 (.01)	.01 (.01)
Married	.02 (.02)	.02 (.02)	.02 (.02)	.02 (.02)	.02 (.02)	.02 (.02)
Age	-.64 (2.71)	-.64 (2.71)	-.64 (2.71)	-.64 (2.71)	-.64 (2.71)	-.64 (2.71)
Age Squared	.01 (.05)	.01 (.05)	.01 (.05)	.01 (.05)	.01 (.05)	.01 (.05)
Intelligence	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)
Behavioral Problems	-.02 (.03)	-.02 (.03)	-.02 (.03)	-.02 (.03)	-.02 (.03)	-.02 (.03)
Health Insurance	.22 (.47)	.22 (.47)	.22 (.47)	.22 (.47)	.22 (.47)	.22 (.47)
Hard Drug Usage	-.01 (.04)	-.01 (.04)	-.01 (.04)	-.01 (.04)	-.01 (.04)	-.01 (.04)
Smoked	.04 (.01) ***	.04 (.01)***	.05 (.01)***	.04 (.01)***	.04 (.01)***	.04 (.01)***
Alcohol Abuse	-.05 (.04)	-.05 (.04)	-.05 (.04)	-.04 (.04)	-.04 (.04)	-.04 (.04)
Poverty	.03 (.03)	.03 (.03)	.03 (.03)	.03 (.03)	.03 (.03)	.03 (.03)
Employment	-.03 (.03)	-.03 (.03)	-.03 (.03)	-.03 (.03)	-.03 (.03)	-.03 (.03)
Highest Grade Completed	-.00 (.03)	-.00 (.03)	.00 (.03)	.00 (.03)	.00 (.03)	-.00 (.03)
Welfare Receipt	.03 (.02)	.03 (.02)	.03 (.02)	.03 (.02)	.03 (.02)	.03 (.02)
Mom's Education Level	-.17 (.15)	-.17 (.15)	-.17 (.15)	-.16 (.15)	-.17 (.15)	-.17 (.15)
Dad's Education Level	.01 (.12)	.01 (.12)	.01 (.12)	.01 (.12)	.01 (.12)	.01 (.12)
Number of Siblings	-.15 (.13)	-.15 (.13)	-.15 (.13)	-.15 (.13)	-.15 (.13)	-.15 (.13)
Urbanicity	-.02 (.03)	-.02 (.03)	-.02 (.03)	-.02 (.03)	-.02 (.03)	-.02 (.03)
South	.06 (.03)	.06 (.03)	.06 (.03)	.06 (.03)	.06 (.03)	.06 (.03)
Exposure	.00 (.09)	.00 (.09)	.00 (.09)	.00 (.09)	.00 (.09)	.00 (.09)
Constant	9.14 (36.69)	9.14 (36.69)	9.14 (36.69)	9.14 (36.69)	9.14 (36.69)	9.14 (36.69)
N	1402	1402	1402	1402	1402	1402

Standard errors in parentheses. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 19: Consequences of Juvenile Justice Contact for Mental Health, Ages 28-34 (NSLY97)

	(1) Any Contact	(2) Arrest	(3) Charged	(4) Adjudicated/ Convicted	(5) Probation	(6) Placement/ Incarceration
Juvenile System Involvement	-.25 (.14) +	-.26 (.15) +	-.08 (.16)	-.31 (.19) +	-.40 (.25)	-.51 (.29) +
Mental Health Problems (Prior Measure)	.89*** (.11)	.89*** (.11)	.89*** (.11)	.89*** (.11)	.89*** (.11)	.89*** (.11)
Male	-.10 (.11)	-.10 (.11)	-.10 (.11)	-.10 (.11)	-.10 (.11)	-.10 (.11)
Delinquency	.02 (.01)	.02 (.01)	.02 (.01)	.02 (.01)	.02 (.01)	.02 (.01)
Married	-.03 (.02)	-.03 (.02)	-.03 (.02)	-.03 (.02)	-.03 (.02)	-.03 (.02)
Divorced	-.02 (.06)	-.02 (.06)	-.01 (.06)	-.02 (.06)	-.01 (.06)	-.02 (.06)
Age	-.05 (3.34)	-.05 (3.34)	-.05 (3.34)	-.05 (3.34)	-.05 (3.34)	-.05 (3.34)
Age Squared	.00 (.06)	.00 (.06)	.00 (.06)	.00 (.06)	.00 (.06)	.00 (.06)
Intelligence	-.00 (.00)	-.00 (.00)	-.00 (.00)	-.00 (.00)	-.00 (.00)	-.00 (.00)
Behavioral Problems	.04 (.04)	.04 (.04)	.04 (.04)	.04 (.04)	.04 (.04)	.04 (.04)
Health Insurance	-.48 (.49)	-.48 (.49)	-.48 (.49)	-.48 (.49)	-.48 (.49)	-.48 (.49)
Hard Drug Usage	.02 (.04)	.02 (.04)	.02 (.04)	.02 (.04)	.02 (.04)	.02 (.04)
Smoked	.00 (.01)	.00 (.01)	.00 (.01)	.00 (.01)	.00 (.01)	.00 (.01)
Alcohol Abuse	-.01 (.04)	-.01 (.04)	-.01 (.04)	-.01 (.04)	-.01 (.04)	-.01 (.04)
Poverty	-.01 (.03)	-.01 (.03)	-.01 (.03)	-.01 (.03)	-.01 (.03)	-.01 (.03)
Employment	-.06* (.02)	-.06* (.02)	-.06* (.02)	-.06* (.02)	-.06* (.02)	-.06* (.02)
Highest Grade Completed	.02 (.03)	.02 (.03)	.02 (.03)	.02 (.03)	.02 (.03)	.02 (.03)
Welfare Receipt	-.00 (.02)	-.00 (.02)	-.00 (.02)	-.00 (.02)	-.00 (.02)	-.00 (.02)
Mom's Education Level	-.09 (.22)	-.09 (.22)	-.09 (.22)	-.09 (.22)	-.09 (.22)	-.09 (.22)
Dad's Education Level	-.00 (.12)	-.00 (.12)	-.00 (.12)	-.00 (.12)	-.00 (.12)	-.00 (.12)
Number of Siblings	-.10 (.13)	-.10 (.13)	-.10 (.13)	-.10 (.13)	-.10 (.13)	-.10 (.13)
Urbanicity	.01 (.03)	.01 (.03)	.01 (.03)	.01 (.03)	.01 (.03)	.01 (.03)
South	-.06 (.03)	-.06 (.03)	-.06 (.03)	-.06 (.03)	-.06 (.03)	-.06 (.03)
Exposure	.03 (.08)	.03 (.08)	.03 (.08)	.03 (.08)	.03 (.08)	.03 (.08)
Constant	-.29 (5.56)	-2.72 (5.64)	1.42 (5.87)	-.29 (5.56)	6.61 (5.60)	-9.82 (5.67)
N	1283	1283	1283	1283	1283	1283

Standard errors in parentheses. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 20: Consequences of Juvenile Justice Contact for Depression, Ages 27-35 (NSLY79)

	(1) Any Contact	(2) Police Stop	(3) Charged	(4) Adjudicated/ Convicted	(5) Probation	(6) Placement/ Incarceration
Juvenile System Involvement	.07 (.07)	.06 (.08)	-.02 (.11)	-.02 (.15)	-.01 (.18)	.10 (.23)
Male	-.22 (.05) ***	-.21 (.05) ***	-.21 (.05) ***	-.21 (.05) ***	-.21 (.05) ***	-.22 (.05) ***
Delinquency	.00 (.02)	-.00 (.02)	.00 (.02)	.00 (.02)	.01 (.02)	.00 (.02)
Married	-.02 (.00) ***	-.02 (.00) **	-.02 (.00) ***	-.02 (.00) ***	-.02 (.00) ***	-.02 (.00) ***
Divorced	.01 (.01)	.02 (.01)	.01 (.01)	.01 (.01)	.01 (.01)	.01 (.01)
Age	-.63 (.93)	-.62 (.93)	-.67 (.93)	-.67 (.93)	-.67 (.93)	-.67 (.93)
Age Squared	.01 (.01)	.01 (.01)	.01 (.01)	.01 (.01)	.01 (.01)	.01 (.01)
Intelligence	-.00 (.00) ***	-.00 (.00) ***	-.00 (.00) ***	-.00 (.00) ***	-.00 (.00) ***	-.00 (.00) ***
Prior Health Limitations	.06 (.01) ***	.06 (.01) ***	.06 (.01) ***	.06 (.01) ***	.06 (.01) ***	.06 (.01) ***
Health Insurance	-.03 (.07)	-.04 (.07)	-.04 (.07)	-.04 (.07)	-.03 (.07)	-.03 (.07)
Hard Drug Usage	.04 (.07)	.05 (.07)	.05 (.07)	.05 (.07)	.05 (.07)	.05 (.07)
Poverty	-.01 (.01)	-.01 (.01)	-.00 (.01)	-.00 (.01)	-.00 (.01)	-.01 (.01)
Employment	-.00 (.01)	-.00 (.01)	-.00 (.01)	-.00 (.01)	-.00 (.01)	-.00 (.01)
Highest Grade Completed	-.03 (.01)	-.03 (.01)	-.03 (.01)	-.03 (.01)	-.03 (.01)	-.03 (.01)
Welfare Receipt	.02 (.01)	.03 (.01)	.02 (.01)	.03 (.01)	.02 (.01)	.02 (.01)
Mom's Education Level	-.03 (.03)	-.03 (.03)	-.03 (.03)	-.03 (.03)	-.03 (.03)	-.03 (.03)
Dad's Education Level	.03 (.02)	.02 (.02)	.02 (.02)	.02 (.02)	.03 (.02)	.03 (.02)
Number of Siblings	.05 (.05)	.05 (.05)	.05 (.05)	.05 (.05)	.05 (.05)	.05 (.05)
Urbanicity	.00 (.01)	.00 (.01)	.00 (.01)	.00 (.01)	-.00 (.01)	-.00 (.01)
South	.01 (.01)	.01 (.01)	.01 (.01)	.01 (.01)	.01 (.01)	.01 (.01)
Exposure	.02 (.02)	.01 (.02)	.02 (.02)	.02 (.02)	.02 (.02)	.02 (.02)
Constant	12.98 (19.27)	12.76 (19.33)	13.80 (19.38)	13.76 (19.38)	13.69 (19.26)	13.61 (19.26)
N	3369	3329	3333	3333	3369	3369

Standard errors in parentheses. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 21: Consequences of Juvenile Justice Contact for Depression, Age 40 (NLSY79)

	(1) Any Contact	(2) Police Stop	(3) Charged	(4) Adjudicated/ Convicted	(5) Probation	(6) Placement/ Incarceratio n
Juvenile System Involvement	.17 (.07) *	.14 (.08)	.16 (.11)	.15 (.14)	.44 (.18) *	.51 (.23) *
Depression (Prior Measure)	.06 (.01) ***	.06 (.01) ***	.06 (.01) ***	.06 (.01) ***	.06 (.01) ***	.06 (.01) ***
Male	-.16 (.05) **	-.15 (.05) **	-.15 (.05) **	-.14 (.05) **	-.14 (.05) **	-.15 (.05) **
Delinquency	-.01 (.02)	-.00 (.02)	-.00 (.02)	.00 (.02)	-.00 (.02)	-.00 (.02)
Married	-.00 (.00)	-.00 (.00)	-.00 (.00)	-.00 (.00)	-.00 (.00)	-.00 (.00)
Divorced	.00 (.01)	.01 (.01)	.00 (.01)	.00 (.01)	.00 (.01)	.00 (.01)
Age	-1.06 (.92)	-1.06 (.93)	-1.12 (.93)	-1.14 (.94)	-1.14 (.92)	-1.12 (.92)
Age Squared	.01 (.01)	.01 (.01)	.01 (.01)	.01 (.01)	.01 (.01)	.01 (.01)
Intelligence	-.00 (.00)	-.00 (.00)	-.00 (.00)	-.00 (.00)	-.00 (.00)	-.00 (.00)
Prior Health Limitations	.06 (.01) ***	.06 (.01) ***	.06 (.01) ***	.06 (.01) ***	.06 (.01) ***	.06 (.01) ***
Health Insurance	-.12 (.06)	-.11 (.07)	-.11 (.07)	-.11 (.07)	-.10 (.06)	-.11 (.06)
Hard Drug Usage	-.03 (.07)	-.03 (.07)	-.03 (.07)	-.03 (.07)	-.02 (.07)	-.02 (.07)
Poverty	.00 (.01)	.01 (.01)	.00 (.01)	.01 (.01)	.00 (.01)	.00 (.01)
Employment	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)
Highest Grade Completed	-.02 (.01)	-.02 (.01)	-.02 (.01)	-.02 (.01)	-.02 (.01)	-.03 (.01)
Welfare Receipt	.03 (.01) *	.03 (.01) *	.03 (.01) *	.03 (.01) *	.03 (.01) *	.03 (.01) *
Mom's Education Level	-.03 (.03)	-.03 (.03)	-.03 (.03)	-.03 (.03)	-.03 (.03)	-.03 (.03)
Dad's Education Level	.00 (.02)	.00 (.02)	.00 (.02)	.00 (.02)	.00 (.02)	.00 (.02)
Number of Siblings	.01 (.05)	.01 (.05)	.01 (.05)	.02 (.05)	.01 (.05)	.01 (.05)
Urbanicity	-.00 (.01)	-.00 (.01)	-.00 (.01)	-.00 (.01)	-.00 (.01)	-.00 (.01)
South	.00 (.01)	.00 (.01)	.00 (.01)	.00 (.01)	.00 (.01)	.00 (.01)
Exposure	-.03 (.02)	-.03 (.02)	-.03 (.02)	-.03 (.02)	-.03 (.02)	-.03 (.02)
Constant	22.93 (19.13)	22.89 (19.38)	24.22 (19.39)	24.54 (19.40)	24.64 (19.11)	24.16 (19.12)
N	3329	3289	3293	3293	3329	3329

Standard errors in parentheses. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 22: Consequences of Juvenile Justice Contact for Self-Rated Health, Ages 21-27 (NSLY97)

	(1) Any Contact	(2) Arrest	(3) Charged	(4) Adjudicated /Convicted	(5) Probation	(6) Placement/ Incarceration
Juvenile System Involvement	.06 (.14)	.09 (.14)	.14 (.15)	.22 (.18)	.31 (.24)	.10 (.30)
Self-Rated Health (Prior Measure)	.48 (.05)***	.48 (.05)***	.48 (.05)***	.48 (.05)***	.48 (.05)***	.48 (.05)***
Male	.03 (.10)	.03 (.10)	.03 (.10)	.03 (.10)	.04 (.10)	.03 (.10)
Delinquency	.02 (.02)	.02 (.02)	.02 (.02)	.02 (.02)	.02 (.01)	.02 (.02)
Married	.01 (.03)	.01 (.03)	.00 (.03)	.01 (.03)	.01 (.03)	.01 (.03)
Age	-.05 (2.73)	.04 (2.73)	-.08 (2.71)	-.16 (2.71)	-.27 (2.71)	-.20 (2.72)
Age Squared	.00 (.05)	.00 (.05)	.00 (.05)	.00 (.05)	.01 (.05)	.01 (.05)
Intelligence	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)
Behavioral Problems	-.05 (.03)	-.05 (.03)	-.05 (.03)	-.05 (.03)	-.05 (.03)	-.05 (.03)
Health Insurance	.22 (.42)	.22 (.42)	.24 (.42)	.28 (.42)	.28 (.42)	.23 (.42)
Hard Drug Usage	-.04 (.05)	-.05 (.05)	-.05 (.05)	-.04 (.05)	-.04 (.05)	-.04 (.05)
Smoked	.01 (.02)	.01 (.02)	.01 (.02)	.01 (.02)	.00 (.02)	.00 (.02)
Alcohol Abuse	.03 (.04)	.03 (.04)	.03 (.04)	.04 (.04)	.04 (.04)	.04 (.04)
Poverty	.02 (.04)	.02 (.04)	.02 (.04)	.02 (.04)	.02 (.04)	.02 (.04)
Employment	-.01 (.03)	-.01 (.03)	-.01 (.03)	-.01 (.03)	-.01 (.03)	-.01 (.03)
Highest Grade Completed	.00 (.03)	.00 (.03)	.01 (.03)	.00 (.03)	.01 (.03)	-.00 (.03)
Welfare Receipt	-.02 (.03)	-.02 (.03)	-.02 (.03)	-.02 (.03)	-.03 (.03)	-.02 (.03)
Mom's Education Level	.18 (.15)	.18 (.15)	.18 (.15)	.17 (.15)	.17 (.15)	.18 (.15)
Dad's Education Level	-.10 (.12)	-.09 (.12)	-.10 (.12)	-.09 (.12)	-.08 (.12)	-.11 (.12)
Number of Siblings	.03 (.15)	.03 (.15)	.04 (.15)	.03 (.15)	.02 (.15)	.03 (.15)
Urbanicity	.07 (.03)*	.07 (.03)*	.06 (.03)	.06 (.03)	.07 (.03)*	.07 (.03)*
South	-.00 (.04)	-.00 (.04)	.00 (.04)	-.00 (.04)	-.00 (.04)	.00 (.04)
Exposure	-.02 (.01)*	-.02 (.01)*	-.02 (.01)*	-.03 (.01)*	-.02 (.01)*	-.02 (.01)*
Constant	.54 (34.14)	-.64 (34.16)	.92 (33.99)	1.92 (33.90)	3.00 (33.90)	2.59 (34.02)
N	1330	1330	1330	1330	1330	1330

Standard errors in parentheses. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$



Table 23: Consequences of Juvenile Justice Contact for Self-Rated Health, Ages 23-29 (NSLY97)

	(1) Any Contact	(2) Arrest	(3) Charged	(4) Adjudicated /Convicted	(5) Probation	(6) Placement/ Incarceration
Juvenile System Involvement	.14 (.12)	.19 (.13)	.17 (.14)	.05 (.16)	-.08 (.22)	.26 (.27)
Self-Rated Health (Prior Measure)	.51 (.05) ***	.51 (.05) ***	.52 (.05) ***	.52 (.05) ***	.51 (.05) ***	.52 (.05) ***
Male	.06 (.09)	.06 (.09)	.06 (.09)	.07 (.09)	.07 (.09)	.07 (.09)
Delinquency	-.02 (.01)	-.02 (.01)	-.02 (.01)	-.02 (.01)	-.01 (.01)	-.02 (.01)
Married	.04 (.03)	.04 (.03)	.04 (.03)	.04 (.03)	.04 (.03)	.04 (.03)
Age	2.74 (2.53)	2.68 (2.53)	2.81 (2.53)	2.93 (2.53)	2.91 (2.53)	2.92 (2.53)
Age Squared	-.06 (.05)	-.05 (.05)	-.06 (.05)	-.06 (.05)	-.06 (.05)	-.06 (.05)
Intelligence	-.00 (.00)	-.00 (.00)	-.00 (.00)	-.00 (.00)	-.00 (.00)	-.00 (.00)
Behavioral Problems	-.02 (.03)	-.02 (.03)	-.02 (.03)	-.01 (.03)	-.01 (.03)	-.02 (.03)
Health Insurance	.03 (.37)	.03 (.37)	.01 (.37)	.02 (.38)	.05 (.38)	-.00 (.37)
Hard Drug Usage	.01 (.04)	.01 (.04)	.01 (.04)	.01 (.04)	.01 (.04)	.01 (.04)
Smoked	-.02 (.01)	-.02 (.01)	-.02 (.01)	-.02 (.01)	-.02 (.01)	-.02 (.01)
Alcohol Abuse	-.01 (.04)	-.01 (.04)	-.01 (.04)	-.01 (.04)	-.01 (.04)	-.02 (.04)
Poverty	.01 (.03)	.01 (.03)	.01 (.03)	.01 (.03)	.01 (.03)	.01 (.03)
Employment	.04 (.02)	.04 (.02)	.03 (.02)	.03 (.02)	.03 (.02)	.03 (.02)
Highest Grade Completed	.01 (.03)	.01 (.03)	.01 (.03)	.01 (.03)	.00 (.03)	.01 (.03)
Welfare Receipt	-.03 (.02)	-.03 (.02)	-.03 (.02)	-.03 (.02)	-.03 (.02)	-.03 (.02)
Mom's Education Level	-.14 (.14)	-.14 (.14)	-.14 (.14)	-.15 (.14)	-.15 (.14)	-.14 (.14)
Dad's Education Level	-.18 (.11)	-.18 (.11)	-.17 (.11)	-.17 (.11)	-.17 (.11)	-.17 (.11)
Number of Siblings	-.04 (.14)	-.04 (.14)	-.03 (.14)	-.03 (.14)	-.04 (.14)	-.03 (.14)
Urbanicity	-.04 (.03)	-.04 (.03)	-.03 (.03)	-.04 (.03)	-.04 (.03)	-.04 (.03)
South	-.06 (.04)	-.06 (.04)	-.07 (.04)	-.06 (.04)	-.06 (.04)	-.07 (.04)
Exposure	.01 (.01)	.01 (.01)	.01 (.01)	.01 (.01)	.00 (.01)	.01 (.01)
Constant	-27.71 (31.67)	-26.93 (31.65)	-28.48 (31.62)	-29.96 (31.67)	-29.62 (31.67)	-29.97 (31.61)
N	1417	1417	1417	1417	1417	1417

Standard errors in parentheses. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 24: Consequences of Juvenile Justice Contact for Self-Rated Health, Ages 25-31 (NLSY97)

	(1) Any Contact	(2) Arrest	(3) Charged	(4) Adjudicated /Convicted	(5) Probation	(6) Placement/ Incarceration
Juvenile System Involvement	-.03 (.13)	-.09 (.13)	-.07 (.14)	-.03 (.17)	.16 (.23)	.29 (.27)
Self-Rated Health (Prior Measure)	.48 (.05) ***	.48 (.05) ***	.48 (.05) ***	.47 (.05) ***	.48 (.05) ***	.47 (.05) ***
Male	.24 (.10) *	.24 (.10) *	.24 (.10) *	.24 (.10) *	.23 (.10) *	.23 (.10) *
Delinquency	-.03 (.01) *	-.03 (.01) *	-.03 (.01) *	-.03 (.01) *	-.03 (.01) *	-.03 (.01) *
Married	.04 (.03)	.04 (.03)	.04 (.03)	.04 (.03)	.04 (.03)	.04 (.03)
Age	-2.35 (2.57)	-2.30 (2.57)	-2.32 (2.57)	-2.40 (2.57)	-2.39 (2.57)	-2.37 (2.57)
Age Squared	.05 (.05)	.05 (.05)	.05 (.05)	.05 (.05)	.05 (.05)	.05 (.05)
Intelligence	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)
Behavioral Problems	-.01 (.03)	-.01 (.03)	-.01 (.03)	-.01 (.03)	-.02 (.03)	-.02 (.03)
Health Insurance	-.07 (.40)	-.07 (.40)	-.06 (.40)	-.06 (.40)	-.10 (.40)	-.10 (.40)
Hard Drug Usage	.04 (.04)	.04 (.04)	.04 (.04)	.04 (.04)	.04 (.04)	.04 (.04)
Smoked	-.01 (.02)	-.01 (.02)	-.01 (.02)	-.01 (.02)	-.01 (.02)	-.01 (.02)
Alcohol Abuse	.09 (.04) *	.09 (.04) *	.09 (.04) *	.09 (.04) *	.09 (.04) *	.09 (.04) *
Poverty	.05 (.03)	.05 (.03)	.05 (.03)	.05 (.03)	.05 (.03)	.05 (.03)
Employment	-.02 (.02)	-.02 (.02)	-.02 (.02)	-.02 (.02)	-.02 (.02)	-.02 (.02)
Highest Grade Completed	.04 (.03)	.04 (.03)	.04 (.03)	.04 (.03)	.04 (.03)	.05 (.03)
Welfare Receipt	.02 (.02)	.02 (.02)	.02 (.02)	.01 (.02)	.02 (.02)	.01 (.02)
Mom's Education Level	-.11 (.14)	-.11 (.14)	-.11 (.14)	-.11 (.14)	-.10 (.14)	-.10 (.14)
Dad's Education Level	-.21 (.11)	-.20 (.11)	-.21 (.11)	-.21 (.11)	-.21 (.11)	-.21 (.11)
Number of Siblings	.03 (.14)	.03 (.14)	.03 (.14)	.02 (.14)	.03 (.14)	.03 (.14)
Urbanicity	.03 (.03)	.03 (.03)	.03 (.03)	.03 (.03)	.03 (.03)	.03 (.03)
South	.01 (.04)	.01 (.04)	.01 (.04)	.01 (.04)	.01 (.04)	.01 (.04)
Exposure	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)
Constant	33.83 (32.15)	33.17 (32.11)	33.43 (32.15)	34.45 (32.14)	34.22 (32.13)	33.86 (32.09)
N	1416	1416	1416	1416	1416	1416

Standard errors in parentheses. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 25: Consequences of Juvenile Justice Contact for Self-Rated Health, Ages 28-34 (NLSY97)

	(1) Any Contact	(2) Arrest	(3) Charged	(4) Adjudicated /Convicted	(5) Probation	(6) Placement/ Incarceration
Juvenile System Involvement	-.14 (.13)	-.15 (.14)	-.14 (.14)	-.31 (.17) +	-.41 (.23) +	-.05 (.28)
Self-Rated Health (Prior Measure)	.49 (.05) ***	.49 (.05) ***	.49 (.05) ***	.49 (.05) ***	.49 (.05) ***	.50 (.05) ***
Male	-.09 (.10)	-.09 (.10)	-.10 (.10)	-.09 (.10)	-.09 (.10)	-.10 (.10)
Delinquency	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)
Married	-.02 (.03)	-.02 (.03)	-.03 (.03)	-.02 (.03)	-.02 (.03)	-.03 (.03)
Age	-2.79 (2.65)	-2.79 (2.65)	-2.76 (2.65)	-2.90 (2.64)	-2.91 (2.64)	-2.88 (2.65)
Age Squared	.06 (.05)	.06 (.05)	.06 (.05)	.06 (.05)	.06 (.05)	.06 (.05)
Intelligence	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)
Behavioral Problems	-.02 (.03)	-.02 (.03)	-.02 (.03)	-.02 (.03)	-.02 (.03)	-.02 (.03)
Health Insurance	.22 (.43)	.22 (.43)	.24 (.43)	.28 (.43)	.31 (.43)	.22 (.43)
Hard Drug Usage	.03 (.05)	.03 (.05)	.03 (.05)	.03 (.05)	.03 (.05)	.03 (.05)
Smoked	.03 (.02)	.03 (.02)	.03 (.02)	.03 (.02)	.03 (.02)	.03 (.02)
Alcohol Abuse	.00 (.04)	.00 (.04)	.01 (.04)	.01 (.04)	.01 (.04)	.01 (.04)
Poverty	-.01 (.04)	-.01 (.04)	-.01 (.04)	-.01 (.04)	-.01 (.04)	-.01 (.04)
Employment	.02 (.03)	.02 (.03)	.02 (.03)	.02 (.03)	.02 (.03)	.02 (.03)
Highest Grade Completed	-.01 (.03)	-.01 (.03)	-.00 (.03)	-.01 (.03)	-.00 (.03)	-.00 (.03)
Welfare Receipt	-.01 (.03)	-.01 (.03)	-.01 (.03)	-.01 (.03)	-.01 (.03)	-.01 (.03)
Mom's Education Level	.09 (.21)	.09 (.21)	.08 (.21)	.07 (.21)	.06 (.21)	.09 (.21)
Dad's Education Level	-.03 (.11)	-.03 (.11)	-.04 (.11)	-.04 (.11)	-.03 (.11)	-.04 (.11)
Number of Siblings	-.11 (.15)	-.11 (.15)	-.11 (.15)	-.11 (.15)	-.12 (.15)	-.11 (.15)
Urbanicity	.05 (.03)	.05 (.03)	.05 (.03)	.05 (.03)	.05 (.03)	.05 (.03)
South	-.00 (.04)	-.00 (.04)	-.00 (.04)	-.00 (.04)	-.00 (.04)	-.00 (.04)
Exposure	.01 (.01)	.01 (.01)	.01 (.01)	.01 (.01)	.01 (.01)	.01 (.01)
Constant	34.70 (33.17)	34.62 (33.17)	34.35 (33.19)	36.36 (33.02)	36.43 (33.02)	35.83 (33.20)
N	1303	1303	1303	1303	1303	1303

Standard errors in parentheses. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 26: Consequences of Juvenile Justice Contact for Self-Rated Health, Age 40 (NLSY79)

	(1) Any Contact	(2) Police Stop	(3) Charged	(4) Adjudicated /Convicted	(5) Probation	(6) Placement/ Incarceration
Juvenile System Involvement	.09 (.07)	.11 (.07)	.05 (.10)	-.01 (.14)	-.00 (.17)	-.01 (.23)
Male	.07 (.05)	.06 (.05)	.05 (.05)	.05 (.05)	.06 (.05)	.06 (.05)
Delinquency	-.01 (.02)	-.01 (.02)	-.02 (.02)	-.02 (.02)	-.02 (.02)	-.01 (.02)
Married	.01 (.00)	.01 (.00)	.01 (.00)	.01 (.00)	.01 (.00)	.01 (.00)
Divorced	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)
Age	1.93 (.89) *	1.89 (.89) *	1.96 <sub>*</sub> (.89)	1.95 (.89) *	1.99 <sub>*</sub> (.89)	1.99 (.89) *
Age Squared	-.02 (.01) *	-.02 (.01) *	-.02 (.01) *	-.02 (.01) *	-.02 (.01) *	-.02 (.01) *
Intelligence	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)
Prior Health Limitations	-.10 (.01) ***	-.10 (.01) ***	-.10 (.01) ***	-.10 (.01) ***	-.10 (.01) ***	-.10 (.01) ***
Health Insurance	.02 (.06)	.02 (.06)	.02 (.06)	.02 (.06)	.02 (.06)	.02 (.06)
Hard Drug Usage	.15 (.07) *	.14 (.07) *	.13 (.07)	.13 (.07)	.14 (.07) *	.14 (.07) *
Poverty	.00 (.01)	.00 (.01)	.00 (.01)	.00 (.01)	.00 (.01)	.00 (.01)
Employment	.02 (.01) *	.02 (.01) *	.02 (.01) *	.02 (.01) *	.02 (.01) *	.02 (.01) *
Highest Grade Completed	.06 (.01) ***	.06 (.01) ***	.06 (.01) ***	.06 (.01) ***	.06 (.01) ***	.06 (.01) ***
Welfare Receipt	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)
Mom's Education Level	.00 (.03)	.01 (.03)	.01 (.03)	.01 (.03)	.00 (.03)	.00 (.03)
Dad's Education Level	.03 (.02)	.03 (.02)	.03 (.02)	.03 (.02)	.03 (.02)	.03 (.02)
Number of Siblings	.03 (.04)	.04 (.04)	.03 (.04)	.03 (.04)	.03 (.04)	.03 (.04)
Urbanicity	-.00 (.01)	-.00 (.01)	-.00 (.01)	-.00 (.01)	-.00 (.01)	-.00 (.01)
South	.01 (.01)	.01 (.01)	.01 (.01)	.01 (.01)	.01 (.01)	.01 (.01)
Exposure	.00 (.02)	.01 (.02)	.00 (.02)	.00 (.02)	.00 (.02)	.00 (.02)
Constant	-37.54 (18.53) *	-36.94 (18.58) *	-38.25 (18.58) *	-38.12 (18.58) *	-38.71 (18.52) *	-38.69 (18.52) *
N	3457	3416	3420	3420	3457	3457

Standard errors in parentheses. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 27: Consequences of Juvenile Justice Contact for Physical Health, Age 40 (NLSY79)

	(1) Any Contact	(2) Police Stop	(3) Charged	(4) Adjudicated / Convicted	(5) Probation	(6) Placement/ Incarceration
Juvenile System Involvement	-.17 (.54)	-.27 (.59)	.41 (.85)	.40 (1.16)	-.80 (1.40)	-.57 (1.84)
Male	.91 (.41) *	.86 (.41) *	.88 (.41) *	.89 (.41) *	.89 (.40) *	.90 (.40) *
Delinquency	-.12 (.15)	-.15 (.15)	-.18 (.15)	-.18 (.15)	-.12 (.15)	-.12 (.15)
Married	.07 (.03)	.07 (.04) *	.07 (.04) *	.07 (.04) *	.07 (.03)	.07 (.03)
Divorced	-.04 (.07)	-.05 (.07)	-.04 (.07)	-.04 (.07)	-.04 (.07)	-.04 (.07)
Age	14.00 (7.17)	14.33 (7.19) *	14.54 (7.20) *	14.49 (7.20) *	14.10 (7.16) *	14.08 (7.16) *
Age Squared	-.17 (.09) *	-.18 (.09) *	-.18 (.09) *	-.18 (.09) *	-.17 (.09) *	-.17 (.09) *
Intelligence	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)
Prior Health Limitations	-1.22 (.10) ***	-1.22 (.10) ***	-1.22 (.10) ***	-1.22 (.10) ***	-1.23 (.10) ***	-1.22 (.10) ***
Health Insurance	.84 (.51)	.62 (.52)	.74 (.52)	.74 (.52)	.83 (.51)	.84 (.51)
Hard Drug Usage	.92 (.55)	.92 (.56)	.89 (.56)	.89 (.56)	.90 (.55)	.90 (.55)
Poverty	.17 (.10)	.14 (.10)	.15 (.10)	.15 (.10)	.17 (.10)	.17 (.10)
Employment	.11 (.06)	.11 (.06)	.11 (.06)	.11 (.06)	.11 (.06)	.11 (.06)
Highest Grade Completed	.23 (.11) *	.23 (.11) *	.24 (.11) *	.24 (.11) *	.23 (.11) *	.23 (.11) *
Welfare Receipt	-.11 (.10)	-.06 (.10)	-.08 (.10)	-.08 (.10)	-.11 (.10)	-.11 (.10)
Mom's Education Level	-.05 (.21)	-.05 (.22)	-.06 (.22)	-.06 (.22)	-.05 (.21)	-.05 (.22)
Dad's Education Level	.03 (.16)	.04 (.16)	.04 (.16)	.04 (.16)	.03 (.16)	.03 (.16)
Number of Siblings	.35 (.37)	.35 (.36)	.33 (.37)	.34 (.36)	.34 (.36)	.34 (.36)
Urbanicity	.02 (.05)	.01 (.05)	.01 (.05)	.01 (.05)	.02 (.05)	.02 (.05)
South	-.00 (.06)	-.00 (.06)	.00 (.06)	-.00 (.06)	-.00 (.06)	-.00 (.06)
Exposure	.02 (.15)	.01 (.15)	-.00 (.15)	-.00 (.15)	.02 (.15)	.01 (.15)
Constant	-24.64 (148.73)	-247.19 (149.27)	-251.56 (149.56)	-25.59 (149.55)	-242.80 (148.56)	-242.31 (148.58)
Juvenile System Involvement	3435	3394	3398	3398	3435	3435

Standard errors in parentheses. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 28: Cumulative Justice Involvement and Health (NLSY97)

	(1) Mental Health Problems Ages 23-29	(2) Mental Health Problems Ages 28-35	(3) Self-Rated Health Ages 28-34
Any Juvenile Justice Contact	-.58 (.27) *	.10 (.25)	-.21 (.24)
Any Criminal Justice Contact	-.37 (.17) *	.14 (.17)	.22 (.17)
Juvenile and Criminal Justice Contact (Interaction)	-.50 (.33)	-.55 (.31) +	-.04 (.30)
Prior Health Measure	.79 (.11) ***	.89 (.11) ***	.51 (.05) ***
Male	.03 (.11)	-.11 (.11)	.06 (.10)
Delinquency	.05 (.02) **	.02 (.01)	-.02 (.01)
Married	.01 (.03)	-.02 (.02)	.04 (.03)
Divorced	--	-.03 (.06)	--
Age	3.01 (2.89)	-.22 (3.34)	2.74 (2.54)
Age Squared	-.06 (.06)	.01 (.06)	-.06 (.05)
Intelligence	-.01 (.00)	-.00 (.00)	-.00 (.00)
Prior Behavioral Problems	.04 (.04)	.05 (.04)	-.02 (.03)
Insured	-.49 (.43)	-.49 (.49)	.03 (.38)
Hard Drugs	-.00 (.05)	.02 (.04)	.01 (.04)
Smoked	-.00 (.02)	.01 (.01)	-.02 (.01)
Alcohol Abuse	-.08 (.05)	-.03 (.04)	-.01 (.04)
Poverty	.04 (.04)	-.01 (.03)	.01 (.03)
Worked	-.01 (.03)	-.06 (.02) *	.04 (.02)
Highest Grade Completed	.04 (.03)	.02 (.03)	.01 (.03)
Welfare	.05 (.03)	.00 (.02)	-.03 (.02)
Mom's Education Level	-.01 (.16)	-.10 (.22)	-.14 (.14)
Dad's Education Level	.18 (.12)	-.03 (.12)	-.18 (.11)
Number of Siblings	.12 (.16)	-.09 (.13)	-.04 (.14)
Urbanicity	.03 (.03)	.01 (.03)	-.04 (.03)
South	-.02 (.05)	-.06 (.03)	-.06 (.04)
Exposure	-.01 (.01)	.03 (.08)	.01 (.01)
Constant	-39.79 (36.15)	2.72 (5.49)	-27.70 (31.79)
Observations	1412	1283	1417

Standard errors in parentheses

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 29: Cumulative Justice Involvement and Health (NLSY79)

	Depression	Self-Rated Health	Physical Health
Any Juvenile Justice Contact	.33 (.09) ***	-.21* (.09) *	-.74 (.73)
Any Criminal Justice Contact	-.02 (.09)	-.09 (.09)	-.05 (.73)
Juvenile and Criminal Justice Contact (Interaction)	.29 (.14) *	.30 (.14) *	1.13 (1.14)
Depression (Prior Measure)	.23*** (.02) ***	--	--
Male	-.15** (.05) **	.07 (.05)	.89 (.41) *
Delinquency	-.01 (.02)	-.01 (.02)	-.12 (.15)
Married	.00 (.00)	.01 (.00)	.06 (.03)
Divorced	.00 (.01)	-.01 (.01)	-.04 (.07)
Age	-1.15 (.92)	2.03 (.89) *	14.40 (7.18) *
Age Squared	.01 (.01)	-.02 (.01) *	-.18 (.09) *
Intelligence	-.00 (.00)	.00 (.00)	.00 (.00)
Prior Health Limitations	.06 (.01) ***	-.10 (.01) ***	-1.23 (.10) ***
Health Insurance	-.11 (.06)	.02 (.06)	.85 (.51)
Hard Drug Usage	-.02 (.07)	.14 (.07) *	.88 (.55)
Poverty	.01 (.01)	.00 (.01)	.16 (.10)
Employment	-.01 (.01)	.02* (.01)	.11 (.06)
Highest Grade Completed	-.02 (.01)	.06 (.01) ***	.22 (.11) *
Welfare Receipt	.03 (.01) *	-.01 (.01)	-.10 (.10)
Mom's Education Level	-.03 (.03)	.00 (.03)	-.04 (.22)
Dad's Education Level	.00 (.02)	.03 (.02)	.03 (.16)
Number of Siblings	.01 (.05)	.03 (.04)	.33 (.37)
Urbanicity	-.00 (.01)	-.00 (.01)	.02 (.05)
South	.00 (.01)	.01 (.01)	.00 (.06)
Exposure	-.04 (.02) *	.01 (.02)	.05 (.15)
Constant	25.25 (19.12)	-39.81 (18.55) *	-249.46 (149.03)
N	3329	3457	3435

Standard errors in parentheses

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$