



©Niki Feijin

Pathways to Desistance

A Comprehensive Analysis of Juvenile to Adult Criminal Careers

May 2017

A report presented to:
The Georgia Criminal Justice Coordinating
Council





Founded in 1994, Applied Research Services, Inc. (ARS) is a private, small business consulting firm specializing in complex research design and analysis. ARS employs state-of-the-art analytical, survey, data mining, and business intelligence tools. With extensive experience in dissecting criminal justice agency data, we turn data into decisions. Our clients include police departments, state and local courts, secure and community corrections agencies, parole boards, nonprofit organizations, and public policy stakeholders.

Tammy Meredith, Ph.D., Project Director
John Speir, Ph.D.
Kevin Baldwin, Ph.D.
Sharon Johnson, M.S.
Shila René Hawk, Ph.D., Project Lead Analyst
Eric Scott
Melissa Taylor

Georgia Statistical Analysis Center
Stefanie Lopez-Howard, Director
Georgia Criminal Justice Coordinating Council

Acknowledgements

We would like to thank the Georgia Crime Information Center, the Georgia Department of Juvenile Justice, the Council of Juvenile Court Judges, and the Governor's Office on Student Achievement for their assistance with this project. A special thanks to Terri Fisher of the GCIC for facilitating our continued access to Georgia's criminal history records repository. Her commitment to data sharing is an inspiration.

This project was funded by the U.S. Department of Justice, Bureau of Justice Statistics, 2014 State Justice Statistics Program Grant# 2014-MU-CX-KO36. Conclusions and recommendations are those of the authors, and do not reflect the official position of the U.S. Department of Justice.

Pathways to Desistance

A Comprehensive Analysis of Juvenile to Adult Criminal Careers

Table of Contents

Executive Summary	1
Background	2
Study Site	2
Relevant Literature	4
Methods	9
Analysis	11
Q1: What characteristics of juvenile offenders are related to continued offending into adulthood (demography, offense type, age of onset)?	
Q2: Are certain characteristics of juvenile offenders related to violent offending in adulthood?	
Q3: Does specialization or escalation in offending patterns exist at the juvenile level?	
Q4: Do justice system interventions at the juvenile level affect the juvenile-criminal career trajectory (informal adjustment, probation, detention, residential treatment)?	
Q5: Do statutorily-defined interventions at the juvenile level affect the juvenile-criminal career trajectory (transfer to adult court, CHINS treatment of former “status offenses”)?	
Q6: While analysis of criminal history data reveals that offenders first arrested at age 17 in the adult system tend to have more serious and chronic criminal careers than other adults, what kinds of offenses were they engaged in at the juvenile level?	
Conclusion	23
Bibliography	25

Pathways to Desistance

A Comprehensive Analysis of Juvenile to Adult Criminal Careers

This study describes the likelihood and extent to which juvenile offenders persist in illegal behavior and penetrate into Georgia's adult criminal justice system. Electronic records linked from multiple agencies produced the first statewide longitudinal dataset of half a million justice-involved individuals spanning five decades (1970-2015). We merely scratch the surface of how linked administrative databases can be used to better understand juvenile and criminal careers and help us to craft policy to interrupt career trajectories. We are hopeful that policy makers will continue to support the exploration of such data.

Desistance in Georgia

Georgia's juvenile justice system referrals and served populations have declined, similar to national trends. The political focus on juvenile justice policy reform has resulted in closing both detention and secure facilities while increasing program availability.

12% of all juveniles had only one referral and then exited the justice system completely. Yet the concern over recidivism remains.

41% of the half-million juveniles examined went on to be arrested as adults (referred to as "adult persistence"). The best predictor of adult offending is gender.

Redefining the Link Between Age & Crime

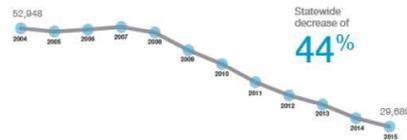
Theorists and researchers agree that youth increases the likelihood of criminality. Examining the full juvenile-to-adult "criminal career," and understanding the life events of young offenders as they age, is required to both fully understand the age-crime relationship and to craft effective intervention strategies.

Many hold an acceptance that the earlier a youth becomes involved in the justice system, the more likely they are to become adult offenders. We find age at first juvenile referral had no such impact. The youngest offenders were no more likely to become adult offenders than those entering the justice system at later ages. Irrespective of age at first referral, juveniles that commit felonies, have many referrals, and who are active in the juvenile justice system for long periods of time are the most likely to become adult offenders. In fact, offenders who entered the justice system as adults (not juveniles) had the longest criminal careers.

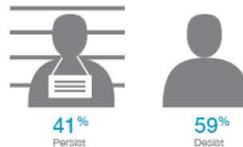
System Interventions Matter

Juvenile justice system interventions can affect a criminal career. The more deeply juveniles penetrate the system, the more likely they are to become adult offenders. This relationship holds true after statistically controlling for the influence of offense. Tailoring responses that are the most appropriate for a child's needs with the least level of system penetration clearly has the potential to reduce adult offending.

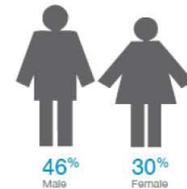
Georgia Juvenile Justice Population Served



Juveniles That Become Adult Persistent



Adult Persistence By Gender



Adult Persistence By Age At First Referral

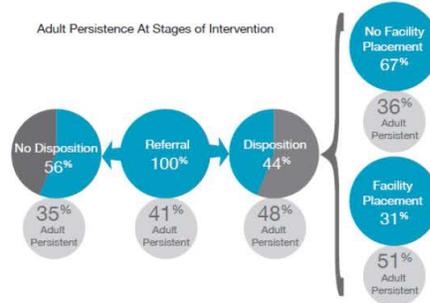


Criminal career length varied by whether the person only offended as a juvenile, only offended only as an adult, or did both. Youth who only offended as juveniles had the shortest criminal careers at 6 months. Offenders who first entered the criminal justice system as adults had the longest adult criminal careers, averaging just under 6 years.

Predictors of Adult Persistence



Adult Persistence At Stages of Intervention



Project Director: Tammy Meredith, Ph.D.

© Applied Research Services, Inc., May 2017

663 Ethel Street, NW Atlanta, GA 30108 www.ars-corp.com

Background

This study was designed to address the likelihood and extent to which juvenile offenders persist in illegal behavior and penetrate into Georgia's adult criminal justice system. Data were collected from multiple agencies in a unique effort that produced the first statewide longitudinal dataset of justice-involved persons of all ages. Electronically recorded justice administration data for anyone born before October 1996 were included. In the last-half century, Georgia's juvenile justice system engaged half a million youths in response to nearly 800,000 referrals for over 1.5 million incidents of delinquency. Those juveniles accrued more than 1.2 million out-of-home placements. Of those half million juveniles, 41% continued to commit crimes into adulthood. In fact, the juveniles went on to account for 2 million adult charges or 7% of all adult arrests in the last 30 years in Georgia.

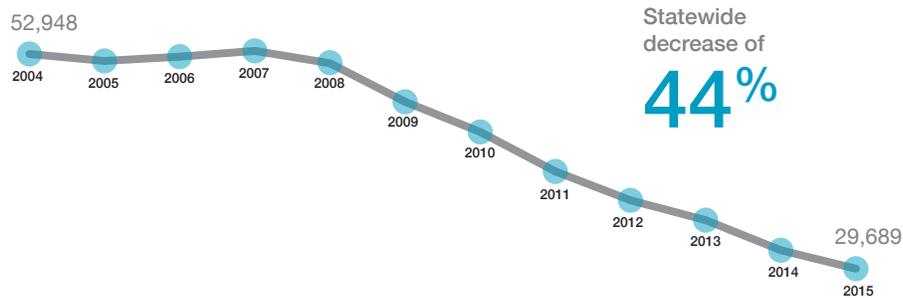
Decades of research have focused on understanding the characteristics of persons with criminal careers spanning ages from adolescence to adulthood, looking for individual-level factors that contribute to persistent offending. Prior studies use self-reported data collected from youth through surveys, interviews, or long-term panel studies following cohorts for decades to assess pathways into and out of criminal offending. Such longitudinal analysis of juvenile criminal careers has never been conducted in Georgia because juvenile and adult data systems are independent, legally separated, and devoid of unique identifiers allowing for linkage. This study builds upon the Georgia Statistical Analysis Center prior research on adult criminal careers (Speir, et al. 2001) to further our understanding of the life events of individual offenders and use that knowledge to inform effective intervention strategies.

Study Site

Georgia is the 24th largest state in the United States with approximately 3.5 million square miles of landmass. The state ranks as the 8th most populous state, doubling in population since 1970 to over 10 million residents (U.S. Census FactFinder 2016). Historically, the populous reports a larger than national average ethnic ancestry. Georgians are young, typically in their mid-thirties. The percentage of people over 60 years old has decreased, and under 25 has increased. Today a quarter of the state population is under the age of 18. Around 85% of residents over 25 years of age had completed high school or higher education. Two-thirds of people hold employment, with a household median annual income of \$50,000 (ranking 26th in the nation and leaving 13.5% in poverty). Georgia also has one of the highest prison populations in the nation and the crime rate is also higher than the national average by approximately 400 crimes per 100,000 people.

Juvenile justice trends nationally have witnessed a twenty-year decline in juvenile arrest rates, both for violent and property crimes.¹ In Georgia, juvenile justice system referrals have declined 44% since 2004 and the statewide juvenile population served dropped from nearly 53,000 to less than 30,000 by 2015.

Figure 1. Georgia Juvenile Justice Population Served



The Georgia Department of Juvenile Justice (DJJ) operates 26 secure facilities around the state on an annual budget of \$312 million (up 6% since 2012). DJJ facilities include 19 Regional Youth Detention Centers (RYDC) which provide temporary, secure care and supervision to youth who have been charged with offenses or who have been adjudicated delinquent and are awaiting placement. In addition, DJJ operates 7 Youth Development Campuses (YDC) which provide secure care, supervision and treatment services to youth who have been committed to the custody of DJJ and for long-term programs.

A Focus on Juvenile Policy Reform

Governor Nathan Deal formed the Special Council on Criminal Justice Reform to study and improve Georgia’s adult and juvenile justice system.² The Council made policy recommendations to prioritize prison beds for violent, career criminals while expanding sentencing alternatives such as probation and accountability courts. In 2012, the Council made recommendations to reduce the use of juvenile secure confinement while promoting child welfare and reducing recidivism. Of Georgia’s over \$300 million juvenile justice budget, nearly two-thirds was used to operate out-of-home facilities which can cost more than \$90,000 per bed per year. Yet more than half of the youth in the system were re-adjudicated delinquent or convicted of a criminal offense within three years of facility release, a rate that has held steady since 2003. In addition, recidivism rates among youth released from Georgia’s secure youth development campuses increased to 65%.

¹ National Center for Juvenile Justice (2015), Juvenile Arrest Rates by Offense, Sex, and Race.
² See: http://dcs.georgia.gov/sites/dcs.georgia.gov/files/related_files/site_page/Report-Special-Council-Criminal-Justice-Final.pdf

Reform Council initiatives include implementation of standardized assessment tools at critical decision points including whether one should be detained pending a court hearing, placing youth in the least restrictive environment to ensure public safety, and developing case plans to reduce overall recidivism. In addition, statutes around “unruly children” were enacted to categorize these youth as “Children In Need of Services” which allows for the development of treatment plans for these youth instead of an automatic trip to a detention center. Other activities included the signing of an executive order creating the Juvenile Justice Funding Committee to help provide counties with dollars for evidence-based community programs and services. Through these efforts, Georgia has decreased its population of youth in secure confinement and reduced in half the number of youth awaiting placement. By 2016, the Reform Council reported that juvenile commitments to DJJ have dropped 33% enabling the state to close two detention centers and a Youth Development Campus.³ The state has steadily increased the availability of programs proven to reduce juvenile recidivism and is now consistently using validated assessment instruments to properly assess and place youth in appropriate settings. Yet the issue of recidivism remains. Without an extended view of a juvenile’s full criminal career, little is known about the trajectory of juvenile pathways to offending into adulthood and whether interventions at the juvenile level have an impact beyond the age of majority (17 in the state of Georgia).

Relevant Literature

There is a well-established link between age and crime as youth increases the likelihood of criminality independent of other characteristics, crime types, or environmental conditions (Blumstein, 1995; Farrington, 1986; Moffitt, 1993; Piquero et al., 2003). Offenders under the age of 18 account for a significant amount of the crimes committed and persons arrested in the U.S. (Cottle, Lee, & Heilbrun, 2001). Juvenile delinquency includes all adult behaviors prohibited by law as well as unruly or ungovernable actions, such as truancy. Juvenile offending patterns are similar to adults’ with a few distinct likelihoods; for instance, juveniles are more likely to be involved in group offending, gun violence, and low mortality crimes (Blumstein, 1995; Heide, 1997; Laurikkala, 2011). Moreover, the personal and structural factors that predict juvenile delinquency are also recidivism risk factors.

Youths who are male, nonwhite, undereducated, and foreign born are more likely to recidivate (Blumstein, 1995; Ewing, 1990; Glueck & Glueck, 1950; Heide, 1999; Sickmund, 2006; Steffensmeier et al., 2005). Negative peer influence (e.g., gang membership), particularly in the absence of positive social support and structure

³ See: http://dcs.georgia.gov/sites/dcs.georgia.gov/files/related_files/site_page/GA%20Council%20on%20Criminal%20Justice%20Reform%202016%20Report.pdf

(e.g., programs, employment), has been documented to increase the risk of repeat delinquency (Blumstein, 1995; Huizinga & Jakob-Chien, 1998; Loeber, Stouthamer-Loeber, Van Kammen, & Farrington, 1991; Snyder & Sickmund, 2006). Serious juvenile offenders typically exhibit antisocial behaviors or other mental health issues, struggle with substance abuse problems, and have a history of adverse childhood events such as maltreatment by adults (Elliot, Huizinga, & Menard, 1989; Glueck and Glueck, 1950; Moffitt, 1993; Scarpitti & Datesman, 1980). Those who live in neighborhoods with social disorganization, characterized with family disruption, poverty, and racial segregation, also have higher odds of reoffending (Ousey, 2000; Shaw & McKay, 1942; Shihadeh & Steffesmeir, 1994). Evidence suggests that these juvenile recidivism risk factors can be thwarted through appropriate responses.

Criminal Careers

The term “criminal career” refers to the sequence and pattern of crimes committed by an offender over the course of his/her lifetime. In a criminal career approach to research, knowledge of the life events of individual offenders is critical to explaining crime trends and crafting effective intervention strategies. Four dimensions of criminality are relevant to defining a criminal career; participation, frequency, patterns of offending, and career length (Blumstein et al., 1986; Moffitt, 1993; Nagin, Farrington, & Moffitt, 1995; Nagin & Paternoster, 1991; Sampson & Laub, 1992; Wolfgang et al., 1972). For example, Georgia’s crime rate (the number of crimes per 100,000 residents) is a function of two things: the proportion of Georgia residents committing crimes (participation) and the extent of activity among our active criminals (frequency). In other words, Georgia’s index crime rate of 3,300 per 100,000 residents could be the result of 3,300 people committing one crime in a year or 330 people committing 10 crimes during the year.

Participation. The participation dimension refers to the distinction between those who do and do not commit crime. Criminological research is replete with studies that identify the factors associated with participation in crime: parental supervision, adult-child interaction, parental criminality, family size and structure, social class, I.Q. and academic achievement, substance abuse, mental health problems, employment, peer-group influences, and countless other social and personal factors. Wolfgang and his colleagues (1972) found a nexus of factors contributing to what the authors refer to as a disadvantaged position: non-white youths belonging to a lower socioeconomic class are more likely to have the lowest grade completion, lower I.Q., high number of residential and school moves, and overall lower achievement scores. Crime control and prevention policies that address participation should be significantly different from policies that deal with offenders actively involved in crime. As Blumstein et al. (1986) noted, reducing participation is probably more a function of social service, educational, and mental and substance abuse intervention.

Frequency. The frequency dimension refers to the number of crimes an offender commits over a span of time. Since Wolfgang et al., (1972) reported that 6% of the adolescent study cohort accounted for over 50% of the crime committed by the cohort, other researchers investigating juvenile crime document similar findings (Blumstein & Moitra, 1980; Dunford & Elliott, 1984; Farrington, 1983; Hamparian et al., 1978; McCord, 1981; Shannon, 1978; Tracy et al., 1985; West & Farrington, 1977). Most studies estimate between 5% and 19% of the population accounts for over one-half of all crime (Elliott et al., 1982; Wolfgang, 1983). Researchers continually report that the best predictor of future arrests for an individual is previous arrests (Blumstein et al., 1986; Gottfredson & Gottfredson, 1994; Zimring & Hawkins, 1995). Other predictors of offending frequency include age of on-set, drug use, and unemployment (Blumstein et al., 1986). Research on individual arrest rates (crimes per year per person) report higher levels of offending among property than violent offenders and significantly higher levels of offending among people who have been incarcerated (Blumstein et al., 1986). Finally, while significant sex, age, and race differences exist at the participation stage, once offenders make the decision to become active in crime, demographic influences drop out (Blumstein et al., 1986). Unlike participation, frequency is more amenable to intervention on the part of the criminal justice system.

Patterns of Offending (Specialization and Escalation). The extent to which offenders specialize in certain types of crime (specialization) or the extent to which offenders engage in more serious offenses over time (escalation) has been the focus of considerable debate and research (Britt, 1996; Stander et al., 1989; Blumstein et al., 1988; Farrington et al., 1988; Cohen, 1986; Lab, 1984; Smith & Smith, 1984; Rojek & Erickson, 1982; Bursik, 1980; Wolfgang et al., 1972). The overwhelming research attention to specialization is critical for numerous reasons. First, major criminological theories about the causes of crime make different predictions about the nature of the crime offenders commit. Thus, empirical research about specialization has become increasingly important for theory development and testing. More importantly, policy makers continually make decisions about offenders based on their crime of conviction. These offense-based decisions are seen in sentencing, parole release, and community supervision level decisions. Third, many correctional programs assume specialization based on program objectives and the population targeted for interventions for “sex offenders,” “drug abusers,” and “violent offenders.” Despite the theoretical and policy implications, the empirical evidence is mixed.

One argument in this lively debate is how to measure specialization. Since the early 1970's, criminologists have relied on a number of different techniques for measuring offense specialization, including intercorrelations, Markov-chains, transition matrices, specialized coefficients, and simple count methods (Hindelang, 1971; Wolfgang et al., 1972; Farrington, 1986; Farrington et al., 1988; Blumstein et al., 1988). Klein (1984) coined the term “cafeteria offenders” to describe juvenile offenders’ tendencies to commit a wide array of crime

types (opportunists) after reviewing studies on over sixty cohorts of juveniles. Yet, despite the theoretical and policy promise that specialization and escalation have for understanding crime and delinquency, the evidence to date is still inconclusive (also see, Hindelang, 1971; Piquero et. al., 2003).

Career Length. Many criminal careers are short and end in the teenage years (Blumstein et al., 1986). One regular empirical finding is that the age of on-set (first offense) is an important factor in explaining future offending. Many researchers agree that early on-set is the best predictor of long-term, high frequency, serious offending as a juvenile and adult (Blumstein et al., 1986; Dunford & Elliott, 1984; Farrington, 1986; Nagin & Farrington, 1992). While offenders who start their criminal careers at younger ages have higher frequency rates, early onset offenders also show more versatility in the offenses they commit while late onsets are more likely to specialize in their offenses (Blumstein et al., 1996). Predicting which offenders will stop offending (desistance) is critical to policy makers. The allocation of scarce corrections resources should be reserved for offenders least likely to end their careers.

The Persistent Offender

An offspring of career criminal research is the focus on the chronic, high frequency offender. Moffitt (1993) hypothesized there were two types of criminals: adolescence-limited and life-course persistent. The antisocial behavior of adolescence-limited offenders is temporary and situational. Their delinquency is relatively normal; peaking between 15 and 18 years of age. They engage primarily in crimes that reject parent control (vandalism, running away, substance abuse) as they mature into adulthood. The behavior of life-course persistent offenders is more stable. They are delinquent at every stage of life, engage in a wider variety of offenses, and commit more of the victim-oriented offenses. Early neuropsychological developments influence antisocial traits that in turn interact with an environment to create early and long lasting problematic behaviors.

Maruna (2001) interviewed persistent street-offenders and found they do not fit into a dual taxonomy (adolescence-limited or life-course persistent). He concluded that “despite the evidence that criminal behavior is widespread throughout the populations and that most criminal careers are short-lived and sporadic, criminological research continues to focus on the static difference between offenders and nonoffenders as if there were ‘types’ of people” (p. 6). His sample was neither fundamentally different from conventional society nor antisocial, and averaged over 30 years old when they began desisting from crime. All the offenders came from parallel backgrounds, faced similar obstacles, and shared personality traits, yet over half of the sample was actively ‘making good.’ Many of Maruna’s offenders seemed to be caught the vicious cycle of criminality and accepted the label society had given them, rather than exhibiting ‘antisocial logic.’

Other theorists also question the lumping of criminals into two distinct categories (persistent or not) as criminal career trajectories are not so easily defined (Farrington, 1997, 2003:226). Even high rate offenders do not commit crime all the time, and thus learn how to navigate between conformity and criminality (Loeber and Farrington, 2000). Some research suggests life-course offending is more dynamic than distinct, so rigid groupings do not accurately capture the variation of offender traits and motivations. Other research (Steffensmeier, et al., 1989; Walsh, 2009) argues moral fiber is a better predictor for life-course persistence than antisocial behavior. Additionally, it has been suggested that people with privilege may be protected from early antisocial behavior detection because of their social standing, which allows them time to learn to mask those behaviors by mimicking prosocial traits.

Practical Implication of Criminal Career Research

The practical outcome of good criminal career research is the development of intervention strategies. Criminal justice decision makers can use the knowledge to help craft their response to an individual offender: incapacitate them (to interrupt his/her career), treat them (to modify his/her career), or make an informed prediction about their future offending (classify him/her according to an assessment of where (s) he is in their criminal career). Although strategies aimed at participation and frequency offer considerable opportunities for reducing crime, the authority and responsibility for each are quite different (Blumstein et al., 1986; 1988). The social service sector is better equipped to deal with participation, while frequency falls more appropriately under the venue of the juvenile and criminal justice systems.

This distinction in intervention strategies is most critical in the juvenile justice system, where agencies serve the dual role of holding youthful offenders accountable while also equipping them with the social, intellectual, and emotional tools they will need as adults. Policies are not informed by research that follow youth beyond the legal age of adulthood because juvenile and adult data systems are independent, legally separated, and devoid of unique identifiers allowing for linkage. Our prior research on criminal careers in Georgia (Speir, et al., 2001) indicates young adult offenders are less likely to specialize than older offenders, and no escalation in crime seriousness exists among adults. As the linking of statewide juvenile and adult data systems, the current project will further our understanding of the life events of young offenders through adulthood and that knowledge can be used to inform effective juvenile intervention strategies.

Methods

The following six research questions, with implications for juvenile interventions, dictated the project methods and analytical approach.

1. What characteristics of juvenile offenders are related to continued offending into adulthood (demography, offense type, age of onset)?
2. Are certain characteristics of juvenile offenders related to *violent* offending in adulthood?
3. Does specialization or escalation in offending patterns exist at the juvenile level?
4. Do justice system interventions at the juvenile level (informal adjustment, probation, detention, residential treatment) affect the juvenile-criminal career trajectory?
5. Do statutorily-defined interventions at the juvenile level (transfer to adult court, CHINS treatment of former “status offenses”) affect the juvenile-criminal career trajectory?
6. While analysis of criminal history data reveals that offenders first arrested at age 17 in the adult system tend to have more serious and chronic criminal careers than other adults, what kinds of offenses were they engaged in at the juvenile level?

Identification of a Study Cohort

This study is an archival examination of adults in that it involves studying the electronic criminal records of persons who had been in the juvenile justice system, and yet had reached the age of 18 prior to the start of the study (October 1, 2014). After gaining Institutional Review Board (IRB) Human Subjects Research approval and establishing memorandums of understanding with each agency, data extracts were transferred securely to the authors. All study data were secondary; no contact was made between the researchers and the subjects of this research. Each agency provided all available personally identifying information for any offender born before October 1, 1996.

Agency Data Sources

Georgia operates a complex system of juvenile justice, where 159 counties operate under disparate court and data collection systems that include intake, probation and case management services at the county level (independent courts), at the state level (dependent courts) or both (shared courts). Thus, until the creation of a data repository for this study, there was no central repository of juvenile justice system involvement. Juvenile data for this study were pulled from the two state agencies that house juvenile offender information, the Department of Juvenile Justice (DJJ) and the Council of Juvenile Court Judges (CJCJ). Juvenile custody information (detention, treatment facilities) are captured solely by DJJ. There exists a tremendous amount of duplicate data across the systems for youth referred to both types of courts and/or are placed in juvenile facilities.

Additionally, some juvenile cases were found only among the adult criminal history records. Those data

were obtained from the Georgia Bureau of Investigation (GBI) Crime Information Center (GCIC), the State's official criminal history (rap-sheet) repository. This computerized criminal history (CCH) database includes all charge and official processing records related to any offender fingerprinted after 1980. While the vast majority of the 19 million charges from 12 million arrests of 3.1 million offenders are attributable to adults, defined by Georgia as persons age 17 and older, serious juvenile arrests (O.C.G.A. § 15-11-702) are captured as well.

Together the three sets of records represented 80 years of juvenile and adult criminal justice system activity. Each agency performs internal data quality tests and analyses, and the research team selected fields based on previous analysis that met stringent data quality requirements.

Unprecedented Database Linking

While the three data sources have been separately analyzed, they had never been previously linked. Each agency applies a unique identifier to a person. Additionally, the juvenile courts do not record fingerprint state identification numbers (SID) for youths arrested for a felony, and no such record is available for misdemeanors or other court referrals. Consequently, there was a need to match person records across system databases without unique identifiers. Social security numbers, when available, are typically missing or fraught with data entry errors. Therefore, this study used an unprecedented method to successfully match the records of individual youths entering the juvenile justice system who persist onto adulthood offending.

The first phase of the project required collating and formatting agency identification numbers for each person in the study cohort. Individuals could have one or more cases within an agency and appear in multiple agencies. Matching relied on a hierarchical method beginning with a deterministic match of any common unique identifiers found across the databases. Once all attempts to exact match records were made, the process moved to a more sophisticated and well established fuzzy logic matching method (Ernst, 1982; Baldwin, 1981; Zadeh, 1965).

First, DJJ, JCATS, and CCH demographic tables were used to create a comprehensive list of roughly 3.5 million profiles for the study cohort (cases per unique ID, name, birth date, race/ethnicity, sex, and social security number combination within each agency). Next, the Georgia Governor's Office of Student Achievement's (GOSA) Informatica Master Data Management (MDM) Hub was employed to match juvenile and adult justice records. The hub contains a service called Unique_ID which produces probabilistic identifications of persons found in any of the three agency databases. The matching was based on exact and highly-likely overlaps of five data point patterns: last name, first name, date of birth, race, and gender. When a match was flagged, it was assigned the same GA Awards ID (GAAwards number). GOSA linked over 62,000 juveniles across the

juvenile databases and 4% of juveniles (more than 150,000) between the juvenile and adult databases. Finally, to correct for unresolved duplicates and mismatches, additional exact and “fuzzy” matching algorithms were used to find further duplicates within files, then between files, and finally to find additional matches across files. The additional efforts found approximately 9,500 more within group repeats, 1,500 juvenile agency links, and around 50,000 across agency matches, resulting in the identification of 3.1 million unique offenders in either juvenile or adult justice data systems in Georgia.

Analysis

An exploration of juveniles involved in the justice system commenced with identifying factors that contribute to persistence of offending behavior into adulthood (e.g., demography, offense characteristics, etc.). We next assess the degree to which certain interventions act as protective factors, in that they reduce the likelihood of continued offending (desistance).

Summary of the Study Cohort

The study cohort includes the nearly half a million Georgia adults (n=489,304) who have an electronic record in the juvenile justice system prior to the start of the study (October 1, 2014). Five decades of electronic data on the cohort are summarized (1970 – 2015). The cohort is 65% male, 53% nonwhite, with an average age of 14 years at the first juvenile referral (entry into the system). As juveniles, the study cohort had a variety of offenses (an average of three charges); 37% had a status offense, 66% a misdemeanor, and 32% a felony. Of the cohort, 14% also had a juvenile court dependency case, referred to as Child In Need of Services (CHINS) referral.⁴

Most of the study cohort (88%) started with a misdemeanor or status/CHINS offense. The most common first charge was for violence (26% of the cohort), followed by a property offense (24% of the cohort). Less than half of the study cohort had a formal juvenile disposition (44%), the most common being probation. Nearly one third (30%) spent time in juvenile detention (RYDC) and 8% had a juvenile commitment to a YDC. It is noteworthy that 12% of all juveniles had a single referral and then exited the system completely. In examining persistence, 41% of juveniles went on to be arrested as adults and ultimately 8% were incarcerated in prison as an adult.

Question 1. What characteristics of juvenile offenders are related to continued offending into adulthood?

While 41% of juveniles went on to be arrested as adults, patterns of adult persistence in offending differ across gender, race, and birth cohort. Males, nonwhites, and juveniles born in the 1970s were more likely to offend as an adult. That persistence diminishes over the decades may be reflective of an evolving and

⁴ Georgia legislation redefined formerly status offense referrals as CHINS referrals.

improved juvenile justice system. The best predictor of adult offending is gender; 46% of males go on to adult offending compared to 30% of females. The most compelling finding is that age at first juvenile referral had no impact on the likelihood of future adult offending. In fact, the youngest juvenile offenders, those beginning their career at age 12 or younger, were no more likely to become adult offenders than older juveniles. This flies in the face of much academic discussion and agency practice that focuses on “age of on-set” as the most critical precursor to future offending. When institutional data on large populations are examined, age of on-set becomes irrelevant. Irrespective of age at first referral, juveniles who commit felonies, have many referrals, and those who are active for long periods of time have the highest rates of adult persistence.

To examine the relative influence of the multiple early indicators of adult persistent offending we employed logistic regression techniques to identify the statistically significant predictors of adult persistence offending and their relative importance in prediction. As described in Figure 6, nine individual characteristics are predictive of adult offending, the most influential being male. Once the influence of gender, offense, and prior record are accounted for, age of first juvenile referral offers no explanatory power in predicting adult offending.

Figure 2. Juveniles That Become Adult Persistent

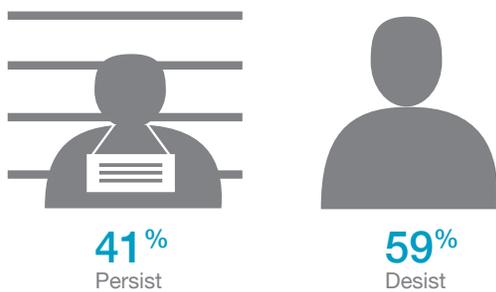


Figure 3. Adult Persistence By Gender



Figure 4. Adult Persistence By Race

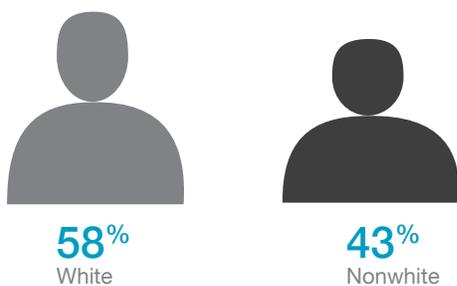
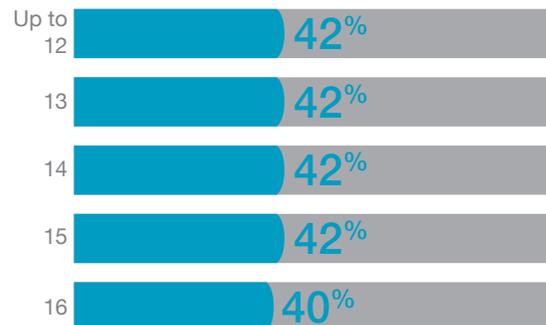


Figure 5. Adult Persistence By Age At First Referral



Interestingly, criminal career length varied by whether the person only offended as a juvenile, only as an adult, or did both. Figure 7 shows career length for each. Youth who only offended as juveniles had the shortest criminal careers at six months. Adult persistent juveniles, those who offended as both juveniles as adults, averaged one year as a juvenile offender and 4.8 years in the adult system. Offenders who first entered the criminal justice system as adults had the longest adult criminal careers, averaging just under six years.

Figure 6. Predictors of Adult Persistence

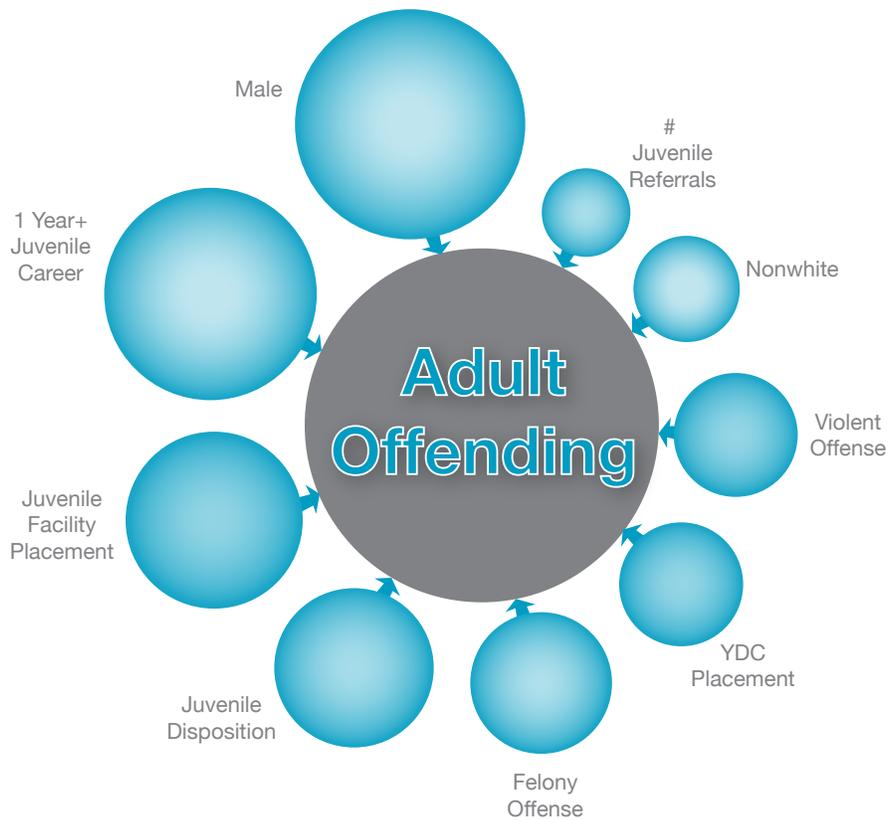
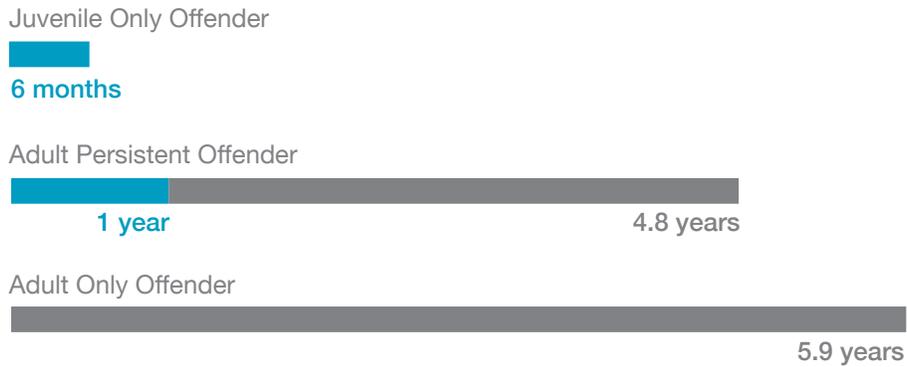
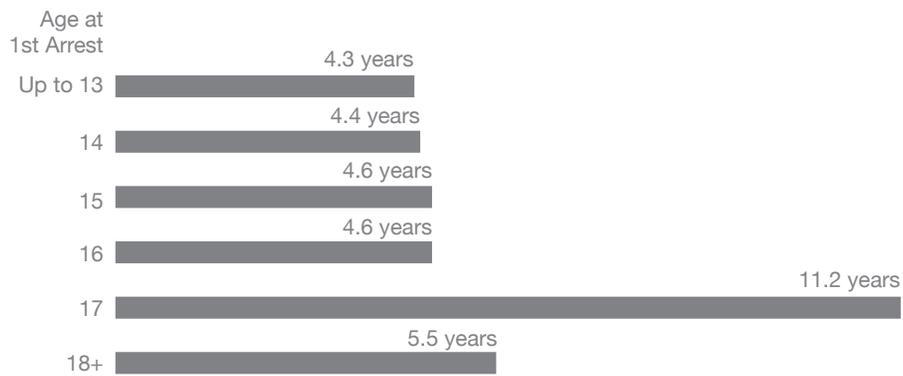


Figure 7. Average Criminal Career Length



If we look specifically at adult criminal careers by the age of first arrest, 17-year-old offenders are unique (see Figure 8). Youth first arrested up to 16 years of age average similar adult career lengths (average of 4.4 years). Those arrested at age 18 and older average 5.5 years of offending. But those first arrested at age 17 average nearly 10 years of adult offending, which is more than double that of their counterparts who began their criminal careers before them, and nearly double those who began offending at age 18 or older

Figure 8. Adult Criminal Career Length by Age of Onset of Criminality



We are unable to fully explain the phenomenon with 17-year-old first time offenders. Georgia offenders arrested for the first time at age 17 enter directly into the adult justice system and are ineligible for the program and service interventions provided by the juvenile justice system. Interventions such as informal adjustments (the least system penetration) are not an option in the adult system, which may impact the criminal career trajectories for 17-year-old offenders. Informal adjustments are most commonly applied to the youngest juvenile offenders, even for serious offenses, whereas older juveniles primarily receive

informal adjustments for nonviolent and family offenses. Interestingly, adult persistent youth were also more likely to have received an informal adjustment than youth who did not go on to offend as an adult.

It appears that teenagers in general are no more likely to continue offending than young adults (under the age of 20). About one-third of the first time 17-year-old offenders committed another crime within 12 months; one-third of fifteen- and sixteen-year-olds did the same. Roughly 70% of all age groups, 15, 16 and 17-year-olds, committed at least one more crime before their 20th birthday.

Offending patterns were examined to compare offenders based on their age of first offense (age of on-set). While the groups were similar in many respects, there were significant differences found for 17-year-olds; they were significantly more likely than the other groups to start with a felony offense (54% vs. an average of 33%). In addition, offenders starting at age 17 were more likely to be incarcerated as an adult (25% vs. an average of 17% for other age groups).

While adult criminal history data shows stark difference between those who first offend at 17 and all other age groups, it does not explain the difference. In an attempt to better understand age patterns, an analysis was conducted on the Georgia Department of Corrections Next Generation Assessment (NGA) data. The NGA is the risk/needs instrument that the department has used since 2014 to inform inmate and high-risk probationer treatment plans. We compared persons sentenced to the Department of Corrections by age and three major differences emerged. The 17-year-old inmate population displayed higher levels of criminal thinking, more peer and family issues, and less motivation to change behavior compared to older inmates.

Question 2. Are certain characteristics of juvenile offenders related to violent offending in adulthood?

Among all juvenile offenders 41% went on to be arrested as an adult for any offense, 17% went on to be arrested for a violent offense as an adult. Of the adult persisters, less than half (43%) were arrested for a violent offense as an adult. The most notable characteristics predictive of violent adult offending are related to the type and extent of juvenile history: juvenile court dispositions and commitments, a juvenile referral for violence, and placement in a juvenile facility (especially a YDC). In addition, an arrest as a young adult (at age 17) is predictive of adult violence, while age of on-set of the juvenile career is not.

Question 3. Does specialization or escalation in offending patterns exist at the juvenile level?

A wide variety of decisions made about offenders as they move through the justice system are based upon “offense” – the most serious crime for which they were arrested or convicted. A criminal career approach to research calls into question the soundness of such policies. This study included a replication of the transitional probability technique used in the ARS 2001 study of criminal history data to examine specialization, or the

tendency to repeat crime types over time. We looked for specialization among successive arrests in criminal careers by producing a transitional probability matrix, which allows us to see the probability of repeating the same offense type among successive arrests.

Our 2001 study reported interesting facts on Georgia offenders. Most notably, there was some tendency among offenders to repeat the same offense type, especially property offenders. However, between one-half and two-thirds of a typical career was devoted to crimes outside of one’s specialty. For instance, a “violent offender” (labeled by his first arrest) has a 2 out of 3 chance of being arrested for something other than a violent crime at his second arrest. Transitional probabilities can also be used to determine whether such patterns exist in adolescence. This method was used to assess escalation in offending from adolescence into adulthood.

Compared to our 2001 findings, adult offenders are less specialized today than they were 15 years ago. Property offenders continue to repeat property offenses but now even less often. Like adults, juveniles are generalist (opportunistic) offenders and specialize even less than adults (See Tables 1 and 2). In fact, when juvenile offenders moved into adult offending they were less, not more, specialized than their adult counterparts who had no juvenile history.

The consistency in (non)specialization patterns over career length can be seen when we display only the diagonal of the matrices (crime repetition) for up to 6 arrests in Table 3. The likelihood of repeating the same offense is the same regardless of where an offender is in his arrest career.

Table 1. Transition Probabilities (Specialization in Crime Type from Arrest 1 to Arrest 2) – Adults

Arrest 1	N	Arrest 2				
		Violent	Property	Drug	Sex	Other
Violent	448,477	0.270	0.211	0.109	0.013	0.396
Property	838,208	0.122	0.412	0.117	0.010	0.339
Drug	486,728	0.100	0.177	0.291	0.008	0.424
Sex	43,881	0.155	0.191	0.106	0.154	0.394
Other	1,473,425	0.110	0.146	0.102	0.008	0.633
Total	<u>3,290,719</u>					

Table 2. Transition Probabilities (Specialization in Crime Type from Arrest 1 to Arrest 2) – Juvenile

Arrest 1	N	Arrest 2				
		Violent	Property	Drug	Sex	Other
Violent	36,391	0.263	0.235	0.163	0.012	0.326
Property	60,729	0.144	0.365	0.172	0.009	0.310
Drug	50,784	0.116	0.186	0.337	0.006	0.355
Sex	2,619	0.158	0.242	0.165	0.085	0.350
Other	51,733	0.142	0.208	0.196	0.008	0.446
Total	<u>202,256</u>					

Table 3. Transition Probabilities (Specialization in Crime Type Across Arrests)*Diagonal Elements of the Matrix Transitions Between Arrest 1 and Arrest 6*

Adults (2001)	N	Previous Arrest				
		Violent	Property	Drug	Sex	Other
Arrest 2	1,003,616	0.337	0.501	0.325	0.224	0.643
Arrest 3	643,616	0.308	0.488	0.306	0.182	0.618
Arrest 4	463,703	0.330	0.509	0.334	0.219	0.625
Arrest 5	346,304	0.301	0.491	0.309	0.174	0.598
Arrest 6	269,365	0.328	0.511	0.330	0.216	0.610

Adults (2016)	N	Previous Arrest				
		Violent	Property	Drug	Sex	Other
Arrest 2	3,290,719	0.270	0.412	0.291	0.154	0.633
Arrest 3	1,800,328	0.266	0.415	0.280	0.156	0.630
Arrest 4	1,243,154	0.260	0.415	0.271	0.151	0.626
Arrest 5	934,648	0.258	0.414	0.262	0.158	0.624
Arrest 6	734,981	0.254	0.416	0.256	0.155	0.622

Adolescent Limited Juveniles	N	Previous Arrest				
		Violent	Property	Drug	Sex	Other
Arrest 2	260,398	0.517	0.530	0.481	0.390	0.630
Arrest 3	68,143	0.464	0.438	0.362	0.289	0.601
Arrest 4	27,056	0.490	0.484	0.372	0.305	0.648
Arrest 5	15,459	0.453	0.431	0.267	0.233	0.638
Arrest 6	9,643	0.445	0.434	0.316	0.214	0.640

Adult Persistent Juveniles	N	Previous Arrest				
		Violent	Property	Drug	Sex	Other
Arrest 2	185,255	0.475	0.478	0.424	0.269	0.532
Arrest 3	73,908	0.451	0.457	0.341	0.234	0.537
Arrest 4	37,816	0.465	0.485	0.364	0.250	0.588
Arrest 5	23,570	0.440	0.458	0.312	0.302	0.580
Arrest 6	16,029	0.426	0.475	0.325	0.167	0.598

Finally, it is evident that juvenile careers in Georgia, like adult careers, do not escalate in seriousness over time. Our 2001 study speculated that criminal career research that linked both juvenile and arrest data may uncover patterns of escalation in crime seriousness as juvenile offenders move into the adult system. No such evidence was found.

This suggests that tailoring rehabilitation efforts to fit or exclude offenders based solely on offense types are not productive. This analysis finds that juveniles are opportunistic and mirror adult offenders in their lack of specialization. In addition, the evidence shows that juvenile careers do not escalate in seriousness over time. Practices that categorize juvenile offenders as “violent offenders” or “drug offenders” and exclude them from program participation and interventions based upon those designations are not warranted by the data. Instead of focusing on offender types as defined by offense, volumes of research have demonstrated that attention to the principles of risk, need, and responsivity (R-N-R) is what results in reduced offending (Andrews and Bonta, 1998; Andrews, Bonta and Hoge, 1990; Gendreau, Little, and Goggin, 1996). Adhering to the principles of R-N-R increases the impact of rehabilitation efforts and reduces offender recidivism (Lowenkamp, 2004; Latessa and Lowenkamp, 2002).

Question 4. Do justice system interventions at the juvenile level (informal adjustment, probation, detention, residential treatment) affect the juvenile-criminal career trajectory?

Juvenile justice interventions in Georgia include a wide variety of system responses, ranging from the least severe informal adjustment, to being placed on probation supervision, to the most severe sanction of being confined in a facility. The data indicates that deeper penetration in the juvenile system is associated with more adult persistence; the more severe the interventions, the more adult offending. Table 4 outlines the percentage of youth who become adult persistent based upon juvenile justice system interventions. While 41% of all youth in the juvenile justice system show up in the adult criminal justice system, there is significant variance in adult persistence across groups of youth treated with different interventions.

Table 4. Juvenile Interventions and Adult Persistence

	% Adult Persistent
20% of juveniles have no dispositions or placements	35%
10% have an informal adjustment	44%
29% were placed on probation	52%
30% were placed in a RYDC	51%
5% were in a residential treatment placement	58%
3% were in a Short Term Program	63%
8% were placed in a YDC	60%

The lowest level of adult persistence was seen among those with no dispositions or facility placements; just over one-third of these youth became adult persistent. With some minor deviation, as the intensity of intervention increased, the proportion of youth who went on to become an adult offender increased. Comparing the two ends of the spectrum, about one-third of juveniles without a disposition or placement became adult persistent compared to 60% of juveniles who were placed in a YDC.

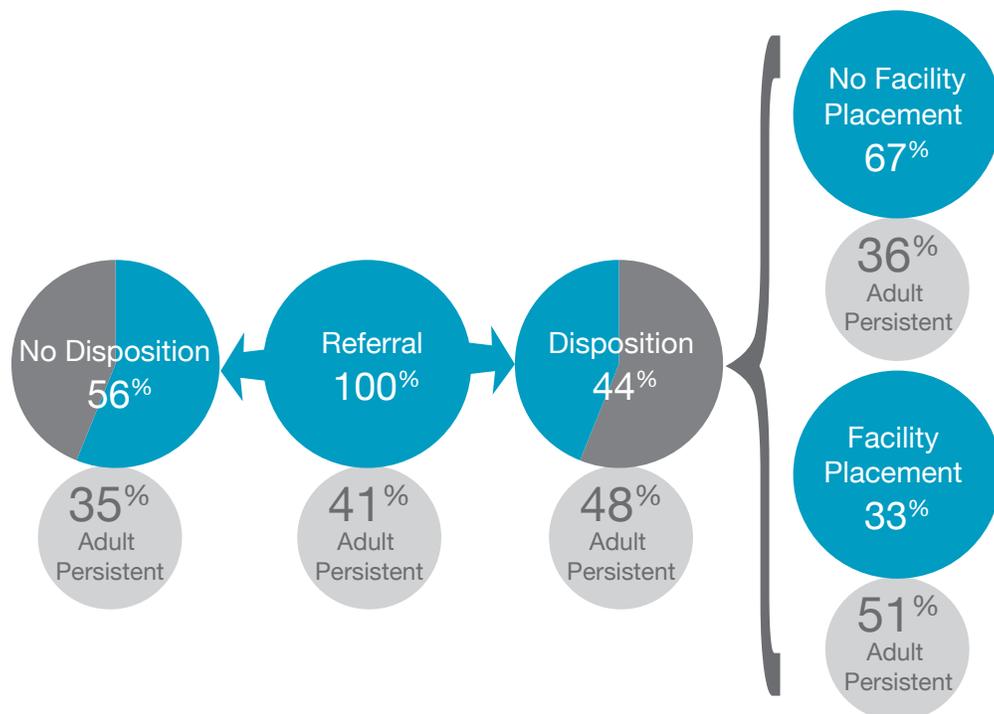
The most severe interventions were also applied least often. While the majority of youth receiving a residential treatment placement, YDC, or short term program became adult offenders, only 18% of all youth processed through the juvenile justice system received that level of intervention. Youth were most likely to be placed in detention (30%) or on probation (29%). Roughly half of those youth became adult persistent.

The more deeply youths penetrate the system and receive higher levels of intervention, the more likely they are to become adult persistent (See Figure 9). As demonstrated in the multivariate analysis (Figure 8, Page 14), this relationship holds true after statistically controlling for the influence of offense. It seems reasonable for youth committing serious offenses to be more likely to continue to adult offending. Yet among youth with similarly serious offenses, those who received more severe sanctions and penetrated further into the system were the ones more likely to persist in adult offending. This is valuable information for policy makers as it highlights the need to carefully consider the level of intervention applied to juveniles. Tailoring responses that are the most appropriate for a child’s needs with the least level of system penetration clearly has the potential to reduce adult offending.

Question 5. Do statutorily-defined interventions at the juvenile level (transfer to adult court and status offense treatment) affect the juvenile-criminal career trajectory?

In 1973 a Georgia constitutional amendment lowered the age of juvenile court jurisdiction to offenders under the age of 17, while offenders as young as 13 who commit a designed “7 deadly sin” offense (i.e. murder, voluntary manslaughter, rape, armed robbery, aggravated child molestation, aggravated sodomy,

Figure 9. Adult Persistence At Stages of Intervention



aggravated sexual battery) are automatically transferred to the criminal court and treated as adults. Both the Centers for Disease Control (CDC) and the Office of Juvenile Justice and Delinquency Prevention (OJJDP) have concluded that the evidence suggests such transfer laws, as currently implemented, have “little or no general deterrent effect on preventing serious juvenile crime.” In fact, transferred juveniles often demonstrate higher recidivism rates than those who remain in the juvenile system or adults in the criminal system. The question remains whether transferring juveniles to the adult system impacts their criminal career trajectory.

Table 5. Comparing Juvenile And Adult Histories For Statutorily Defined Groups Of Offenders

	Status Offending			Juvenile Transfer	
	Juvenile But No Status Offenses (N=306,182)	Juvenile and At Least One Status Offense (N=183,122)	ONLY Status Offense(s) (N=63,616)	Not Transferred to Adult System (N=488,423)	Transferred to Adult System (N=881)
Became an Adult Offender	38%	45%	30%	41%	63%
Became an Incarcerated Adult	7%	9%	3%	8%	29%
Avg. Number of Arrests	1.08	2.51	1.27	1.61	3.72
Committed a Felony	29%	36%		31%	89%
Committed a Violent Crime	27%	35%		30%	66%
Committed a Property Crime	34%	39%		36%	71%
Committed a Drug Crime	10%	22%	10%	14%	36%
First Crime Less Serious than Last	9%	24%	4%	15%	23%
No juvenile dispositions or placements	24%	12%	25%	20%	3%
Have an informal adjustment	7%	13%	7%	10%	9%
Were placed on probation	19%	46%	16%	29%	53%
Were placed in a RYDC	23%	42%	16%	30%	79%
Were in a residential treatment placement	1%	11%	2%	5%	16%
Were in a Short-Term Program	1%	7%		3%	18%
Were placed in a YDC	4%	15%	2%	8%	33%

While the number of transferred juveniles was very small in comparison to the total number of youth processed through the juvenile system, Table 5 shows that there are stark differences between the two groups, with transferred juveniles having much deeper penetration into the juvenile justice system and subsequent adult persistence. Transferred juveniles were three times as likely to commit a felony offense and more than twice as likely to commit a violent offense. Transferred juveniles averaged more than double the number of overall juvenile arrests than youth remaining in the juvenile system, and they were more than twice as likely to have a juvenile disposition. Looking at their placements, transferred juveniles were three times more likely to have received a residential treatment placement and four times more likely to

have received a short-term program placement compared to non-transfers. In addition, they were almost three times as likely to have a criminal career that lasted a year or more. This level of response is not surprising, given the very serious nature of their offending. In fact, juveniles transferred to the adult system were also one and a half times more likely to become an adult offender, and three and a half times more likely to be incarcerated as an adult. The juvenile-criminal career trajectory of the transferred population is quite different than other youth, with greater levels of adult persistence and adult incarceration.

Another statutorily defined intervention is the legal treatment of status offenders, those behaviors that conducted by adults are not a law violation. Table 5 provides a comparison of status offenders, dividing the study cohort by those who had no status offenses, those who had at least one status offense, and those who only committed status offenses. Youth whose juvenile record only included status offenses were the least likely to become offenders as adults. Interestingly, status-only offenders look relatively similar to those with no status offenses in terms of penetration into the juvenile system (with the exception of placement into an RYDC), as well as criminal career length. Youth with a combination of both status and criminal offenses fared the worst in terms of commission of serious offenses, system penetration, criminal career length, and adult persistence. This group also committed twice the number of status offenses as the status-offender only group. The data indicate that engagement in both status and criminal offenses may be a red flag for chronic criminal justice involvement, but engagement in status offending alone was not.

Supported by efforts of the Georgia Council on Criminal Justice Reform, Governor Nathan Deal signed into law in 2014 a revised and modernized juvenile code. Those reforms included an increased emphasis on risk assessment, reclassification of designated felonies to better align sentences with offense seriousness, and enhanced funding for community-based programs to keep more juveniles out of detention facilities. The new state code also established the legal term “children in need of services” (CHINS). CHINS are defined as youth who have committed offenses only applicable to a child (status offenses). The goal of the CHINS legislation was to separate status offenders from the regular juvenile court process and afford them an opportunity to receive services and treatment without formal court involvement. The CHINS legislation aims to understand the family dynamics that contribute to the child’s behavior and to provide the support and services the child needs to flourish, as well as to educate and support the family as a whole. While the current project does not provide for analyses of the new legislation, since it is too new, future analyses of juvenile and criminal careers will be instrumental to examine the impact of CHINS legislation. The current analysis indicates that the legislation to target the CHINS (status offender) population with support and services is rightly warranted; these youth are the least likely to go on to become adult offenders.

Question 6. While analysis of criminal history data reveals that offenders first arrested at age 17 in the adult system tend to have more serious and chronic criminal careers than other adults, what kinds of offenses were they engaged in at the juvenile level?

When comparing the juvenile records of those arrested at age 17 to those arrested at age 18 or older, statistically significant differences emerge. Those arrested at age 17 were more likely to be male and more likely to have been chronically referred to the juvenile justice system than their older counterparts, as shown in Table 6. The 17-year-old offenders had more felony and violent charges. In addition, they were also more likely to have received dispositions, probation and RYDC placements. Seventeen-year-old offenders were involved with the juvenile justice system significantly longer than those aged 18 or older (463 days vs. 290 days).

Table 6. Juvenile History By Age At First Adult Arrest

	First Adult Arrest at Age 17	First Adult Arrest at Age 18+
Multiple (2+) juvenile referrals	26%	15%
Juvenile felony charge	49%	36%
Juvenile violent charge	41%	33%
Juvenile property charge	50%	38%
Juvenile probation	43%	33%
Juvenile placement in RYDC	46%	32%
Juvenile placement in YDC	16%	10%

The same themes emerge when examining the adult offending patterns of these two groups (Table 7, next page). Those arrested at age 17 were significantly more likely to commit felonies and violent offenses, and had nearly twice as many adult charges as those arrested at age 18 or older (13 vs. 7.6). They had longer criminal careers and were significantly more likely to be incarcerated as an adult. These data clearly show that 17-year-old offenders become more firmly entrenched in the adult criminal justice system than their counterparts who do not commit their first offense in the adult system until age 18 or older.

Table 7. Adult History By Age At First Adult Arrest

	First Adult Arrest at Age 17	First Adult Arrest at Age 18+
Multiple adult arrests	78%	59%
Adult felony offense	78%	59%
Adult violent offense	54%	36%
Adult property offense	71%	51%
Incarcerated in prison	29%	13%

Conclusion

This study produced the first Georgia longitudinal dataset of justice-involved persons of all ages, spanning five decades (1970-2015). While prior studies of criminal careers relied upon surveys, interviews, and long-term panel studies, this was the first longitudinal analysis of criminal careers in Georgia documented in administrative data. This study linked data from the two juvenile justice databases in the state to the adult criminal history criminal records repository. Although these databases have been separately analyzed, this was the first time that they were linked which afforded the opportunity to look at the full trajectory of offending from childhood through adulthood.

This report answered six specific research questions which helped increase our knowledge about juvenile offenders and their criminal career trajectory. The data did not always produce the expected results; and some commonly held beliefs about juvenile criminality and crime escalation were debunked. A key finding was that age at first juvenile referral had no impact on the likelihood of becoming an adult offender. Many hold an acceptance that the earlier a youth becomes involved with the criminal justice system, the more likely they are to become adult offenders. We found even the youngest juvenile offenders, those who began their career at age 12 or younger, were no more likely to become adult offenders than those who entered the juvenile justice system at later ages. Thus, there is no need to overreact to the youngest offenders.

The age-crime relationship has been a major criminological debate since Gottfredson and Hirschi (1990) theorized the direct effect of age on crime – that crime peaks in mid- to late teens and declines rapidly throughout life for all races and sexes, regardless of social or cultural conditions. The implication is that agencies can either incapacitate highly active young offenders or ignore treatment and simply wait for desistance, as juveniles will eventually “age out” of crime. Yet, recent research offers evidence to refute that belief, to include the University of Pittsburgh Pathways to Desistance project. In that study of 1,300 youth in Arizona and Pennsylvania, the authors discovered that much of the variation in the youth age-crime relationship could be explained by multiple developmental changes, particularly those related to exposure to anti-social peers and peer pressure. Likewise, the international comparative work of Steffensmeier and colleagues (2017) demonstrates that high adolescent crime rates are specific to the U.S. These works offer hope that effectively targeted juvenile justice system interventions can have a positive effect on the lives of youth. We need not overreact (incapacitate due to age) or focus solely on retribution (simply wait for desistance) when evidence-based interventions could be appropriate.

Forty-one percent (41%) of Georgia juvenile offenders went on to be arrested in the state as adults (adult persistence). The best predictor of adult offending is gender; 46% of males go on to adult offending, compared to 30% of females. Juveniles who commit felonies, have many referrals, and who are active in the

juvenile justice system for long periods of time are the most likely to become adult persistent. Youth who penetrate the system and receive harsher levels of intervention are more likely to go on to offend as adults. The study also found that juveniles are generalist offenders who do not tend to specialize in one particular area of crime; they are opportunistic and commit an array of offenses. In fact, when juvenile offenders move into adult offending they are even less specialized than adult offenders with no juvenile history.

When we look specifically at adult criminal careers by the age of first arrest, 17-year-old offenders (adults in the Georgia system) are unique, with twice the criminal career length of their counterparts who started offending younger or older. While we are unable to explain this phenomenon, 17-year-old adult inmates are provided risk/needs assessments and clearly display higher levels of criminal thinking, more peer and family issues, and less motivation to change behavior compared to older inmates. Certainly, this data points to the need to further investigate effective treatment options for young adult offenders in any effort to curtail lengthy criminal careers.

Taken together, these data help us to better understand the juvenile population and their criminal career trajectory, and can be used to craft policy to better interrupt the criminal career trajectory and keep kids from becoming adult offenders. New reforms that increase the use of validated risk/needs assessments will better aid in the identification of youth most apt to continue in crime and advance the development of appropriate programs and services. Legislative reforms such as CHINS laws that encourage the informal treatment of status offenders and discourage system penetration align with our research findings. Decision makers should also pay attention to policies based upon old notions of juvenile offending. Since youth are opportunistic and not likely to specialize in one type of crime, program exclusions for “violent” or “drug” offenders are unwarranted. Finally, the data show that age at first juvenile referral is not a predictor of adult offending. Practices that result in harsher treatment of youth because of their age of onset of juvenile offending are not supported by the data.

Like all studies, this report suffers from limitations. Juvenile risk assessment results and treatment dosage data are both missing from our analysis, yet critical to our research questions. Future research efforts require improved data access and sharing.

While this report addresses six important questions about the juvenile criminal career trajectory that have never been explored before in Georgia, the number of questions that can be addressed by the data is seemingly endless. This report merely scratches the surface of how these linked administrative databases can be used to better understand juvenile and criminal careers. We are hopeful that policy makers will continue to support the exploration of this data.

Bibliography

- Andrews, D. & Bonta, J. (1998). *The Psychology of Criminal Conduct*. Cincinnati, OH: Anderson Publishing Co.
- Andrews, D. A., Bonta, J. & Hoge, R. D. (1990). Classification for Effective Rehabilitation: Rediscovering Psychology. *Criminal Justice and Behavior*, 17, 19-52.
- Baldwin, J. F. (1981). Fuzzy logic knowledge basis and automated fuzzy reasoning. *Applied Systems and Cybernetics*, 6, 2959-2965.
- Blumstein, A., Cohen, J., Roth, J., and Visser, C. A. (1986). *Criminal careers and "career criminals" Report of the National Academy of Sciences Panel on Research on Criminal Careers*. Washington, D.C.: National Academy Press.
- Blumstein, A. (1995). Youth violence, guns, and the illicit-drug industry. *The Journal of Criminal Law and Criminology*, 86(1), 10-36.
- Blumstein, A., Cohen, J., Das, S., & Moitra, S. D. (1988). Specialization and seriousness during adult criminal careers. *Journal of Quantitative Criminology*, 4(4), 303-345.
- Blumstein, A., & Moitra, S. (1980). The identification of "career criminals" from "chronic offenders" in a cohort. *Law and Policy*, 2(3), 321-334.
- Britt, C. L. (1996). The measurement of specialization and escalation in the criminal career: An alternative modeling strategy. *Journal of Quantitative Criminology*, 12(2), 193-222.
- Bursik Jr, R. J. (1980). The dynamics of specialization in juvenile offenses. *Social Forces*, 58(3), 851-64.
- Cohen, J. (1986). Research on criminal careers: Individual frequency rates and offense seriousness. *Criminal Careers and "Career Criminals"*, 1.
- Cohen, Jacqueline. (1986). Research on criminal careers: individual frequency rates and offense seriousness. In *Criminal Careers and "Career Criminals,"* eds. Blumstein, A. Cohen, J., Roth, J.A., & Visser, C.A. vol. 1, pp. 292-418, Washington, D.C.: National Academy Press.
- Cottle, C. C., Lee, R. J., & Heilbrun, K. (2001). The prediction of criminal recidivism in juveniles a meta-analysis. *Criminal Justice and Behavior*, 28(3), 367-394.
- Dunford, F. W., & Elliott, D. S. (1984). Identifying career offenders using self-reported data. *Journal of research in Crime and Delinquency*, 21(1), 57-86.
- Elliot, D. S., Huizinga, D., & Menard, S. (1989). *Multiple Problem Youth*. New York, NY: Springer-Verlag.
- Ernst, C. J. (1982). An approach to management expert systems using fuzzy logic. In *Fuzzy Sets and Possibility Theory*. Lasker, 2898-2905.
- Ewing, C. P. (1990). *When Children Kill: The Dynamics of Juvenile Homicide*. Lexington, MA: Lexington Books/DC Heath and Company.
- Farrington, D. P. (1986). Age and crime. *Crime and Justice*, 7, 189-250.
- Farrington D. P. 1997. Human development and criminal careers. In *The Oxford Handbook of Criminology*, ed. M Maguire, R Morgan, R Reiner, pp. 511-84. 2nd ed. Oxford, UK: Clarendon.
- Farrington, D. P., Snyder, H. N., & Finnegan, T. A. (1988). Specialization in juvenile court careers. *Criminology*, 26(3), 461-488.
- Gendreau, P., Little, T., & Goggin, C. (1996). A meta-analysis of the predictors of adult offender recidivism: What works!. *Criminology*, 34(4), 575-608.
- Glueck, S., & Glueck, E. (1950). *Unraveling Juvenile Delinquency*. Cambridge, MA: Harvard University Press.

- Gottfredson, S. D., & Gottfredson, D. M. (1994). Behavioral prediction and the problem of incapacitation. *Criminology*, 32(3), 441-474.
- Hamparian, D. M., Schuster, R., Dinitz, S., & Conrad, J. P. (1978). *The Violent Few: A Study of Dangerous Juvenile Offenders*. Lexington, MA: DC Heath and Company.
- Heide, K. M. (1997). Juvenile homicide in America: how can we stop the killing?. *Behavioral Sciences and the Law*, 15(2), 203-220.
- Heide, K. M. (1999). *Young Killers: The Challenge of Juvenile Homicide*. Thousand Oaks, CA: Sage Publications, Inc.
- Hindelang, M. J. (1971). Age, sex, and the versatility of delinquent involvements. *Social problems*, 18(4), 522-535.
- Hirschi, T., & Gottfredson, H. (1983). Age and the explanation of crime. *American Journal of Sociology* 89, 552-84.
- Huizinga, D., & Jakob-Chien, C. (1998). The contemporaneous co-occurrence of serious and violent juvenile offending and other problem behaviors. In *Serious and Violent Juvenile Offenders: Risk Factors And Successful Interventions*, (pp. 47-67). Eds Loeber, R. and Farrington, D. P. Thousand Oaks, CA, US: Sage Publications, Inc.
- Lowenkamp, C. T., & Latessa, E. J. (2002). *Evaluation of Ohio's Community Based Correctional Facilities and Halfway House Programs: Final Report*. Cincinnati, OH: University of Cincinnati, Division of Criminal Justice, Center for Criminal Justice Research.
- Laurikkala, M. K. (2011). *Juvenile homicides: A Social Disorganization Perspective*. New York, NY: LFB Scholarly Publishing LLC.
- Loeber, R., Stouthamer-Loeber, M., Van Kammen, W., & Farrington, D. P. (1991). Initiation, escalation and desistance in juvenile offending and their correlates. *Journal of Crime, Law and Criminology*, 82(1), 36-82.
- Loeber, R., & Farrington, D. P. (2000). Young children who commit crime: Epidemiology, developmental origins, risk factors, early interventions, and policy implications. *Development and Psychopathology*, 12(4), 737-762.
- Lowenkamp, C. T. (2004). *Correctional program integrity and treatment effectiveness: A multi-site, program-level analysis* (Doctoral dissertation, University of Cincinnati).
- Klein, M. W. (1984). Offence specialisation and versatility among juveniles. *British Journal of Criminology*, 24(2), 185-194.
- Maruna, S. (2001). *Making Good: How Ex-Convicts Reform and Rebuild Their Lives*. American Psychological Association.
- McCord, J. (1981). A longitudinal perspective on patterns of crime. *Criminology*, 19(2), 211-218.
- Moffitt, T. E. (1993). Adolescence-limited and life-course-persistent antisocial behavior: a developmental taxonomy. *Psychological Review*, 100(4), 674-701.
- Nagin, D. S., & Farrington, D. P. (1992). The stability of criminal potential from childhood to adulthood. *Criminology*, 30(2), 235-260.
- Nagin, D. S., Farrington, D. P., & Moffitt, T. E. (1995). Life-course trajectories of different types of offenders. *Criminology*, 33(1), 111-139.
- Nagin, D. S., & Paternoster, R. (1991). On the relationship of past to future participation in delinquency. *Criminology*, 29(2), 163-189.
- Piquero, A. R., Farrington, D. P., & Blumstein, A. (2003). The criminal career paradigm. *Crime and Justice*, 359-506.

- Ousey, G. C. (2000). Deindustrialization, Female-Headed Families, and Black and White Juvenile Homicide Rates, 1970-1990. *Sociological Inquiry*, 70(4), 391-419.
- Rojek, D. G., & Erickson, M. L. (1982). Delinquent careers a test of the career escalation model. *Criminology*, 20(1), 5-28.
- Scarpitti, F. R., & Datesman, S. K. (Eds.). (1980). *Drugs and the Youth Culture* (Vol. 4). Sage Publications, Inc.
- Sampson, R. J., & Laub, J. H. (1992). Crime and deviance in the life course. *Annual Review of Sociology*, 18(1), 63-84.
- Shaw, C. R., & McKay, H. D. (1942). *Juvenile Delinquency And Urban Areas*. Chicago, IL: University of Chicago Press.
- Sickmund, M. (2006). *Juvenile Residential Facility Census, 2002: Selected Findings*. Washington, DC: US Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention.
- Shannon, L. W. (1978). *A Cohort Study of The Relationship Of Adult Criminal Careers To Juvenile Careers*. Washington, DC: US Department of Justice.
- Shihadeh, E. S., & Steffensmeier, D. J. (1994). Economic inequality, family disruption, and urban black violence: Cities as units of stratification and social control. *Social Forces*, 73(2), 729-751.
- Smith, D. R., & Smith, W. R. (1984). Patterns of delinquent careers: An assessment of three perspectives. *Social Science Research*, 13(2), 129-158.
- Snyder, H. N., & Sickmund, M. (2006). *Juvenile Offenders and Victims: 2006 National Report*. Washington, DC: Office of Juvenile Justice and Delinquency Prevention.
- Speir, J., Meredith, T., and Johnson, S. Bird, C. & Bedell, H. (2001). *Informing Crime Control Strategies with Criminal Career Research*. Atlanta, GA: A Report of the Georgia Statistical Analysis Center.
- Stander, J., Farrington, D. P., Hill, G., & Altham, P. M. (1989). Markov chain analysis and specialization in criminal careers. *British Journal of Criminology*, 29(4), 317-335.
- Steffensmeier, D., Anderson, E., Harper, M., & Streifel, C. (1989). Age and the distribution of crime. *American Journal of Criminology*, 803-831.
- Steffensmeier, D., Schwartz, J., Zhong, H., & Ackerman, J. (2005). An assessment of recent trends in girls' violence using diverse longitudinal sources: Is the gender gap closing?. *Criminology*, 43(2), 355-406.
- Steffensmeier, D., Shong, H., & Lu, Y. (2017). Age and its relation to crime in Taiwan and the United States: Invariant, or does cultural context matter? *Criminology*, 00(0), 1-28.
- Sweeten, G., Piquero, A.R., & Steinberg, L. (2013). Age and the explanation of crime, revisited. *Journal of Youth and Adolescents*, 42(6), 921-938.
- Tracy, P. E., Wolfgang, M. E., & Figlio, R. M. (2013). *Delinquency Careers In Two Birth Cohorts*. New York, NY: Springer Science and Business Media.
- Walsh, A. (2009). *Crazy by Design: A Biological Approach to the Age-Crime Curve*. In A. Walsh & R. Beaver (Eds). *Biological*.
- West, D. J., & Farrington, D. P. (1977). *The delinquent way of life: Third report of the Cambridge study*. In *Delinquent Development*. Portsmouth, NH: Heinemann Educational Books.
- Wolfgang, M. E., Figlio, R. M., & Sellin, T. (1987). *Delinquency in a Birth Cohort*. Chicago, IL: University of Chicago Press.
- Zimring, F., & Hawkins, G. (1995). *Incapacitation: Penal Confinement and the Restraint of Crime*. New York, NY: Oxford University Press.
- Zadeh, L.A. (1965). "Fuzzy sets". *Information and Control*. 8 (3): 338-353.