

UNDERSTANDING RECIDIVISM:
COMPARING JUVENILE-ONLY OFFENDERS AND PERSISTENT OFFENDERS
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ABSTRACT

In the recidivism literature, scholars have consistently shown strong continuity in offending from adolescence to adulthood with nearly half of all juvenile offenders continuing criminal engagement beyond age 18 (Le Blanc & Frechette, 1989; Loeber & Farrington, 2011). The motivation to understand criminal recidivism is not only fueled by research priorities, but also by policymakers and criminologists who pursue reform within the American justice system. In this paper, historical approaches to crime, research on criminal career patterns, theoretical explanations for recidivism, and prevention and intervention programs are reviewed. The study examined a number of recidivism factors to determine which variables best predict the likelihood that an individual is a *persistent offender*. Participants in the *juvenile-only offender* sample had significantly higher current family satisfaction and perceived social support scores, and significantly lower current criminal thinking scores than participants in the *persistent offender* sample. Logistic regression models revealed that current family satisfaction made a significant contribution to offender type prediction such that when current family satisfaction is raised by one unit, individuals become .98 times less likely to be a *persistent offender*. Support and positive relationships with are well supported in the literature as important, noteworthy components to leading crime-free lives and should be emphasized in prevention and intervention efforts to reduce recidivism rates.

Key words: recidivism, juvenile offenders, persistent offenders

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CHAPTER 1

Abstract

For decades, the American justice system, both juvenile and adult branches, has undergone drastic changes in policy and procedure. In hindsight and through years of research, it is now understood that many of these movements were less than beneficial for all involved. The motivation to understand criminal recidivism from adolescence to adulthood is not only fueled by research priorities, but also by policymakers and criminologists who pursue reform within the American justice system. Research on criminal career patterns and existing prevention and intervention programs have provided much empirical support on which future policy and practice should be based. Moving forward, policymakers bear the responsibility of improving current correctional environments and overall crime rates by mandating the use of empirically supported interventions, addressing sentencing laws in both adult and juvenile courts, and providing financial support for necessary long-term research aimed at developing and evaluating early prevention programming.

Key words: recidivism, intervention, prevention, rehabilitation, laws

CHAPTER 1

Understanding Recidivism: A Review

Scholars have long debated what leads to the initiation of, continuation in, and desistance from criminal behavior. Research findings have consistently shown strong continuity in offending from adolescence to adulthood with nearly half of all juvenile offenders continuing criminal engagement beyond age 18 (Le Blanc & Frechette, 1989; Loeber & Farrington, 2011). Of the juvenile offenders that become adult offenders, approximately 55% continue offending into early adulthood (age 20-25) and nearly 18% continue offending beyond age 25 (Stouthamer-Loeber, 2010). Despite an overabundance of research dedicated to investigating recidivism, a clear understanding of the factors that lead juveniles to persist in criminal engagement into adulthood is far from established. The motivation to understand criminal recidivism is fueled not only by research priorities, but also by policymakers and criminologists who pursue reform within the American justice system.

In order to fully appreciate the current state of the American criminal and juvenile justice systems and their approaches to reducing recidivism, it is important to first understand the history of both adult and juvenile justice policy. This paper begins with a review of correctional policy over the last 45 years. Research on criminal career patterns, theoretical explanations for offending behavior, and current prevention and intervention programs targeted towards addressing recidivism are also discussed. Finally, implications for researchers, practitioners, as well as policymakers in regards to suggested approaches to addressing recidivism in the future are provided.

Get Tough on Crime: From Rehabilitation to Punishment

Throughout most of the 20th century, sentencing policies were primarily rehabilitative in nature, allowing for an individualized approach to addressing punishable behavior within the justice system. The overarching goal of sentencing was to evaluate and address the individual offenders' needs in terms of recovery from criminal behavior with an ultimate focus on establishing a crime-free life. However, in the 1960's, national crime rates skyrocketed to all-time highs, prompting researchers and policymakers to reevaluate correctional interventions (Howell et al., 2013). A major shift in the justice system began to take place in the 1970's as two prominent views, namely the "nothing works" and "just deserts" movements, were widely promoted and adopted. Together, these views devalued rehabilitation and promoted punishment for offenders. As rehabilitation became more widely rejected and the idea of punishment became more prominent, the justice system took on a "get tough on crime" approach to sentencing. As a result, the sentencing trends became increasingly more harsh and punitive (Andrews & Bonta, 2010).

The "nothing works" mentality, promoted by American sociologist Robert Martinson (1974), inferred that rehabilitation by way of various treatment approaches was ineffective with offender populations. In his review of 231 correctional programs which included interventions such as intensive supervision, psychotherapy, group therapy, vocational training, educational approaches, and medicine, Martinson argued that research had failed to demonstrate a meaningful relationship between rehabilitation efforts and reduced criminal recidivism rates, concluding that offender rehabilitation was simply not possible. At the time of his claims, rehabilitation was the primary focus of imprisonment; however, he argued that rehabilitation programs simply were not yet good enough and there had been no proof that inmates could even

be rehabilitated at all. Martinson's writings were soon thereafter highly regarded by policymakers and sparked a movement towards the development of punitive policies in corrections across the country.

Shortly after the "nothing works" mentality was adopted, the "just deserts" approach was introduced. Legal philosopher and penal theorist Andrew von Hirsch (1976) promoted the belief that the severity of punishment should ultimately be determined by the severity of the crime. He argued that punishment should not necessarily deter crime, but it should fit the crime. Essentially, punishments that did not fit the crime were classified and promoted as unjust. As this view became more widely accepted, the rendering of harsher punishment by way of tougher sentencing laws became more common. "Just deserts," in combination with the already widely accepted "nothing works" mentality, led to a major reform in justice policy referred to as the "get tough on crime" initiative. Virtually all rehabilitative efforts were abandoned and harsher punishments for offenders were implemented across the nation.

In response to the rapidly growing belief that offender rehabilitation was ineffective and sentences should be as harsh as the crime itself, many states as well as the federal government began drastically reforming their justice policies and procedures. Parole was replaced with "truth-in-sentencing" (Holt, 1998) and "three strikes, you're out" (Turner, Greenwood, Chen, & Fain, 1999) laws, leading to longer and more frequent incarcerations. "Scared straight" programs were developed and widely implemented across the country, and many legislators fought to make probation requirements as harsh as prison standards (Erwin, 1986). The "get tough on crime" initiative was in full swing across the country by the mid-1990's.

The "get tough" mentality quickly filtered down to the juvenile justice system (Field, 1988). Much like the "nothing works" and "just deserts" approaches impacted sentencing for

adult offenders, political scientists predicted a massive wave of juvenile violence that led policymakers to enhance juvenile punishment as well. DiIulio (1996) and Wilson (1995) anticipated that the rapidly growing youth population would bring a drastic increase in juvenile violence in the late 1990's and early 2000's. As a result, legislators began to implement "get tough" laws for juveniles, and prosecutors across the country argued for a shift in public policy toward harsher solutions to youth crime (Beckett & Sasson, 2004). Courts began incarcerating juveniles in detention centers, "scared straight" and "boot camp" programming were implemented, and rehabilitation programs across the country were abandoned (Roush & McMillen, 2000). The traditional rehabilitative mission of juvenile justice had essentially collapsed by the mid- to late-1990's.

Although a majority of criminologists, policymakers, and judicial systems had implemented a "get tough" approach to conceptualizing and addressing both juvenile and adult crime by the turn of the century, some were still skeptical about the current state of the American justice system. Some scholars even went as far as to say "what is done in corrections would be grounds for malpractice in medicine," (Latessa, Cullen, & Gendreau, 2002, p. 43), emphasizing that there is a largely unethical and overwhelming concern about the harsh punishment that had taken over the justice system. In efforts to objectively evaluate the current state of corrections in America, some researchers began to look past the highly emphasized and politically saturated claims that "get tough on crime" was in full swing, and began looking directly at legislation that had been enacted during the early 2000's.

Donna Bishop, a professor of criminology and criminal justice at Northeastern University, argued that the public had been overestimating how punitive juvenile courts actually were because so much of the research, political policy, and media spotlight had been centered on

the “get tough” approach to crime reduction. In 2006, Bishop reviewed the juvenile code purpose clauses of all 50 states to assess whether the juvenile judicial system had really conformed to the “get tough” movement, or whether it had maintained at least some of traditional rehabilitative focus of juvenile corrections. She found that 40 states directly identified treatment or rehabilitation as a primary goal of their juvenile codes. Another 5 states specified that judges should act in the best interest of the child. Four states endorsed a combination of public safety protection, punishment, and accountability as the primary goal for their juvenile justice system. The remaining state outlined rehabilitation as a focus, but had actually redefined punishment as a form of treatment. Despite a strong push to move towards more punitive approaches to dealing with crime, 45 states maintained some aspect of rehabilitation in their juvenile justice policies at the time of Bishop’s investigation in 2006. Furthermore, a review of the changes in juvenile justice legislation from 2003 to 2006 found that several states had passed laws aimed at improving individualized treatment and incorporating mental health needs into juvenile sentencing, had abolished their previously established “boot camp” and “scared straight” programming, and had begun to establish juvenile drug treatment programs (Bishop, 2006). While the “get tough on crime” movement did impact the juvenile justice system, many states had already begun to swing the pendulum back towards rehabilitation in the early 2000’s; however, this shift was not nearly as publicized or researched as the previous movement towards harsher punishment.

Bishop’s nationwide review of juvenile justice system missions brought about two primary questions which served as the foundation for this literature review. First, how are juvenile offenders *actually* being addressed in today’s correctional system and what, if any, of those approaches have been shown to be effective? Second, how are policymakers, judicial

systems, treatment providers, and correctional staff working to reduce criminal recidivism in today's society? Regardless of whether the current state of corrections adheres to a "get tough" or "rehabilitative" mentality, the United States still manages to house over 20% of the world's prison population (Andrews & Bonta, 2010), while only having 4.5% of the world's overall population (United States Census Bureau, 2015). Since the early 1990's, incarceration rates have grown from 505 per 100,000 individuals to 756 per 100,000 individuals (Andrews & Bonta, 2010). A "get tough on crime" initiative led to longer prison sentences (or detention sentences for juveniles), which ultimately led to extreme overcrowding in the prisons, causing deteriorating conditions due to strained budgets. Because rehabilitative efforts were generally removed from adult correctional policy and were removed from juvenile policy for a short time, adult inmates and juvenile offenders were being released into the community without the knowledge, resources, or skills to be productive members of society. Even though juvenile justice policy may currently adhere to some aspect of rehabilitation, as Bishop's 2006 investigation revealed, the overall tone of American corrections is still colored with a "get tough" approach to crime (Andrews & Bonta, 2010).

Given that approximately half of all juvenile offenders will likely become adult offenders (Le Blanc & Frechette, 1989; Loeber & Farrington, 2011), it is irrational to completely separate our understanding of juvenile recidivism from our conceptualization of adult recidivism. The quest to understand recidivism is likely benefited by an understanding of the history of juvenile and adult correctional policy and its' impact on offender populations, together with a number of other factors that have been hypothesized to impact, explain, or prevent offending behavior.

Criminal Career Patterns

The study of criminal careers is largely motivated by the quest to identify patterns in the prevalence, frequency, continuity, and change in criminal activity across the lifespan in order to better understand what leads to criminal recidivism. Research has repeatedly shown support for the existence of a bell-shaped age-crime curve, or the tendency for criminal behavior to peak in the mid- to late-teenage years and gradually decrease into adulthood. McVie (2005) described the existence of the age-crime curve as “one of the least contended issues within criminology” (p. 1). Although the pure existence of a general age-crime curve is rarely challenged, variations of age-crime curves do exist. For instance, peak ages may be higher or lower for different crimes, socioeconomic statuses, and gender. For that reason, many scholars have dedicated attention to exploring differences among age-crime curves and varying interpretations of criminal behavior.

Research with different samples including males versus females, varying crimes and their level of severity, as well as differences among socioeconomic status groups, reveals many variations of age-crime curves. For instance, the age-crime curve for violent crimes has been reported to peak later than curves for property crimes (Blokland & Palmén, 2012; Piquero, Hawkins, & Kazemian, 2012). In age-crime curves comparing gender, girls tend to peak earlier in their criminal behavior than boys (Blokland & Palmén, 2012; Elliott, Pampel, & Huizinga, 2004; Farrington, 1986). In terms of socioeconomic status, the age-crime curve tends to be much higher and wider (indicating earlier initiation in criminal behavior, longer persistence in criminal behavior, and less of a decline in criminal behavior into adulthood) for young males in disadvantaged neighborhoods when compared to young males in advantaged neighborhoods (Elliott et al., 2004; Fabio, Cohen, & Loeber, 2011). Although thousands of delinquency trends

have been explored and reported in the literature, this review focuses only on information specifically related to recidivism including prevalence, frequency, continuity, and change in offending behavior.

Prevalence of offending behavior. Prevalence is defined as “the proportion of individuals who participate in crime at any given time period” (Piquero, Hawkins, Kazemian, & Petechuk, 2013, p. 2). Prevalence is particularly important in understanding the development and continuation of criminal careers and is directly related to understanding variations in recidivism across a number of crimes and samples. There is general consensus in the literature that the prevalence of criminal behavior peaks in adolescence and begins to decline in the early 20’s (Blumstein, Cohen, Roth, & Visher, 1986; Piquero, Farrington, & Blumstein, 2003). However, these rates tend to vary when using self-report data in comparison to official arrest records. Self-reported crime tends to peak earlier than crime documented in official arrest records, indicating that crime often takes place much earlier than when the individual is first caught by law enforcement (Moffitt, Caspi, Rutter, & Silva, 2001).

Loeber, Farrington, Stouthamer-Loeber, and White (2008) used data from the Pittsburgh Youth Study to explore the prevalence of serious delinquency (i.e., car theft, breaking and entering, attacking to hurt or kill, and forced sex) among two different cohorts. The youngest cohort was first studied in first grade and consisted of 503 males. The oldest cohort was first studied in seventh grade and consisted of 506 males. Follow-ups took place in six month increments. At the time of Loeber and colleagues’ study in 2008, males in the youngest cohort were 20 years old and males in the oldest cohort were 25 years old. The prevalence of self-reported serious delinquency increased from 5% at age six to a peak of 18% at age 15, and then declined back to 5% at age 21. Of those individuals in the youngest cohort, approximately 25%

reported they had been arrested for serious violence and nearly 20% reported they had been arrested for serious theft by age 19. Of individuals in the oldest cohort, nearly 33% reported they had been arrested for serious violence and 35% reported they had been arrested for serious theft by age 25. The self-reported prevalence of serious violence among individuals in the youngest cohort peaked between ages 13-16 (5-6%) and then steadily declined, whereas the self-reported prevalence of serious violence among the oldest cohort peaked between ages 18-19 (11%) and then dramatically declined.

To compare self-reported delinquency to court-documented criminal behavior, Loeber and colleagues (2008) continued their investigation of delinquency prevalence using court-documented arrests as a measure of criminal behavior for each of the two cohorts examined in the Pittsburgh Youth Study. The court-documented prevalence rate of serious violence among the youngest cohort peaked at age 16 (7%) and then steadily declined, whereas moderate violence peaked at ages 14 and 18 (both 4%). Court-documented prevalence rates among the oldest cohort peaked at ages 18 and 21 (7%) for moderate violence, and age 19 (10%) for serious violence. For theft, court-documented prevalence rates peaked at ages 16 (10%) and 18 (9%) for moderate theft and age 16 (5%) for serious theft among individuals in the youngest cohort. For individuals in the oldest cohort, moderate and serious theft arrests peaked at age 16 (moderate 15%, serious 12%). When collapsing across offense type and severity to examine the general trend among court-documented arrests, individuals who were first studied in seventh grade had higher prevalence rates (ranging from 7% to 12%) than individuals who were first studied in first grade (prevalence rates ranging from 4% to 9%). Data collection began in 1987 when individuals in the youngest cohort were approximately 7 years old and individuals in the oldest cohort were approximately 13 years old. Thus, the youngest cohort entered adolescence

(approximately age 13-15) in the mid-1990's during which the rehabilitative focus was quickly fading from the juvenile justice system and the "get tough on crime" initiative was becoming more prominent. The oldest cohort, on the other hand, was going through adolescence during the late-1980's before the "get tough on crime" initiative had begun in the juvenile system. The difference in prevalence rates between the two cohorts was attributed, in part, to the timing in which each group entered adolescence and the overall justice response to criminal behavior.

Using survey data collected from 808 children at age 10 and again at age 24 as part of the longitudinal Seattle Social Development Project, Hawkins and colleagues (2003) explored the prevalence of offending using both court-documented and self-reported methods of data collection. They specifically examined offending for eight crimes: burglary, vehicle theft, larceny, robbery, assault, vandalism, marijuana use, and drug selling. Consistent with the general trend found in most age-crime curve comparisons of self-report and official court records, the prevalence of offending was much higher among self-report than court records at all ages. The prevalence of self-reported offending behavior peaked at age 17 (61.1%), but court-documented offending behavior peaked slightly earlier and at a much lower rate (age 16, 13.6%). Additionally, the two prevalence rates were most similar for vehicle theft (court-documented: 23.6%, self-reported: 32.7%), and were most inconsistent for marijuana use (court-documented: 1.8%, self-reported 50.2%).

Prevalence rates, typically displayed in age-crime curves, generally tell different stories depending on whether self-reported or official court-documented data are used as measures of offending behavior. In general, self-reported data yields higher prevalence rates than official documentation; however, most researchers conclude that this is because most individuals do not get caught every time they engage in offending behavior. Generally, offending behavior as a

whole peaks in mid- to late-adolescence with a peak in less serious crimes earlier than violent crimes. To achieve a better understanding of offending behavior on an individual basis, as well as a clearer picture of recidivism rates, frequency age-crime curves are usually examined.

Frequency of offending behavior. Frequency is defined as “the number of crimes committed” (Piquero et al., 2013, p. 6). Frequency is often examined in terms of individual offending as well as total number of offenses for a particular group of individuals at certain ages. In a longitudinal investigation of offending behavior frequency, Piquero, Farrington, and Blumstein (2007) used official conviction records to examine frequency of offenses for a sample of 411 males from London from age 10 to age 40. As a group, the men had accumulated 760 convictions with peaks at ages 17 (69 convictions) and 18 (67 convictions). The number of convictions steadily declined beyond age 18. Individual offending behavior across age groups (ages 10-15, 16-20, 21-25, 26-30, 31-35, 36-40) also showed an early increase in offending behavior between ages 10-20 with a steady decline afterwards. This study provided support for the existence of peaks in offending behavior during adolescence and early adulthood and then a decline in offending behavior into adulthood as is often displayed in age-crime curves.

In addition to exploring prevalence as discussed in the previous section, Loeber and colleagues (2008) also explored violence and theft frequency among the same two cohorts (youngest and oldest) in the Pittsburgh Youth Survey. Among the youngest cohort, the average annual frequency of moderate and serious violence increased over three age blocks (ages 10-12, 13-16, and 17-19) and peaked at two offenses per offender between ages 17-19. The annual reported violence frequency peaked at four offenses per offender per year around ages 17-19 and then dropped off around ages 20-25. The annual self-reported frequency of theft among the youngest cohort increased up to ages 13-16, remained stable through late adolescence, and then

decreased into early adulthood. Among the oldest cohort, theft frequency was the highest between ages 17-19 with approximately four offenses per offender.

Returning to the Seattle Social Development Project, Hawkins and colleagues (2003) also explored individual offending frequency, defined as the average number of offenses per offender. Overall, self-reported frequency of offending behavior was significantly higher (average 49.2 offenses per offender) than court-documented offending (average 4.6 offenses per offender), suggesting that individuals offend much more frequently than they are actually caught. Self-reported offending frequency peaked at age 17 (average 21.8 offenses per offender), whereas court-documented offending peaked at age 15 (average 3.1 offenses per offender). Self-report and court-documented data both revealed a steady increase in offending behavior from age 11 to age 17.

Investigations of offending behavior frequency generally provide support for the existence of an age-crime curve in that frequency tends to increase into adolescence, peaks in late adolescence, and then declines further into adulthood. Similar to prevalence, these trends vary with respect to different groups, types of offenses, and other individual factors; however, the general trend in peaks and declines are relatively consistent.

Continuity in offending behavior. Continuity generally refers to the persistence of offending behavior from adolescence into adulthood. Continuity is especially relevant in developing an understanding of recidivism because a majority of offenders do not begin offending during adulthood without ever having any history of juvenile delinquency. In order to understand the *what*, *why*, and *how* of recidivism, particularly with respect to trends from adolescence to young adulthood, we must also explore *who* persists in criminal engagement from adolescence to young adulthood.

Using data from the 1958 Philadelphia Birth Cohort study, Tracy and Kempf-Leonard (1996) explored official records of more than 27,000 individuals who were studied from birth to age 26. Of those individuals who had been arrested as a juvenile, 32.5% had also been arrested as an adult. Only 7.6% of the cohort had been arrested as an adult without having a history of juvenile arrests. They concluded their report by emphasizing that knowledge of juvenile delinquency generally helps to predict the likelihood of being arrested as an adult.

In addition to prevalence and frequency, Loeber and colleagues (2008) again used data from the Pittsburgh Youth Study to explore persistence in offending. They reported that nearly one in five serious young offenders became persistent serious offenders within six years. Approximately 40-50% of the moderate-to-serious early offenders persisted in offending behavior for seven to nine years. Moreover, approximately 70% of offenders with a late childhood onset of offending (between ages 10-12) persisted in serious offending compared to offenders with an early adolescence onset of offending (between ages 13-15; 32%). Results generally support the notion that the earlier the onset, the more likely the individual is to become a persistent offender into at least early adulthood.

Revisiting Piquero and colleagues' (2007) investigation of 411 males from London, they also explored convictions at different age groups ranging from ages 10-15 through ages 26-40. They reported that approximately 67% of the recorded offenders at ages 10-15 were recorded offenders at ages 16-20. In contrast, only 17% of individuals who were *not* recorded offenders at ages 10-15 became offenders at ages 16-20. They concluded that being convicted between ages 10-15 increased the odds of being convicted between ages 16-20 by more than nine times.

Studies have consistently reported continuity in offending behavior across the lifespan with particular emphasis on the transition from adolescence to young adulthood. The experience of being arrested as a juvenile, in conjunction with a multitude of other factors, significantly increases one's chances of being arrested as an adult. These patterns have been demonstrated time and time again, yet the answer to how to reduce recidivism is still somewhat of a blur. Among a number of factors, researchers have also turned to exploring what leads to change in offending behavior patterns.

Change in offending behavior. Two primary explanations are often cited when conceptualizing the relationship between prior and future criminal activity. The first explanation posits that “individuals are believed to vary in their propensity to commit crime and this propensity explains the strong link between past and future criminal conduct” (Piquero et al., 2013, p. 16). The second explanation for criminal desistance is because “crime exerts an undesirable effect on social bonds and conventional attachments” (Piquero et al., 2013, p. 16). Together, these explanations have been used to better understand recidivism and criminal desistance from adolescence to adulthood.

Sampson and Laub have reported on linkages from prior arrests to future arrests (1993; Laub & Sampson, 2003). One consistent finding across both investigations was the impact of marriage on criminal desistance. Consistent with the hypothesis that criminal behavior negatively affects social bonds, the investment in marriage is one example of a social attachment that may lead to the desistance from crime. These findings are also supported by other researchers who have reported similar evidence for the impact of marriage on offending behavior (Horney, Osgood, & Marshall, 1995; Theobald & Farrington, 2009).

In addition to the establishment of a meaningful attachment or social bond such as marriage, the association of oneself with particular peer groups has also been linked to changes in offending behavior. Exposure to delinquent peers has been linked to future criminal involvement, whereas associations with positive peer groups (i.e., non-delinquents) has been linked criminal desistance (Paternoster & Brame, 2007). Using data from the Denver Youth Survey, Huizinga, Weiher, Espiritu, and Esbensen (2003) explored factors that may lead to having a successful adolescence, defined as having no more than two serious delinquencies, no more than two instances of problems resulting from drug use, being in an age-appropriate grade in school or having graduated from high school, and having good self-esteem. They found that two of the best predictors of a successful adolescence were having conventional friends and having a stable family. Moreover, they reported that as the number of protective factors such as healthy relationships with friends and family increased, the probability of having a successful adolescence increased. In their qualitative efforts to understand recidivism, Hahn (2007) and Maller (2009) studied the experiences of men and women who were former juvenile offenders and were deemed “adult success stories” because they had desisted from criminal behavior. They reported that having a supportive mentor and positive peer associations were instrumental in the abatement of delinquent behaviors. A strong bond with a primary caregiver and associations with positive peer groups were also described as important in criminal desistance.

Thus, prevalence, frequency, continuity, and change in offending behavior have all been explored through efforts to identify and describe patterns in criminal engagement across the lifespan. Tracking prevalence and frequency allows researchers, practitioners, and policymakers to understand and compare specific groups of individuals who are most (or least) involved in criminal activity. Exploring continuity and change in offending behavior helps to make sense of

the characteristics of people who persist in criminal involvement as well as individuals who desist from criminal behavior. Although prevalence, frequency, continuity, and change rates can vary greatly depending on the source of information (e.g., self-report vs. court-documented arrests), the numbers help paint a picture of *what* is going on and *who* is involved in terms of recidivism. In order to identify ways to reduce criminal recidivism, it is also important to explore the various lenses or perspectives used to explain *why* offending behavior occurs.

Explaining Offending Behavior

Scholars have proposed numerous theoretical explanations for the existence of offending behavior across the lifespan. Within the fields of criminology and psychology, these explanations are typically divided into five broad theoretical perspectives that help shape the way crime and delinquency is viewed: static theories, dynamic theories, social psychological theories, developmental theories, and biopsychosocial theories. Although these categories are by no means the only theoretical perspectives offered to explain criminal behavior, they are a general representation of the broad types of explanations frequently cited in criminology and psychology research on recidivism.

Static theories. Static theories view behavior as emerging in a predictable, uniform sequence, and at roughly the same time for every individual (Dannefer, 1984). These theories posit that the causes of criminal behavior are established early in life and are relatively stable and unaffected by life events. Static theories are divided into two camps: self-control theory and typological theory. Both theories conceptualize continuity in offending behavior as being directly influenced by early life events, although they differ in their explanations of what causes persistence in offending beyond adolescence.

Gottfredson and Hirschi (1990) pioneered self-control theory which posits that the propensity to engage in crime is viewed as a product of the person's level of self-control. This propensity is thought to be "stable through life, and consequently unaffected by events that occur in life" (Warr, 2002, p. 99). Gottfredson and Hirschi (1990) argue that individuals who are exposed to effective parenting styles and who develop positive relationships with caregivers, for example, are more likely to have high levels of self-control, which they argue is well established by age eight. In contrast, individuals who are exposed to poor parenting styles and have harsh relationships with caregivers, for example, are far more likely to develop low levels of self-control. According to self-control theory, individuals with low levels of self-control are expected to have high rates of offending behavior. Given the stable nature of self-control, proponents of this theory argue individuals are likely to continue offending into their adult years. For individuals who desist from criminal activity, Gottfredson and Hirschi describe their change in behavior as a natural maturation process which may affect the individual's level of self-control. They argue that desistance is not related to developmental variables such as association with delinquent peers, gang membership, marriage, or employment.

Typological theory, on the other hand, classifies offenders into two categories: life-course persistent offenders and adolescent-limited offenders (Moffitt, 1993). Similar to self-control theory, typological theory attributes offending behavior to problems that arise in the younger years. Life-course persistent offenders are believed to begin offending in early childhood as a result of individual deficits and ineffective parenting styles, whereas adolescent-limited offenders begin offending in adolescent years but have very short criminal careers. Moffitt explains persistent offending behavior as the result of continuity in original causes (e.g., poor self-control, irritability, low cognitive ability, etc.), and consequences of earlier antisocial

behavior (e.g., isolation in delinquent peer groups, school failure, unemployment, etc.). As individual deficits persist, individuals are more likely to continue engaging in delinquent behavior. The consequences of earlier offending, such as school failure or association with delinquent peers, make it difficult for the individual to stop engaging in criminal behavior. To explain criminal desistance, Moffitt posits that the gap between physical maturity and social maturity lessens as individuals progress through adolescence and the motivators for engaging in delinquent behavior diminish. For some, this gap closes much earlier than for others, leading them to desist from criminal behavior and transition to adulthood successfully.

Dynamic theories. Dynamic theories, or life-course developmental models, maintain the importance of early life experiences as static theories do, but also add that evolving social contexts significantly influence offending behavior throughout the life course. Behavior is never assumed to be permanent or established. Instead, behavior is constantly changing and is impacted by a number of social variables. Dynamic theories specifically highlight the importance of three developmental processes: 1) the stability of factors across the lifespan that likely trigger the onset of offending (e.g., effects of ineffective parenting, poverty, school failure, association with delinquent peers, etc.), 2) the lasting negative consequences of earlier antisocial behavior (e.g., involvement in delinquent peer groups, gangs, alienation from family, etc.), and 3) the official labeling via arrest and incarceration records (Thornberry et al., 2013).

Much like static theories, dynamic or life-course developmental models emphasize early deficits. For instance, an individual who experiences poverty early in life may not be able to fully escape the impacts that poverty might have on future development, even if they are able to physically remove themselves from an impoverished environment. These early deficits, combined with, for example, involvement with delinquent peers, puts the individual at a

significantly greater risk for continued offending during and beyond adolescence. Furthermore, involvement in the juvenile justice system and the establishment of a criminal record increases the individuals' embeddedness in criminal social networks and makes it extremely difficult to desist from criminal behavior in the future.

Criminal desistance, according to dynamic theories, is largely explained by the re-establishment of prosocial bonds and social networks. Offenders who increase attachments to positive figures and commit to activities such as school and work are more likely to desist from criminal behavior than individuals who fail to establish such bonds. Furthermore, Farrington (2003) adds to the explanation of criminal desistance by emphasizing the importance of positive life events such as getting married, having children, and maintaining steady employment. Sampson and Laub (1993) also highlight the importance of adult bonds, such as marriage, because it not only increases attachments to others, but also tends to alter the natural routine, making it more difficult to engage in criminal behavior.

Social psychological theories. Social psychological theories highlight the flexibility of subjective life experiences, such as identity development, cognitive and emotional processes, and decision making abilities, when explaining criminal behavior onset, persistence, and desistance. The relationship between a person and their environment is heavily regarded with respect to how social psychological theories conceptualize criminal behavior.

In their theory of cognitive transformation, Giordano, Cernkovich, and Rudolph (2002) emphasize various cognitive shifts that lead to criminal desistance. Specifically, they argue that although a basic motivation and desire to change is typically the first step to desistance, individuals differ with respect to their "receptivity to hooks for change" (p.992). In other words, some individuals may be more inclined to respond to particular messages or interventions than

others (e.g., faith-based programs). Nonetheless, these “hooks for change” help foster new attitudes about particular situations (e.g., stealing is bad, assault is wrong, etc.), which leads to the development of new attitudes, desires, and motivations. As new attitudes are adopted and strengthened, individuals tend to drift further from criminal behavior because it no longer resonates with their new identity.

In addition to cognitive shifts, Giordano, Schroeder, and Cernkovich (2007) also recognize the importance of changes in the emotional component of criminal behavior. For instance, the thrill of doing something illegal as a teenager may become less emotionally enticing as an individual progresses into adulthood. Individuals also become more capable of managing emotions, such as urges to steal, as they get older.

Social psychological theories highlight human agency as a major factor in distinguishing persistent offenders from individuals who desist from criminal engagement. Change is attributed, in part, to an individual's ability to separate themselves from their criminal self in efforts to establish a more positive self. Individuals are viewed as having the ability to create their own social networks which ultimately influences their behaviors (Emirbayer & Goodwin, 1994). Persisters tend to believe things are set in stone and that is the way their life is meant to be, no matter what. They assume no control over their life circumstances. Desisters, on the other hand, tend to believe they are capable of stopping offending behavior, so they do. Then, they tend to develop a feeling of pride as a result of ending their criminal involvement, which leads to having a more positive view about life. As a result, desisters are able to establish and achieve more productive life goals, which, in turn, separates them from criminal lifestyles even more so. However, past selves are never completely discarded. Social psychological theories tend to explain relapses (e.g., violence, drug use, gambling, stealing, etc.) in offending behavior

as an inability to effectively cope with stressful, intensely emotional situations (e.g., anger, job loss, accidents, loss of loved one, etc.; Mattley, 2002).

Developmental theories. Developmental models of explaining offending behavior emphasize windows of vulnerability, particularly the transition from adolescence to adulthood, during which change is most likely. These models are based upon the core belief that development is a dynamic process through which individuals are impacted by their biology, social environments, and societal influences (Sroufe, 2007). The interplay between early influences (e.g., maltreatment, ineffective parenting), biology (e.g., genetic abnormalities), and negative experiences (e.g., poverty, poor school performance, association with deviant peers) is assumed to be the catalyst behind the development and persistence of offending behavior.

Early adolescence is generally viewed in psychology as a major *window of vulnerability* during which individuals experience both biological changes such as the onset of puberty, as well as contextual influences such as increased associations with peers, beginning high school, and taking on more responsibility. Also during adolescence, individuals experience a gap in brain development during which risk taking behaviors increase, but they are unable to anticipate consequences of their behaviors (Masten, 2007). Together, these influences tend to make adolescents more vulnerable to engaging in offending behavior. For instance, a teenager whose friends are using drugs might be persuaded to join them because peer group acceptance is important to them, but they are unable to fully comprehend the consequences of drug use so they tend to engage in risky behavior without a full understanding of what might happen as a result.

The transition to adulthood, on the other hand, is often viewed as a *window of opportunity*. During this period, biological and contextual influences tend to encourage desistance from criminal behavior (Masten, 2007). It is not at all uncommon to see individuals

with a checkered juvenile history begin to turn their lives around in their mid-twenties, much like the trend in age-crime curves consistently suggest (Masten, 2006). Individuals develop the capacity to comprehend consequences and are also better able to develop and pursue plans such as embarking on a career path or furthering their education. Additionally, the consequences for offending behavior as an adult are more severe, leading many individuals to desist from criminal engagement once they become of legal age.

Developmental models attribute their persistence in offending behavior to significant influences that drastically alter brain and social development such as drug use, drinking, and/or continued association with dangerous peer groups. In these instances, individuals often fail to desist from offending behavior because they are continuously pulled away from acceptable societal standards and are often rejected by mainstream society as a result of lingering consequences of prior behavior (e.g., dropping out of school, having a criminal record, etc.; Thornberry et al., 2013).

Biopsychosocial theories. Biopsychosocial models explain offending behavior as a result of interactions between biological, psychological, interpersonal, and environmental influences (Thornberry et al., 2013). Most importantly, these models highlight the importance of the frontal regions of the brain with respect to behavior regulation. As developmental theories also point out, the areas of the brain that influence executive functioning such as cognitive control, attention, and emotion regulation, are not considered fully developed until early adulthood. The parts of the brain that fuel sensation seeking and risky behavior are developed long before the parts of the brain that causes people to stop and think about their behavior and possible consequences. As such, decreases in risky behavior during late adolescence and early

adulthood are attributed to brain maturation that also typically occurs during this period of development.

The ability to learn from reward and punishment is also indicated in biopsychosocial explanations of delinquent behavior. Research has shown that individuals with fear conditioning deficits, or difficulty in learning from punishment, are more likely to engage in crime because they are less likely to avoid situations in which they are punished (Fairchild et al., 2008; Gao et al., 2010). The development of morality, or a sense of right and wrong, occurs during this social learning process. Those who have difficulty in appreciating the difference between safe and risky situations are more likely to engage in delinquent behavior because they are less able to predict the severity of consequences associated with that behavior (Van Overwalle & Baetens, 2009).

In addition to developmental and social influences, twin studies have provided support for the belief that certain genes influence offending behavior across the lifespan. There is some evidence suggesting some genes are associated with adolescent delinquency (Burt & Mikolajewski, 2008), whereas other genes are associated with life-long criminal behavior (Silberg, Rutter, Tracy, Maes, & Eaves, 2007). Nonetheless, biopsychosocial models often outline the importance of gene-environment interactions, including interpersonal, social, and psychological influences, in understanding the development and persistence of criminal behavior across the lifespan.

Recidivism: Prevention and Intervention

Decades of research has been devoted to exploring factors that increase the probability of offending behavior. A number of studies have revealed factors within families, schools, neighborhoods and communities, peer groups, and individual characteristics that are linked to offending behavior. Prevention and intervention programs have been developed to target risk

and protective factors associated with criminal behavior in efforts to prohibit persistent offending. Most of these programs are intended for either juveniles or adults because of the specific needs of each population. This section reviews prevention and intervention programs that have been implemented at different points across the lifespan including early childhood, late adolescence, and early adulthood. This section ends with a brief summary from a benefit-cost analysis of programs intended to reduce recidivism rates among young offenders.

Family-based programs. Programs targeting family-related risk factors, such as parenting and discipline, have been implemented with both children and adolescent populations to address the encouragement of prosocial behaviors and eliminate antisocial or offending behaviors within a family context. Family-based programs are typically divided between prevention and intervention approaches and incorporate a number different treatment structures including pre-natal and early family prevention, multisystem therapy (MST), functional family therapy (FFT), and multidimensional treatment foster care (MTFC).

Early parent education and parent management training (PMT) have been shown to be effective prevention modalities for inhibiting offending behavior during early adolescence and beyond. A longitudinal study by Long, Forehand, Wierson, and Morgan (1994) evaluated a PMT program implemented with 73 young children (between ages 2-7) referred by their parents for behavioral noncompliance. Through a ten session program, mothers in the experimental group were taught to attend to and reward appropriate behavior while using time-out for inappropriate behavior. Mothers and children in the control group did not receive any services. After the program, children of mothers in the experimental group were less likely to exhibit deviant behavior compared to children of mothers in the control group. However, a follow-up investigation, conducted when the children were between ages 16 and 21, revealed no

differences between children in the experimental group and children in the control group with regards to delinquency, emotional adjustment, and academic progress.

The Nurse-Family Partnership (NFP), a home visiting program designed to measure delinquency among children of mothers who received home visits during pregnancy and during the first two years of their child's life, revealed the promising effects of parent education during pregnancy and after birth on delinquent behavior. Four-hundred first time mothers were assigned to either the experimental group who received home visits during pregnancy and during the first two years of their child's life, or to a control group who did not receive any home visits (Olds, Henderson, Chamberlin, & Tatelbaum, 1986). The home visits were conducted by nurses and consisted of education about prenatal and postnatal care, development, and the importance of proper nutrition during pregnancy. A follow-up study revealed children of the mothers who received home visits had significantly fewer arrests than children in the control group at age 15 (Olds et al., 1997).

MST, a family treatment approach which could include individual, family, peer, school, and community interventions, has been evaluated and described as an effective approach to delinquency intervention. In a longitudinal exploration of MST with 118 substance-abusing adolescents, Henggeler, Clingempeel, Brondino, and Pickrel (2002) implemented a family-oriented treatment at age 15 and conducted a follow-up at age 19. At the follow-up, participants who received MST had significantly lower conviction rates compared to control participants who received other community services. In a study comparing MST and individual therapy among 176 juvenile offenders, Schaeffer and Borduin (2005) found that participants who received MST at age 13 had significantly lower recidivism rates at age 29 than participants who received individual therapy as a juvenile (50% vs. 81%). In a longitudinal investigation of MST versus

other community services, Borduin, Schaeffer, and Heiblum (2009) reported promising results with the implementation of family therapy with 48 juvenile sex-offenders. They found that MST participants who received treatment at age 14 had lower recidivism rates for sexually-based offenses at the follow-up at age 23, compared to juvenile sex-offenders who received other community-based services (8% versus 46%).

FFT, including interventions addressing patterns of family interaction, have also been described as effective in reducing offending behavior. Gordon, Graves, and Arbuthnot (1995) compared FFT and probation services among 54 juvenile offenders. Treatment occurred at age 15 and follow-ups took place when participants were approximately 21 years old. Participants who received FFT at age 15 had lower recidivism rates at the follow-up compared to control group participants who received standard probation services (9% versus 41%).

The implementation of individual-focused treatment and parent management training in non-correctional environments such as foster care have also shown promising results. Chamberlain, Leve, and DeGarmo (2007) compared the effectiveness of MTFC with standard group care among 81 female juvenile offenders in group home settings. Treatment occurred at age 13 and follow-ups took place at age 19. Offenders who received MTFC had fewer days of incarceration, fewer criminal referrals, and less self-reported delinquent behavior at the follow-up compared to female offenders who received traditional group care. Similar results have also been found with male juvenile offenders in group home settings (Eddy, Bridges Whaley, & Chamberlain, 2004).

School-based programs. Given the nature of increasing peer influence throughout school, programs have been developed and implemented in educational settings to prevent criminal engagement among adolescents. Effective school-based interventions include discipline

management, classroom management, reorganization of classes, and improving self-control. Three school-based prevention programs in particular have received a substantial amount of evaluation within the criminology, educational, and psychological literature: Seattle Social Development Project (Hawkins, von Cleve, & Catalano, 1991), Montreal Longitudinal Experiment (Tremblay et al., 1992), and the Good Behavior Game (Kellam & Rebok, 1992).

The Seattle Social Development Project (Hawkins et al., 1991) combined parent education, teaching training, and skills training in an intervention that was delivered in an educational setting. Five-hundred first grade children were randomly assigned to either experimental or control classrooms. Based upon the assumption that delinquency is inhibited by the strengthening of social bonds, instruction in the experimental classrooms was designed to increase parent-child attachments and children's bonding to school. Children were trained in interpersonal cognitive problem-solving, parents were trained to notice and reinforce social desirable behaviors, and teachers were educated on classroom management. In a follow-up at age 18, the researchers found that children who received the intervention from first grade through sixth grade reported significantly less violence, less alcohol abuse, and fewer sexual partners than participants who received the intervention only at fifth and sixth grades or participants in the control group who did not receive the intervention at all. Additionally, participants who received the full intervention reported significantly better educational and economic attainment than the control group participants. These findings lend support for the importance of early intervention in delinquency prevention.

The Montreal Longitudinal Experiment (Tremblay et al., 1992) also combined skill training, parent training, and teaching support in an intervention designed to prevent the development of delinquent behaviors. A sample of 250 disruptive (defined as aggressive and

hyperactive) six-year-olds were assigned to either an experimental or control group. The experimental group received social skills training and peer modeling, role playing, and reinforcement contingencies were utilized in the classroom. Parents of children in the experimental group were also trained on how to provide positive reinforcement for desirable behaviors, as well as discipline strategies for addressing inappropriate behavior in the home. Individuals in the control group did not receive any part of the intervention. By age 12, children in the experimental group had significantly fewer instances of delinquent behavior (e.g., stealing, burglary, assault, etc.) than children in the control group. In the most recent follow-up study during which participants were 24 years old, researchers searched criminal records of every participant and found that those in the experimental group were less likely to have a criminal record than those in the control group, although group differences were not statistically significant (22% versus 33%; Boisjoli, Vitaro, Lacourse, Barker, & Tremblay, 2007).

The Good Behavior Game (GBG; Kellam & Rebok, 1992), a school-based prevention program, utilized a classroom behavior management strategy to teach behavior regulation to first grade students. The program lasted through first and second grade. Students were randomly assigned to either experimental classrooms which implemented the GBG, or a control classroom which did not implement the GBG. Each classroom included an equal number of aggressive and disruptive children. Teachers in the experimental classrooms were trained in the GBG curriculum and were taught how to monitor their students' behavior throughout the school year. Misbehavior of a group member resulted in a checkmark for that group on a readily visible chalkboard in the classroom. At the end of the day, groups with fewer than five checkmarks received a reward. In the end, students who participated in the GBG were rated as less aggressive than students in the control classrooms by teachers. In a follow-up study at age 19,

Kellam and colleagues (2008) reported that participants in the experimental classroom had significantly lower rates of violent and criminal behavior compared to participants in the control classroom (34% versus 50%).

Peer- and community-focused programs. Peer-focused and community mentoring programs have been developed and implemented to decrease the influence of delinquent friends and increase the development of positive, prosocial peer relationships. Although community-based preventions appeal to the public and political leaders, these programs are typically among the first to be cut when budgets fall short. As a result, quality research studies examining the effectiveness of these programs are extremely limited (Welsh et al., 2013). A meta-analysis of 18 mentoring programs, conducted by Joliffe and Farrington (2008), provided support that after-school programming prevents juvenile delinquency. The authors also noted that mentoring was most effective in reducing delinquency when mentor meetings were longer and when mentoring was combined with other recidivism interventions.

Among one of the most effective community-based intervention programs to date are community wide initiatives that bring together people to target a wide range of risk factors, such as the Communities That Care (CTC) initiative. A large-scale randomized control trial involving 4,400 students across 24 American communities found that CTC significantly reduced the initiation of delinquent behavior, alcohol use, and cigarette use between grades 5 and 8 (Hawkins, Kosterman, Catalano, Hill, & Abbott, 2008). However, no follow-up studies are available to explore the long-term effects of CTC.

Individualized programs. Programs designed to target individual-level risk factors associated with delinquent behavior have been developed and implemented with children, adolescents, and young adults. These programs typically target risk factors that have been linked

to juvenile delinquency and recidivism rates such as low intelligence and attainment. To date, only research on preschool enrichment programs have evaluated the long-term impact on offending behavior.

The Perry Preschool project, conducted in Michigan, was designed to provide intellectual stimulation, increase reasoning ability, and increase later school achievement (Schweinhart & Weikart, 1980). A sample of 123 preschool-aged children were randomly assigned to either the experimental or control group. The experimental group attended the daily preschool program and also received home visits for two years (between ages three and five). Participants in the control group were enrolled in traditional preschool programs in the area. A follow-up study, conducted when the children were 19 years old, revealed participants in the experimental group were significantly more likely to be employed, to have graduated high school and received at least some college-level training, and were less likely to have been arrested than participants in the control group (Berrueta-Clement, Schweinhart, Barnett, Epstein, & Weikart, 1984). A follow-up at age 27 revealed participants in the control group had accumulated twice as many arrests, on average, than participants in the experimental group (Schweinhart, Barnes, & Weikart, 1993).

The Child-Parent Center (CPC) program was implemented in pre-school programs in impoverished Chicago neighborhoods to provide high quality, active learning programs to disadvantaged children. A non-randomized control evaluation of the program revealed that children in the program were significantly less like to be arrested by age 18 (17% versus 25%) and were more likely to complete high school (50% versus 39%) compared to children in the control group who were enrolled in traditional preschool programs (Reynolds, Temple,

Robertson, & Mann, 2001). By age 24, children who participated in the CPC preschool program were significantly less likely to have a felony arrest (17% versus 21%; Reynolds et al., 2007).

The Carolina Abercedarian Project provided high quality preschool care that targeted cognitive and language skill development to 111 children born to low-income families. Participants in the control group were not enrolled in preschool, whereas participants in the experimental group were enrolled in preschool intervention program. By the time participants were 21, fewer of the participants who participated in the preschool program had been convicted of a misdemeanor (14% versus 18%), or felony offense (8% versus 12%) compared to participants from the control group who were not enrolled in preschool, although group differences were not statistically significant (Campbell, Ramey, Pungello, Sparling, Miller-Johnson, 2002).

Financial benefits and costs of programming. Welsh and colleagues (2013) summarized the findings from a benefit-cost analysis of prevention and intervention programs conducted by the Washington State Institute for Public Policy (WSIPP). Overall, the benefit-cost analysis summary reported that there are a number of well-research programs that are beneficial and exceed the costs associated with program development and implementation. One program that promises to provide outstanding benefits that exceed development and implementation costs is that of functional family therapy for juvenile offenders. In short, the FFT program implementation costs approximately \$3,100 per family and yields an approximate 18% reduction in recidivism, according to the WSIPP analysis. The WSIPP analysis revealed that the 18% recidivism rate reduction translates into approximately \$32,000 worth of benefits to taxpayers, which yields an expected value of \$29,100 in benefits per participant. In contrast, intensive supervision (e.g., supervised probation or parole) costs approximately \$4,100 per

participant but only yields a 2% reduction in recidivism rates. The recidivism reduction translates to an average loss of \$2,400 for every participant involved in supervised probation or parole.

Implications for Researchers, Practitioners, and Policymakers

Historical approaches to crime, theoretical perspectives explaining offending behavior, and research on various prevention and intervention strategies and programming have informed juvenile and criminal justice policy, research efforts, and practice guidelines for decades. Continued efforts in improving prevention and intervention strategies through empirical evaluation and implementation will help identify effective ways to address criminal recidivism. Policymakers can also provide support in these efforts by looking towards recidivism research and effective practices to inform policy standards across the justice system. The preceding review of historical justice practices, theories of offending behavior, and research on prevention and intervention programs has specific implications for researchers, practitioners, and policymakers involved in the betterment of the American justice system.

There currently is an overwhelming amount of recidivism research; however, there are few high-quality evaluations that have measured the long-term impact of programming on offending behavior. Although there is promising support for many early prevention programs as well as family-, community-, and school-based interventions, little research has been done to examine the impact these prevention and intervention programs have during late adolescence, early adulthood, and beyond. In order to continue enhancing the understanding of what leads to recidivism, more long-term studies from childhood through adulthood are necessary. In addition to developing and improving interventions, researchers should continue developing, implementing, and evaluating early prevention programs to have an even greater impact on

overall juvenile and adult crime rates. In order for such research to take place, funding sources must first recognize the importance of research in this area, including the imperative nature of long-term follow-up studies. The continuation of high-quality studies aimed at developing and evaluating prevention and intervention programs will contribute to the advancement of scientific knowledge in this area and will have an overall impact on how criminal behavior is addressed in the future.

Previous research on various interventions, as well as theoretical explanations for offending behavior continue to inform practice with offender populations as well as prevention programming for children and adolescents. Research and theory have repeatedly highlighted the long-term effects of parenting (Gottfredson & Hirschi, 1990; Long et al., 1994), poverty (Campbell et al., 2002; Reynolds et al., 2007), association with deviant peers (Emirbayer & Goodwin, 1994), educational experiences (Joliffe & Farrington, 2008; Mattley, 2002; Thornberry et al., 2013), employment (Farrington, 2003), and positive life events (Farrington, 2003; Masten, 2007; Masten, 2006) on offending behavior. It is also well established that a majority of adult offenders have a history of juvenile delinquency. In fact, it is rare for an adult to offend without ever having been in legal trouble as a juvenile (Loeber et al., 2008; Piquero et al., 2007). Practitioners should continue to address specific risk and protective factors associated with offending behavior and recidivism, as well as continue implementing prevention programs to eliminate the development and establishment of criminal behavior altogether. Implications for practice include establishing early prevention programs and also focusing on established risk factors and patterns in offending behavior for adolescents with a history of juvenile delinquency to decrease the likelihood that they will continue offending into adulthood.

For decades, the American justice system has undergone drastic changes in policy and procedure for both juvenile and adult offenders. Some of these changes, such as the “truth-in-sentencing” (Holt, 1998) and “three strikes, you’re out” (Turner et al., 1999) laws, have had a detrimental impact on correctional settings. In hindsight and through years of research, it is now understood that these movements were less than beneficial for all involved. Moving forward, policy decisions should be based on research, not the political agendas for which no evidentiary support exists. Research on criminal career continuity and desistance should be driving decisions regarding offender sentencing laws and practices. Juvenile courts should utilize intervention efforts targeted towards reducing risk factors associated with recidivism as opposed to handing down harsh sentences on adolescent offenders. The current justice system is still recovering from the widely implemented “get tough on crime” initiative; policymakers have the responsibility to avoid worsening current corrections situations and work towards improving overall crime rates and criminal punishment by mandating the use of empirically supported interventions, addressing sentencing laws for both juveniles and adults, and providing financial support for research aimed at developing and evaluating early prevention programming.

References

- Andrews, D. A., & Bonta, J. (2010). *The psychology of criminal conducts* (5th ed.). New Providence, NJ: Matthew Bender.
- Beckett, K., & Sasson, T. (2004). *The policies of injustice: Crime and punishment in America* (2nd ed.). Thousand Oaks, CA: Pine Forge Press.
- Berrueta-Clement, J. R., Schweinhart, L. J., Barnett, W. S., Epstein, A. S., & Weikart, D. P. (1984). *Changed lives: The effects of the Perry Preschool Program on youths through age 19*. Ypsilanti, MI: High/Scope Press
- Bishop, D. M. (2006). Public opinion and juvenile justice policy: Myths and misconceptions. *Criminology and Public Policy*, 5, 653-664. doi: 10.1111/j.1745-9133.2006.00408.x
- Blokland, A. A., & Palmen, H. (2012). Criminal career patterns from adolescence to early adulthood. In R. Loeber, M. Hoeve, N. M. Slot, and P. van der Laan (Eds.), *Persisters and desisters in crime from adolescence to adulthood: Explanation, prevention, and punishment*. Aldershot UK: Ashgate.
- Blumstein, A., Cohen, J., Roth, J., & Visher, C. (1986). *Criminal careers and 'career criminals.'* Washington, DC: National Academy Press.
- Boisjoli, R., Vitaro, F., Lacourse, E., Barker, E. D., & Tremblay, R. E. (2007). Impact and clinical significance of a preventive intervention for disruptive boys: 15-year follow-up. *British Journal of Psychiatry*, 191, 415-419. doi: 10.1192/bjp.bp.106.030007
- Borduin, C. M., Schaeffer, C. M., & Heiblum, N. (2009). A randomized clinical trial of multisystemic therapy with juvenile sexual offenders: Effects on youth social ecology and criminal activity. *Journal of Consulting and Clinical Psychology*, 77, 26-37. doi: 10.1037/a0013035

- Burt, S. A., & Mikolajewski, A. J. (2008). Preliminary evidence that specific candidate genes are associated with adolescent-onset antisocial behavior. *Aggressive Behavior, 34*, 437-445.
doi: 10.1002/ab.20251
- Campbell, F. A., Ramey, C. T., Pungello, E., Sparling, J., & Miller-Johnson, S. (2002). Early childhood education: Young adult outcomes from the Abercedarian Project. *Applied Developmental Science, 6*, 42-57.
- Chamberlain, P., Leve, L. D., & DeGarmo, D. S. (2007). Multidimensional treatment foster care for girls in the juvenile justice system: 2-year follow-up of a randomized clinical trial. *Journal of Consulting and Clinical Psychology, 75*, 187-193.
doi: 10.1037/0022-006X.75.1.187
- Dannefer, D. (1984). Adult development and social history: A paradigmatic reappraisal. *American Sociological Review, 49*, 100-116.
- DiIulio, J. J. (1996). They're coming: Florida's youth crime bomb. *Impact, 25-27*.
- Eddy, J. M., Bridges Whaley, R., & Chamberlain, P. (2004). The prevention of violent behavior by chronic and serious male juvenile offenders: A 2-year follow-up of a randomized clinical trial. *Journal of Emotional and Behavioral Disorders, 12*, 2-8.
- Elliott, D. S., Pampel, F., & Huizinga, D. (2004). *Youth violence: Continuity and desistance. A supplemental report to Youth Violence: A report of the Surgeon General*. Boulder, CO: Center for the Study and Prevention of Violence, Institute of Behavior Science, University of Colorado.
- Emirbayer, M., & Goodwin, J. (1994). Network analysis, culture, and the problem of agency. *American Journal of Sociology, 99*, 1411-1454.

- Erwin, B. S. (1986). Turning up the heat on probationers in Georgia. *Federal Probation, 50*, 17-24.
- Fabio, A., Cohen, J., & Loeber, R. (2011). Neighborhood socioeconomic disadvantage and the shape of the age-crime curve. *American Journal of Public Health, 101*, 325-332.
- Fairchild, G., van Goozen, S. H., Stollery, S. J., Brown, J., Gardiner, J., Herbert, J., & Goodyer, I. M. (2008). Cortisol diurnal rhythm and stress reactivity in male adolescents with early onset or adolescence-onset conduct disorder. *Biological Psychiatry, 64*, 599-606.
doi: 10.1016/j.biopsych.2008.05.022
- Farrington, D. P. (1986). Age and crime. In M. Tonry, & N. Morris (Eds.), *Crime and justice: An annual review of research* (Vol. 7, pp. 189-250). Chicago, IL: University of Chicago Press.
- Farrington, D. P. (2003). Developmental and life-course criminology: Key theoretical and empirical issues- The 2002 Sutherland Address. *Criminology, 41*, 221-255.
- Field, B. C. (1988). The juvenile court meets the principle of offense: Punishment, treatment, and the different it makes. *Boston University Law Review, 68*, 821-915.
- Gao, Y., Raine, A., Venables, P. H., Dawson, M. E., & Mednick, S. A. (2010). Reduced electrodermal fear conditioning from ages 3 to 8 years is associated with aggressive behavior at age 8 years. *Journal of Child Psychology and Psychiatry, 51*, 550-558.
doi: 10.1111/j.1469-7610.2009.02176.x
- Giordano, P. C., Cernkovich, S. A., & Rudolph, J. L. (2002). Gender, crime, and desistance: Toward a theory of cognitive transformation. *American Journal of Sociology, 107*, 990-1064. doi: 10.1086/343191

- Giordano, P. C., Schroeder, R. D., & Cernkovich, S. A. (2007). Emotions and crime over the life course: A neo-Meadian perspective on criminal continuity and change. *American Journal of Sociology, 112*, 1603-1661.
- Gordon, D. A., Graves, K., & Arbuthnot, J. (1995). The effect of functional family therapy for delinquents on adult criminal behavior. *Criminal Justice and Behavior, 22*, 60-73.
doi: 10.1177/0093854895022001005
- Gottfredson, M. R., & Hirschi, T. (1990). *A general theory of crime*. Stanford, CA: Stanford University Press.
- Hahn, C. (2007). *Finding the trail to success: A multiple case study exploring the life success of former juvenile offenders* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3273877)
- Hawkins, J. D., Kosterman, R., Catalano, R. F., Hill, K. G., & Abbott, R. D. (2008). Effects of social development intervention in childhood 15 years later. *Archives of Pediatrics and Adolescent Medicine, 162*, 1133-1141. doi: 10.1001/archpedi.162.12.1133
- Hawkins, J. D., Smith, B. H., Hill, K. G., Kosterman, R., Catalano, R. F., & Abbott, R. D. (2003). Understanding and preventing crime and violence: Findings from the Seattle Social Development Project. In T. Thornberry & M. Krohn (eds.), *Taking stock of delinquency: An overview of findings from contemporary longitudinal studies*. (pp.255-312). New York: Kluwer Academic/Plenum Publishers.
- Hawkins, J. D., von Cleve, E., & Catalano, R. F. (1991). Reducing early childhood aggression: Results of a primary prevention program. *Journal of the American Academy of Child and Adolescent Psychiatry, 30*, 208-217.

- Henggeler, S. W., Clingempeel, W. G., Brondino, M. J., & Pickrel, S. G. (2002). Four-year follow-up of multisystemic therapy with substance abusing and substance-dependent juvenile offenders. *Journal of the American Academy of Child and Adolescent Psychiatry, 41*, 868-874. doi: 10.1097/00004583-200207000-00021
- Holt, N. (1998). The current state of parole in America. In J. Petersilia (Ed.), *Community corrections: Probation, parole, and intermediate sanctions* (pp. 28-41). New York, NY: Oxford University Press.
- Horney, J., Osgood, D. W., & Marshall, I. H. (1995). Criminal careers in the short-term: Intra-individual variability in crime and its relation to local life circumstances. *American Sociological Review, 60*, 655-673.
- Howell, J. C., Feld, B. C., Mears, D. P., Farrington, D. P., Loeber, R., & Petechuk, D. (2013). *Young offenders and an effective response in the juvenile and adult justice systems: What happens, what should happen, and what we need to know (study group on the transitions between juvenile delinquency and adult crime)*. Unpublished report. U.S. Department of Justice.
- Huizinga, D., Weiher, A., Espiritu, R., & Esbensen, F. (2003). Delinquency and crime: Some highlights from the Denver youth survey. In T. Thornberry & M. Krohn (eds.), *Taking stock of delinquency: An overview of findings from contemporary longitudinal studies*. (pp.47-91). New York: Kluwer Academic/Plenum Publishers.
- Jolliffe, D., & Farrington, D. P. (2008). *The influence of mentoring on reoffending*. Stockholm, Sweden: National Council for Crime Prevention
- Kellam, S. G., & Rebok, G. W. (1992). Building developmental and etiological theory through epidemiologically based preventive intervention trials. In J. McCord & R. E. Tremblay

- (Eds.), *Preventing antisocial behavior: Interventions from birth through adolescence* (pp. 162-195). New York: Guilford.
- Kellam, S. G., Brown, C. H., Poduska, J. M., Ialongo, N. S., Wang, W., Toyinbo, P., Petras, H., Ford, C., Windham, A., & Wilcox, H. C. (2008). Effects of a universal classroom behavior management program in first and second grades on young adult behavioral, psychiatric, and social outcomes. *Drug and Alcohol Dependence, 95S*, 5-28.
doi: 10.1016/j.drugalcdep.2008.01.004
- Latessa, E. J., Cullen, F. T., & Gendreau, P. (2002). Beyond correctional quackery: Professionalism and the possibility of effective treatment. *Federal Probation*, September, 43-49.
- Laub, J. H., & Sampson, R. J. (2003). *Shared beginnings, divergent lives*. Cambridge, MA: Harvard University Press.
- Le Blanc, M., & Frechette, M. (1989). *Male criminal activity from childhood through youth: Multilevel and developmental perspectives*. New York: Springer.
- Loeber, R., & Farrington, D. (2011). *Young homicide offenders and victims: Risk factors, prediction, and prevention from childhood*. New York: Springer.
- Loeber, R., Farrington, D., Stouthamer-Loeber, M., & White, H. R. (2008). *Violence and serious theft: Development and prediction from childhood to adulthood*. New York, NY: Routledge.
- Long, P., Forehand, R., Wierson, M., & Morgan, A. (1994). Does parent training with young noncompliant children have long-term effects? *Behavior Research and Therapy, 32*, 101-107. doi: 10.1016/0005-7967(94)90088-4

- Martinson, R. (1974). What works? Questions and answers about prison reform. *Public Interest*, 35, 22-54.
- Maller, D. (2009). *Juvenile offenders to reformed women: A narrative analysis of transformative change* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3388599)
- Masten, A. (2006). Developmental psychopathology: Pathways to the future. *International Journal of Behavioral Development*, 31, 46-53. doi: 10.1177/0165025406059974
- Masten, A. S. (2007). Competence, resilience and development in adolescence: Clues for prevention science. In D. Romer & E. F. Walter (Eds.), *Adolescent psychopathology and the developing brain: Integrating brain and prevention science* (pp. 31-52). New York: Oxford University Press.
- Mattley, C. (2002). The temporality of emotion: Constructing past emotions. *Symbolic Interaction*, 25, 363-378. doi: 10.1525/si.2002.25.3.363
- McVie, S. (2005). Patterns of deviance underlying the age-crime curve: The long term evidence. *Criminology and Criminal Justice*, 7, 1-15.
- Moffitt, T. E. (1993). Adolescence-limited and life-course persistent antisocial behavior: A developmental taxonomy. *Psychological Review*, 100, 674-701.
doi: 10.1037/0033-295X.100.4.674
- Moffitt, T. E., Caspi, M., Rutter, P., & Silva, A. (2001). *Sex differences in antisocial behavior: Conduct disorder, delinquency, and violence in the Dunedin Longitudinal Study*. Cambridge, UK: Cambridge University Press.
- Olds, D. L., Eckenrode, J., Henderson, C. R., Kitzman, H., Powers, J., Cole, R., Sidora, K., Morris, P., Pettitt, L. M., & Luckey, D. (1997). Long-term effects of home visitation on

maternal life course and child abuse and neglect: Fifteen-year follow-up of a randomized trial. *Journal of the American Medical Association*, 278, 637-643.

doi: 10.1001/jama.1997.03550080047038

Olds, D. L., Henderson, C. R., Chamberlin, R., & Tatelbaum, R. (1986). Preventing child abuse and neglect: A randomized trial of nurse home visitation. *Pediatrics*, 78, 65-78.

Paternoster, R., & Brame, R. (1997). Multiple routes to delinquency? A test of developmental and general theories of crime. *Criminology*, 35, 49-84.

doi: 10.1111/j.1745-9125.1997.tb00870.x

Piquero, A. R., Farrington, D. P., & Blumstein, A. (2003). The criminal career paradigm: Background and recent developments. In M. H. Tonry (Ed.), *Crime and justice: A review of research* (Vol. 30, pp. 359-506). Chicago, IL: University of Chicago Press.

Piquero, A. R., Farrington, D. P., & Blumstein, A. (2007). *Key issues in criminal career research: New analyses of the Cambridge study in delinquent development*. Cambridge, UK: Cambridge University Press.

Piquero, A. R., Hawkins, J. D., & Kazemian, L. (2012). On the malleability of self-control: Theoretical and policy implications regarding a general theory of crime. *Justice Quarterly*, 27, 803-834.

Piquero, A. R., Hawkins, J. D., Kazemian, L., & Petechuk, D. (2013). *Criminal career patterns (study group on the transitions between juvenile delinquency and adult crime)*. Unpublished report. U.S. Department of Justice.

Reynolds, A. J., Temple, J. A., Ou, S., Robertson, D. L., Mersky, J. P., Topitzes, J. W., & Niles, M. D. (2007). Effects of a school-based, early childhood intervention on adult health and

well-being. *Archives of Pediatrics and Adolescent Medicine*, 161, 730-739.

doi: 10.1001/archpedi.161.8.730

Reynolds, A. J., Temple, J. A., Robertson, D. L., & Mann, E. A. (2001). Long-term effects of an early childhood intervention on educational achievement and juvenile arrest: A 15-year follow-up of low-income children in public schools. *Journal of the American Medical Association*, 285, 2339-2346. doi: 10.1001/jama.285.18.2339

Roush, D., & McMillen, M. (2000). Construction, operations, and staff training for juvenile confinement facilities. *Juvenile Accountability Incentive Block Grants Program Bulletin*. Washington, DC: U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention.

Sampson, R. J., & Laub, J. H. (1993). *Crime in the making: Pathways and turning points through life*. Cambridge, MA: Harvard University Press.

Schaeffer, C. M., & Borduin, C. M. (2005). Long-term follow-up to a randomized clinical trial of multisystemic therapy with serious and violent juvenile offenders. *Journal of Consulting and Clinical Psychology*, 73, 445-453. doi: 10.1037/0022-006X.73.3.445

Schweinhart, L. J., Barnes, H. V., & Weikart, D. P. (1993). *Significant benefits: The High/Scope Perry Preschool study through age 27*. Ypsilanti, MI: High/Scope Press.

Schweinhart, L., J., & Weikart, D. P. (1980). *Young children grow up*. Ypsilanti, MI: High/Scope Press.

Silberg, J. L., Rutter, M., Tracy, K., Maes, H. H., & Eaves, L. (2007). Etiological heterogeneity in the development of antisocial behavior: the Virginia Twin Study of Adolescent Behavioral Development and the young adult follow-up. *Psychological Medicine*, 37, 1193-1202. doi: 10.1017/S0033291707000293

- Sroufe, L. A. (2007). The place of development in developmental psychopathology. In A. S. Masten (Ed.), *Multilevel dynamics in developmental psychopathology: Pathways to the future. The Minnesota Symposia in child psychology* (pp. 285-298). Vol. 34. Mahwah, NJ: Erlbaum.
- Stouthamer-Loeber, M. (2010). *Persistence and desistence in offending*. Unpublished report. Life History Research Program, University of Pittsburgh, Pittsburgh, PA.
- Theobald, D., & Farrington, D. (2009). Effects of getting married on offending: Results from a prospective longitudinal survey of males. *European Journal of Criminology*, 6, 496-516. doi: 10.1177/1477370809341226
- Thornberry, T. P., Giordano, P. C., Uggen, C., Matsuda, M., Masten, A. S., Bulten, E., Donker, A. G., & Petechuk, D. (2013). *Explanations for offending (study group on the transitions between juvenile delinquency and adult crime)*. Unpublished report. U.S. Department of Justice.
- Tracy, P. E., & Kempf-Leonard, K. (1996). *Continuity and discontinuity in criminal careers*. New York, NY: Plenum.
- Tremblay, R. E., Vitaro, F., Bertrand, L., LeBlanc, M., Beauchesne, H., Boileau, H., & David, L. (1992). Parent and child training to prevent early onset of delinquency: The Montréal Longitudinal-Experimental Study. In J. McCord & R. E. Tremblay (Eds.), *Preventing antisocial behavior: Interventions from birth through adolescence* (pp. 117-138). New York: Guilford.
- Turner, S., Greenwood, P. W., Chen, E., & Fain, T. (1999). The impact of truth-in-sentencing and three-strikes legislation: Prison populations, state budgets, and crime rates. *Stanford Law and Policy Review*, 11, 75-91.

- United States Census Bureau (2015). U.S. and World Population Clock. Retrieved from <http://www.census.gov/popclock/>
- Van Overwalle, F., & Baetens, K. (2009). Understanding others' actions and goals by mirror and mentalizing systems: A meta-analysis. *NeuroImage*, 48, 564-584. doi: 10.1016/j.neuroimage.2009.06.009
- von Hirsch, A. (1976). *Doing justice: The choice of punishments*. New York, NY: Hill and Wang.
- Warr, M. (2002). *Companions in crime*. New York, NY: Cambridge University Press.
- Welsh, B. C., Lipsey, M., Rivara, F., Hawkins, J. D., Aos, S., Peel, M. E., & Petechuk, D. (2013). *Changing lives: Prevention and intervention to reduce serious offending (study group on the transitions between juvenile delinquency and adult crime)*. Unpublished report. U.S. Department of Justice.
- Wilson, J. Q. (1995). Crime and public policy, In J.Q. Wilson & J. Petersilia (Eds.) *Crime* (pp. 489-507). San Francisco, CA: ICS Press.

CHAPTER 2

Abstract

This study examined recidivism predictors in a sample of 227 *juvenile-only offenders* and 208 *persistent offenders* using data obtained via Amazon's Mechanical-Turk system. Logistic regression models revealed current family satisfaction contributed significantly to recidivism prediction, indicating that when current family satisfaction is raised by one unit, individuals are .98 times less likely to be a *persistent offender*. Thematic analyses of open-ended questions revealed additional support for the importance of positive, supportive relationships with family; 74.8% of juvenile-only offenders reported current relationships with family were "closer," "more supportive," and "more understanding" than past relationships, whereas only 55.7% of persistent offenders reported their current relationship with family was better than their past relationship. Practical and legal implications for interventions targeted towards interrupting the development of a criminal lifestyle are discussed, including the importance of utilizing empirically based rehabilitative interventions with juvenile offenders which emphasize positive, encouraging support systems.

Key words: recidivism, juvenile offenders, persistent offenders

CHAPTER 2

Understanding Recidivism:

Comparing Juvenile-Only Offenders and Persistent Offenders

Scholars have long debated what leads to the initiation of, continuation in, and desistance from criminal behavior. Research findings have consistently shown strong continuity in offending from adolescence to adulthood with nearly half of all juvenile offenders continuing criminal engagement beyond age 18 (Le Blanc & Frechette, 1989; Loeber & Farrington, 2011). Of the juvenile offenders that become adult offenders, approximately 55% continue offending into early adulthood (age 20-25) and nearly 18% continue offending beyond age 25 (Stouthamer-Loeber, 2010). Although explanations for offending behavior vary, scholars within criminology and psychology generally agree that there is a clear pattern of criminal involvement during the transition from adolescence to adulthood.

Scholars have hypothesized explanations for the existence of offending behavior at different points ranging from adolescence to adulthood. Loeber, Farrington, and Petechuk (2013) outlined ten processes typically used to explain both persistence in and desistance from offending: individual differences in self-control, brain maturation, cognitive development (e.g., decision making), behavioral risk factors (e.g., delinquency), behavioral protective factors (e.g., nervousness, social isolation), social risk and protective factors (e.g., family, peers, school), mental illness and/or substance use, life circumstances (e.g., getting married, becoming employed), contextual factors, neighborhood (e.g., living in a disadvantaged neighborhood), and justice response (e.g., transfer to adult court, imprisonment). The researchers explained that although the aforementioned processes influence offending behavior, they tend to take place at different points across the lifespan. For instance, exposure to risk factors increases from

childhood through adolescence, whereas changes in life circumstances typically occur from late adolescence into early adulthood.

Criminal Thinking

Although some individuals may be involved in criminal acts at one point or another, Walters (1995) differentiates those individuals from ones leading a criminal lifestyle, or an enduring pattern of violation including irresponsibility in various aspects of one's life, self-indulgence, interpersonal intrusiveness, and a disregard for social norms and laws. Attitudes, beliefs, and rationalizations used to justify criminal behavior have been collectively identified as criminal thinking (Walters, 1995) and are recognized within forensics and criminology as important facilitators in the understanding and prediction of criminal behavior (Andrews & Bonta, 2010; Wallinius, Johansson, Larden, & Dernevik, 2011).

The Psychological Inventory of Criminal Thinking Styles (PICTS; Walters, 2013) was specifically designed to assess eight thinking styles believed to be vital in supporting a criminal lifestyle: mollification (blaming others, avoiding responsibility), cutoff (elimination of deterrents), entitlement (attitude of privilege), power orientation (desire for power/control over others), sentimentality (performing good deeds to relieve guilt), superoptimism (belief in personal invulnerability), cognitive indolence (lack of critical reasoning), and discontinuity (lack of consistency in thoughts and actions). Criminal lifestyles exist on a continuum in which some individuals are able to maintain relatively stable and successful lives while still endorsing characteristics of criminal thinking. As such, there currently is no established "cut-off" point for distinguishing offenders from non-offenders (Walters, 2007a). However, researchers have identified trends in criminal thinking patterns that tend to be associated with recidivism.

In a meta-analysis of the PICTS as a predictor of recidivism, Walters (2012) found that the General Criminal Thinking score (PICTS: Gen.; produced by summing scores on the PICTS subscales) predicted recidivism above and beyond age and criminal history. In addition to the PICTS: Gen. score, the PICTS yields a proactive thinking score (PICTS: Pro., related to historical criminal thinking and calculating aspects of criminal cognition), and a reactive thinking score (PICTS: React., related to current criminal thinking and impulsive features of criminal cognition). Research has consistently shown that PICTS: Gen., PICTS: Pro., and PICTS: React. scores are generally capable of predicting future recidivism (Palmer & Hollin, 2004; Walters, 1995; Walters & Elliott, 1999). To date, the PICTS is the most widely used self-report measure to assess both the process and content of criminal thinking.

Personal, Social, and Environmental Predictors of Criminal Behavior

Bandura (2006) emphasized self-efficacy, defined as an individual's judgment about their ability to complete a particular task, as an important component of the learning process. Self-efficacy is believed to be the key mechanism of human agency, or the belief that one has the ability to produce a desired effect. Specifically, individuals who believe they are capable of completing a task are more likely to attempt that task, whereas individuals who do not believe they are capable are less likely to attempt the task. Self-efficacy and human agency, together, are important catalysts behind the decisions that people make throughout their lives. From a criminological perspective, an individual is not likely to desist from criminal behavior to pursue a more successful path (e.g., earn a college degree) if they do not perceive themselves as capable of doing so.

Iselin, Mulvey, Loughran, Chung, and Schubert (2012) explored whether serious adolescent offenders' perceptions of their ability to accomplish goals predicted how often they

engaged in behaviors consistent with achieving those goals at a later age. They found that offenders who perceived themselves as more capable of accomplishing positive goals were significantly more likely to engage in positive behaviors consistent with achieving their goals than offenders who perceived themselves as less capable of accomplishing their goals. Results are consistent with Bandura's concept of self-efficacy in that those who believed the likelihood of being able to accomplish goals was high actually made efforts to change their behaviors and avoid criminal involvement.

Social contexts are also believed to play a notable role in the persistence or desistence of criminal engagement. As part of a longitudinal study of juvenile delinquency, The Denver Youth Survey (DYS; Huizinga, Weiher, Espiritu, & Esbensen, 2003) examined the impact of arrests and imprisonment on future behavior among juvenile offenders. It was expected that the experience of being arrested and imprisoned would act as a deterrent from engaging in criminal behavior in the future. However, several DYS reports have shown that arrests and imprisonment among juveniles do not necessarily deter against criminal behavior. Similar results have also been found for juveniles who were placed on probation following an arrest (Huizinga & Espiritu, 1999). Given that imprisonment or other punishments may not effectively deter juveniles from continuing to engage in criminal acts, alternative interventions should be explored in order to lessen the possibility of persistent offending into adulthood.

The DYS (Huizinga et al., 2003) also explored predictors of having a successful adolescence/young adulthood, defined as involvement in no more than two serious delinquencies, no more than two occasions of problems resulting from drug use, being in an age-appropriate grade in school, and consistently having good self-esteem and self-efficacy. A discriminant analysis revealed that the best predictors of success were having conventional

friends, having a stable family, good parental monitoring, having expectations or perceived opportunities for the future, and peer delinquency (negatively related to success). Although the researchers emphasized that there is no one single ingredient for success, there appears to be a notable relationship between risk and protective factors. Specifically, as the number of risk factors (e.g., delinquency, poor relationships with friends and family, poor self-efficacy) increase, the probability of success decreases. Likewise, as the number of protective factors (e.g., limited/no delinquencies, healthy relationships with friends and family, and higher self-efficacy) increase, the probability of success increases.

In addition to longitudinal survey-based methods, researchers have also examined recidivism via qualitative designs. Hahn (2007) studied the experiences of 10 young men who were former juvenile offenders but were deemed “adult success stories” because they had shown abatement of delinquent behaviors, were achieving meaningful goals, and were engaged in productive work. He found that having a supportive mentor or family was instrumental in the success of all participants. Other emerging themes which contributed to success included having at least one negative experience with the juvenile justice system and drastic alterations of peer groups. Similarly, Maller (2009) studied the experiences of five young women who were deemed “adult success stories” and noted that all participants lacked a strong bond with a primary caregiver as a child. Additionally, participants reported a history of academic failures and strong associations with deviant peers throughout adolescence. The women also described a “transition” period in which they altered their surroundings from one that promoted deviance to one that supported healthy living. Success among the women was generally reinforced by positive peer associations, meaningful relationships, and engagement in work.

Research on criminal thinking, findings from Hahn's (2007) and Maller's (2009) qualitative work, in addition to longitudinal quantitative explorations, provide support for the impact of criminal thinking patterns, observational learning from family or peers, and reinforcement of delinquent behaviors on establishing a criminal lifestyle. The present study extended previous work by exploring a range of hypothesized recidivism factors among a sample of individuals who have committed crimes as juvenile (i.e., before age 18) and have either continued to offend into adulthood (hereinafter referred to as *persistent offenders*) or have desisted from criminal behavior since reaching adulthood (hereinafter referred to as *juvenile-only offenders*). In addition to surveys, the present study included open-ended questions to provide participants with an opportunity to share their unique experiences.

The Present Study

For purposes of this study, recidivism was coded as a dichotomous grouping variable. Participants from the *juvenile-only offender* sample have no adult arrests and were assigned a "0" for recidivism; participants from the *persistent offender* sample have at least two adult arrests and were assigned a "1" for recidivism. The following research questions were addressed: 1) Do *juvenile-only offenders* differ demographically from *persistent offenders* with respect to age, marital status, sexual orientation, race/ethnicity, level of education, length of time at current occupation, number of juvenile arrests, and number of consequences in response to juvenile arrests? 2) Which factors (i.e., number of juvenile arrests, number of consequences in response to juvenile arrests, general criminal thinking, proactive criminal thinking, reactive criminal thinking, current criminal thinking, historical criminal thinking, self-efficacy, past family satisfaction, current family satisfaction, past perceived social support, and current perceived social support) best predict the likelihood of being a *persistent offender*?

Method

Participants

Sample 1: Juvenile-only offenders. Participants in the first sample were *juvenile-only offenders* who had never been arrested as adults. Data for 45 individuals were excluded because either irrelevant information was provided for open-ended questions (e.g., responding with “yes” or “16” when asked “What was your most serious juvenile offense [prior to age 18]?”; $n = 15$) or they failed to meet study criteria (e.g., under age 25 or only having one juvenile arrest; $n = 30$). These individuals were provided an individualized explanation for why they were not reimbursed. The remaining *juvenile-only offender* sample consisted of 227 participants.

Participant age ranged from 25 to 75 ($M = 31.96$; $SD = 7.84$) and number of juvenile arrests ranged from 2 to 8 ($M = 2.72$; $SD = 1.04$). Race/ethnicity was reported as 65.2% ($n = 148$) Caucasian, 17.2% ($n = 39$) Asian/Pacific Islander, 9.3% ($n = 21$) Hispanic, 7.5% ($n = 17$) Black, and 0.9% ($n = 2$) Other. Education levels varied; 34.8% ($n = 79$) had a bachelor’s degree, 25.1% ($n = 57$) had some college experience, 13.2% ($n = 30$) had an associate’s degree, 8.8% ($n = 20$) received a high school diploma, 8.4% ($n = 19$) received a GED, 7.9% ($n = 18$) had a master’s degree, and 1.8% ($n = 4$) had some high school experience. A majority of participants either reported having been at their current job for more than 24 months (52.4%, $n = 119$) or reported they were currently unemployed (12.8%, $n = 29$).

Sample 2: Persistent offenders. Participants in the second sample were *persistent offenders* who had at least two juvenile arrests (i.e., prior to age 18) and at least two adult arrests (i.e., after age 18). Data for 66 individuals were excluded because either irrelevant information was provided for open-ended questions (e.g., responding with “n” or “yes” when asked “What types of consequences [if any] did you receive as a result of committing this offense?”; $n = 12$)

or they failed to meet study criteria (e.g., under age 25, reported only one juvenile arrest, or reported only one adult arrest; $n = 54$). These individuals were provided an individualized explanation for why they were not reimbursed. The remaining *persistent offender* sample consisted of 208 participants.

Participant age ranged from 25 to 61 ($M = 31.95$; $SD = 6.72$). Number of juvenile arrests ranged from 2 to 8 ($M = 2.64$; $SD = .97$) and number of adult arrests ranged from 2 to 8 ($M = 2.50$; $SD = .98$). Race/ethnicity was reported as 69.2% ($n = 144$) Caucasian, 16.3% ($n = 34$) Asian/Pacific Islander, 9.6% ($n = 20$) Black, 4.3% ($n = 9$) Hispanic, and 0.5% ($n = 1$) Other. Education levels also varied for the *persistent offender* sample; 26.9% ($n = 56$) had a bachelor's degree, 25% ($n = 52$) had some college experience, 17.8% ($n = 37$) received a high school diploma, 7.7% ($n = 16$) received a GED, 7.7% ($n = 16$) had an associate's degree, 7.7% ($n = 16$) had a master's degree, 5.3% ($n = 11$) had some high school experience, and 1.9% ($n = 4$) had no high school experience. Similar to the *juvenile-only offender* sample, a majority of *persistent offenders* reported either having been at their current job for more than 24 months (42.8%, $n = 89$) or reported they were currently unemployed (21.6%, $n = 45$).

Measures

Demographic Questionnaire. Questions regarding age, marital status, sexual orientation, race/ethnicity, education, occupation (i.e., current occupation and length of tenure, in months, at current occupation), and criminal history (i.e., number of juvenile arrests, number and type of consequences in response to juvenile arrests, and number of adult arrests) were included as part of the demographic questionnaire (see Appendix D).

To obtain data on the number of juvenile arrests, all participants were asked "How many times have you been arrested as a juvenile (before age 18)?" Participants were required to select

either “Once,” “Twice,” “Three times,” “Four times,” “Five times,” “Six times,” “Seven times,” or “More than seven times,” as opposed to allowing participants to answer using an open-ended question format. This format was chosen to eliminate the possibility of confusing responses and guarantee that data could be easily interpreted. Individuals who selected “Once” were excluded from the study because all participants were required to have at least two juvenile arrests.

Consequences in response to juvenile arrests were also assessed using a standard format to eliminate confusion in interpretation. All participants were asked “What legal consequences did you receive, if any, in response to the crimes you committed as a juvenile (before age 18)? Please select all that apply to you.” Types of consequences included “I never received any legal consequences for the crimes I committed,” “I was sentenced to probation,” “I was sentenced to serve time in a juvenile detention facility,” “I was sentenced to serve time in an inpatient rehabilitation facility,” “I was sentenced to community service,” “I was sentenced to pay fines/restitution,” and “Other.” Participants who indicated they had never received any legal consequences were assigned “0” for number of consequences in response to juvenile arrests. All other participants were assigned a number from “1” to “6” based upon the number of consequences they selected (e.g., if they indicated they had received probation and community service, they were assigned “2” for number of consequences in response to juvenile arrests).

Psychological Inventory of Criminal Thinking Styles (PICTS; Walters, 2013). The PICTS (see Appendix E) is an 80-item self-report measure which assesses eight thinking styles believed to support criminal lifestyles (i.e., mollification, cutoff, entitlement, power orientation, sentimentality, superoptimism, cognitive indolence, and discontinuity). The PICTS also provides two general content scale scores (i.e., current criminal thinking [PICTS: Cur.] and historical criminal thinking [PICTS: Hist.]), two higher-order scale scores (i.e., proactive

thinking scale [PICTS: Pro.] and reactive thinking scale [PICTS: React.]), and a general criminal thinking score (PICTS: Gen.). All items are rated on a 4-point Likert-type scale (1=*disagree*, 4=*strongly agree*). Results are reported as raw scores and are converted to T-scores to determine whether participants' meet cutoff criteria for specific criminal thinking patterns.

Walters (2006) reported that PICTS: Pro, PICTS: React., and PICTS: Gen. tend to be stronger predictors of recidivism than any of the eight thinking style scales. A T-score of 50 or higher on the PICTS: Gen. scale indicates the presence of a belief system that supports and reinforces a criminal lifestyle. A T-score of 55 or greater on the PICTS: Pro. scale and at least 10 T-score points higher than the PICTS: React. scale suggests deliberate and planned criminal thinking, whereas a T-score or 55 or greater on the PICTS: React. scale and at least 10 T-score points higher than the PICTS: Pro. scale suggests impulsive and disorganized criminal thinking.

Walters (2006) reported excellent internal consistency for the PICTS: Pro, PICTS: React., and PICTS: Gen. scales for males with Cronbach α 's of 0.88, 0.91, and 0.94 respectively. Cronbach's α for the PICTS: Pro. scale was 0.94 for the *juvenile-only offender* sample and the *persistent offender* sample. For the PICTS: React. scale, Cronbach α 's were 0.83 for the *juvenile-only offender* sample and 0.86 for the *persistent offender* sample. Cronbach α 's for the PICTS: Gen. scale were 0.96 for the *juvenile-only offender* sample and 0.95 for the *persistent offender* sample.

Walters et al. (2007b) demonstrated support for the concurrent validity of the PICTS: Pro. and PICTS: React. scales in which the PICTS: Pro. scale correlated best with prior arrests for proactive crime (i.e., robbery, burglary) and the PICTS: React. scale correlated best with prior arrests for reactive crime (i.e., assault, battery). Morgan, Fisher, Duan, Mandracchia, and Murray (2010) reported moderate correlations between the Criminal Sentiments Scale-Modified

(CSS-M; Simourd, 1997), a measure of criminal thought content, and the PICTS thinking style, higher-order, and general criminal thinking scales, lending support for the concurrent validity of the PICTS. Pearson correlations computed for 13 different samples in which the PICTS was used to predict recidivism suggest moderate effect sizes for the predictive validity of the PICTS. More specifically, Walters (2006) noted that low scores on PICTS scales are likely to do a better job of predicting good outcomes than high scores do of predicting negative outcomes.

New General Self-Efficacy Scale (NGSE; Chen, Gully, & Eden, 2001). The NGSE (see Appendix F) is an 8-item self-report measure which assesses “one’s belief in one’s competence to effect requisite performance across a wide variety of achievement situations” (Chen et al., 2001, p.75). An example item from this scale is “I will be able to achieve more of the goals that I have set for myself.” Items are rated on a 5-point Likert-type scale (1=*strongly disagree*, 5=*strongly agree*) and higher scores indicate higher levels of general self-efficacy.

Chen and colleagues (2001) reported excellent internal consistency for the measure with a Cronbach α 's of 0.86 and 0.90 at Time 1 and Time 2 (3 weeks after Time 1), respectively. In the present study, Cronbach α 's were 0.90 for the *juvenile-only offender* sample and 0.92 for the *persistent offender* sample. Principle components analyses conducted at Time 1 and Time 2 revealed that the NGSE scale is unidimensional with eigenvalues of 4.17 and 4.76, accounting for 52% and 59% of the total item variance, respectively. Independent panels of undergraduate and graduate psychology students examined the content validity of the NGSE scale using definitions of general self-efficacy and self-esteem. They were asked to indicate whether each of the NGSE items captures general self-efficacy, defined as, “one’s estimate of one’s overall ability to perform successfully in a wide variety of achievement situations or how confident one is that she or he can perform effectively across different tasks and situations,” or self-esteem,

defined as, “the overall affective evaluation of one’s own worth, value, or importance, or to how one feels about oneself as a person” (Chen et al., 2001, p. 79). Results from the graduate students revealed that 98% of the NGSE items were identified as measuring general self-efficacy and 2% were identified as measuring self-esteem. Results from the undergraduate students revealed that 87% of the NGSE items were identified as measuring general self-efficacy, 11% were identified as measuring self-esteem, and 2% were identified as “other.” Results generally suggest support for the content validity of the NGSE scale indicating that the measure is more consistent with general self-efficacy than self-esteem.

Family Satisfaction by Adjectives Scale (FSAS; Barraca, Yarton, & Olea, 2000).

The FSAS (see Appendix G) was used to measure participants’ overall satisfaction with their family. To assess for potential changes in family satisfaction before and after the transition period (i.e., from adolescence to young adulthood), participants completed the instrument twice. First, participants were instructed to think about their current family while responding to the items. Then, participants were instructed to think about their family during the time of their most serious juvenile offense (i.e., most serious offense prior to age 18) and completed the Family Satisfaction by Adjectives Scale-Past (FSAS-P) with respect to that time period (see Appendix D).

The FSAS is a 27-item semantic differential measure which uses bipolar adjectives to assess the different feelings experienced while with family. Family was defined as those people who live in the same home as the participants. Participants were reminded that family is not limited to parents or siblings; rather, family may include grandparents, aunts, uncles, or children. If the participant did not live with family (i.e., they lived with roommates), they were instructed to think about the family with whom they were closest. Participants were instructed to not

include extended family who are only involved in the participant's life occasionally. The instrument was preceded by the sentence: "When I am with my family, I mostly feel...." Participants indicated their level of satisfaction (i.e., totally satisfied, quite satisfied, or to some extent satisfied) with respect to 27 sets of bipolar adjectives (e.g., happy/unhappy, understood/misunderstood, relax/tense). Each set of adjectives is ranked on a 6-point scale with "1" being less satisfied with regards to an adjective pair and "6" being more satisfied with regards to an adjective pair. Total scores range from 27 to 162 with higher scores indicating higher levels of family satisfaction.

Barraca and colleagues (2000) reported excellent internal consistency with Cronbach's α of 0.98. In the present study, Cronbach α 's were 0.97 for the *juvenile-only offender* sample and 0.98 for the *persistent offender* sample. Cronbach α 's for the FSAS-P were 0.96 for the *juvenile-only offender* sample and 0.96 for the *persistent offender* sample. The FSAS is considered a unidimensional scale with one factor explaining 62.3% of the variance, indicating the presence of a single construct. Support for the convergent validity of the FSAS was obtained by Barraca and colleagues by exploring the relationship between the FSAS and two other well-established measures of family satisfaction: Family Satisfaction (Olson & Wilson, 1982) and Family Satisfaction Scale (Carver & Jones, 1992). Results revealed close relationships between the FSAS and Family Satisfaction ($r = 0.64$) and Family Satisfaction Scale ($r = 0.78$).

Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet, & Farley, 1988). The MSPSS (see Appendix H) was used to measure perceived support from family (e.g., "My family is willing to help me make decisions"), friends (e.g., "My friends really try to help me"), and a significant other (e.g., "There is a special person in my life who cares about my feelings"). To assess for potential changes in perceived social support before and

after the transition period (i.e., from adolescence to young adulthood), participants completed the measure twice. First, participants were instructed to think about their current relationships with those around them. Then, participants were instructed to think about their relationships with those around them at the time they committed their most serious juvenile offense (i.e., most serious offense prior to age 18) and completed the Multidimensional Scale of Perceived Social Support-Past (MSPSS-P) with respect to that time period (see Appendix J).

The MSPSS is a 12-item self-report measure in which all items are rated on a 7-point Likert-type scale (1=*very strongly disagree* to 7=*very strongly agree*). Higher scores indicate higher levels of perceived social support.

Zimet and colleagues (1988) reported excellent internal consistency with Cronbach's α of 0.88. In the present study, Cronbach α 's were 0.94 for the *juvenile-only offender* sample and 0.95 for the *persistent offender* sample. For the MSPSS-P, Cronbach α 's were 0.94 for the *juvenile-only offender* sample and 0.95 for the *persistent offender* sample. Zimet and colleagues also reported evidence in support of the construct validity of the MSPSS. Perceived support from family was significantly inversely related to depression ($r = -0.24, p < .01$) and anxiety ($r = -0.18, p < .01$). Perceived support from friends was inversely related to depression ($r = -0.24, p < .01$), but not to anxiety. Additionally, perceived support from a significant other was inversely related to depression ($r = -0.13, p < .05$).

Open-ended Questions. A set of open-ended questions was included at the end of the survey to allow for a more in-depth examination of individual experiences (see Appendix K). Participants answered questions about what things were like for them at the time of their most serious juvenile offense and were also asked how their current life circumstances compare to their past experiences. Participants answered questions about their neighborhood environment,

relationship with family, and their support systems. A thematic analysis of the responses was conducted to amplify and clarify quantitative results.

Procedure

Both samples were obtained via Amazon's Mechanical-Turk (MTurk) system using two separate study announcements (see Appendix B and C). MTurk is an increasingly popular data collection system which provides quick and inexpensive access to high-quality behavioral research participants. Research regarding the use of MTurk for behavioral studies has shown that MTurk participants are truthful and consistent when providing demographic information (Rand, 2011), are as reliable as non-MTurk samples, and are more representative of the general population than traditional student samples (Buhrmester, et al., 2011). In the MTurk system, participants register as "workers," and provide their payment information to Amazon. Researchers (i.e., "requesters") post "HITs" (i.e., the study announcement) for the "workers" to complete. All data collected through MTurk are anonymous.

Upon reviewing and accepting the "HIT," eligible and consenting participants were directed to the survey via a Qualtrics link where they reviewed the information statement and indicated consent by electing to continue on to the survey. In order to review participant responses and only distribute payment for complete and appropriate data, participants were required to enter their unique MTurk identification number at the outset of the survey. This identification number is arbitrarily assigned to individuals when they register as a "worker" with Amazon and is in no way linked to any personally identifying information about participants. MTurk ID's were used to link survey responses to the identification numbers provided by MTurk in order to determine the appropriateness of reimbursement. Participants whose open-ended responses were irrelevant or did not meet study requirements were not reimbursed.

Individualized messages were sent to explain why they were not reimbursed. Additionally, participants who completed both studies (i.e., individuals who claimed to be both a *juvenile-only offender* and a *persistent offender*) were not reimbursed and their data was removed from the study. Participants who submitted complete and appropriate data were reimbursed \$2.00.

Data Analysis

Initial analyses and sample differences on predictor variables. Means and standard deviations were calculated for all appropriate variables including age, number of juvenile arrests, number of consequences in response to juvenile arrests, PICTS: Gen. score, PICTS: Pro. score, PICTS: React. score, PICTS: Cur. score, PICTS: Hist. score, NGSE score, FSAS and FSAS-P scores, and MSPSS and MSPSS-P scores. Sample differences on predictor variables were examined using a multivariate analysis of variance (MANOVA). Frequencies were calculated for types of consequences received in response to juvenile arrests, marital status, sexual orientation, race/ethnicity, level of education, and length at current occupation. Cronbach α 's were calculated for all measures to assess reliability.

Sample differences on demographic variables. To address the first research question regarding whether or not *juvenile-only offenders* differ from *persistent offenders* with respect to demographic variables, sample differences on categorical demographic variables (i.e., marital status, sexual orientation, race/ethnicity, and level of education) were examined using a series of Chi-square analyses. An analysis of variance (ANOVA) was conducted to determine whether the two groups differed in age, number of juvenile arrests, and number of consequences following juvenile arrests.

Binary logistic regression analyses. To address the second research question regarding which factors best predict the probability that a participant is a *persistent offender*, logistic

regression analyses were conducted. Binary logistic regression was chosen as the most appropriate statistic for this research question because the outcome variable (i.e., recidivism) is dichotomous.

Open-ended question thematic analyses. Responses to all seven open-ended questions were reviewed and thematic summaries were noted to assist in data interpretation and clarification.

Results

Initial Analyses of Demographic Variables

Descriptive statistics for all demographic variables were calculated separately for each sample. There was no significant difference in the average age of participants (*juvenile-only offender* sample $M = 31.96$, $SD = 7.84$; *persistent offender* sample $M = 31.95$, $SD = 6.72$), number of juvenile arrests (*juvenile-only offender* sample $M = 2.72$, $SD = 1.04$; *persistent offender* sample $M = 2.64$, $SD = 0.97$), or number of consequences in response to juvenile arrests (*juvenile-only offender* sample $M = 1.93$, $SD = 1.01$; *persistent offender* sample $M = 1.75$, $SD = 1.12$). Percentages for all categorical demographic variables are presented in Table 1. When types of consequences received in response to juvenile arrests were examined individually for participants in the *juvenile-only offender* sample, 7% ($n = 16$) indicated they had not received any consequences, 55.5% ($n = 126$) indicated they had received probation, 26% ($n = 59$) indicated they had served time in a juvenile detention facility, 9.7% ($n = 22$) reported they participated an inpatient rehabilitation program, 49.8% ($n = 113$) indicated they were sentenced to community service, 45.8% ($n = 104$) reported they had to pay a fine/restitution, and 6.6% ($n = 15$) indicated they received another type of consequence. Examples of “Other” consequences reported include loss of driver’s license, completion of drug and/or alcohol classes, completion

of a diversion program, and home detention. Among participants in the *persistent offender* sample, 10.6% ($n = 22$) indicated they had not received any consequences, 57.7% ($n = 120$) indicated they had received probation, 27.9% ($n = 58$) indicated they had served time in a juvenile detention facility, 7.2% ($n = 15$) reported they participated an inpatient rehabilitation program, 42.3% ($n = 88$) indicated they were sentenced to community service, 39.4% ($n = 82$) reported they had to pay a fine/restitution, and 1.0% ($n = 2$) indicated they received another type of consequence. “Other” consequences reported include participation in an Alcoholics Anonymous group and attending a victim impact panel.

Chi-square analyses of categorical demographic variables indicate there is a significantly higher proportion of participants from the *persistent offender* sample who earned a high school diploma and who are unemployed. A chi-square analysis of types of consequences received could not be conducted because the participants selected all consequences that applied. However, percentages of the samples who selected each consequence are noted in Table 1. Participants in the juvenile-only offender sample selected from 0 to 6 different consequences ($M = 1.93$; $SD = 1.12$), while participants in the persistent offender sample selected from 0 to 6 different consequences ($M = 1.75$; $SD = 1.12$). Percentages for all categorical demographic variables are presented in Table 1.

Sample Differences on Predictor Variables

A multivariate analysis of variance (MANOVA) was conducted to examine sample differences on each of the predictor variables (Number of Juvenile Arrests, Number of Juvenile Consequences, PICTS: Gen, PICTS: Pro., PICTS: React., PICTS: Cur., PICTS: Hist., Self-Efficacy, FSAS: Current, FSAS: Past, MSPSS: Current, and MSPSS: Past). Using Pillai’s Trace, results revealed a significant multivariate effect [$F(12, 422) = 2.23, p < .01$]. Descriptive

statistics for *juvenile-only* and *persistent offenders* on all 12 predictor variables and F values for follow-up univariate tests for each measure are presented in Table 2. Participants in the *juvenile-only offender* sample had significantly higher current family satisfaction and perceived social support scores, and significantly lower current criminal thinking scores than participants in the *persistent offender* sample.

Because Walter's (2006) reported that PICTS: Pro, PICTS: React., and PICTS: Gen. tend to be stronger predictors of recidivism than any of the eight thinking style scales, data for the current study were examined using his cutoff criteria. In the present study, 24.7% of *juvenile-only offenders* and 28.9% of *persistent offenders* have criminal thinking profiles suggesting a tendency to adhere to deliberate and planned criminal thinking styles, whereas 8.4% *juvenile-only offenders* and 7.2% *persistent offenders* have profiles suggesting a tendency to adhere to impulsive and disorganized criminal thinking styles.

Correlations among Predictor Variables

Pearson product moment correlation coefficients for each sample were conducted for all predictor variables. Correlations for the *juvenile-only offender* sample and *persistent offender* sample are provided in Tables 3 and 4, respectively. Correlations between General Criminal Thinking and the criminal thinking subscales (i.e., Proactive, Reactive, Current, and Historical criminal thinking) were generally strong with coefficients ranging from .85 to .97 for the *juvenile-only offender* sample and .87 to .97 for the *persistent offender* sample.

Both samples yielded moderately strong negative correlations between self-efficacy and all criminal thinking scales, indicating as self-efficacy increases, criminal thinking tends to weaken. Of the five criminal thinking scales, correlations between self-efficacy and current

criminal thinking were strongest among both the *juvenile-only offender* sample, $r(225) = -.34, p < .01$, as well as the *persistent offender* sample, $r(206) = -.42, p < .01$.

Correlations between family satisfaction and perceived social support were also notable. Very strong positive correlations between current family satisfaction and current perceived social support were found among the *juvenile-only offenders*, $r(225) = .75, p < .01$), as well as the *persistent offenders*, $r(206) = .74, p < .01$. There were also strong positive correlations between past family satisfaction and past perceived social support among the *juvenile-only offenders*, $r(225) = .53, p < .01$), as well as the *persistent offenders*, $r(206) = .47, p < .01$. Current perceived social support and past perceived social support were weakly positively correlated for *juvenile-only offenders*, $r(225) = .24, p < .01$, and strongly positively correlated for *persistent offenders*, $r(206) = .52, p < .01$. However, current family satisfaction and past family satisfaction were only weakly positively correlated for *persistent offenders*, $r(206) = .21, p < .01$. Results yielded a negative, negligible relationship between current and past family satisfaction for *juvenile-only offenders*.

Binary Logistic Regressions

Model 1: Full model. Binary logistic regressions were conducted to predict the likelihood that an individual is a *persistent offender* using a number of variables. A full model including all 12 predictor variables (i.e., general criminal thinking, proactive criminal thinking, reactive criminal thinking, current criminal thinking, historical criminal thinking, self-efficacy, current family satisfaction, past family satisfaction, current perceived social support, past perceived social support, number of juvenile arrests, and number of consequences in response to juvenile arrests) addressed the question of which factors best predict the likelihood that an individual is a *persistent offender*. A test of the full model against a constant only model was

statistically significant, $X^2(12, N = 435) = 26.68, p < .01$, indicating that the predictors, as a set, reliably distinguished between *juvenile-only offenders* and *persistent offenders*. The model was able to correctly classify 52.4% of *persistent offenders* and 66.5% of *juvenile-only offenders*, for an overall success rate of 59.8%. When examining whether each variable independently improved the model when all other variables were constant, current criminal thinking ($p = .039$), current family satisfaction ($p < .001$) and current perceived social support ($p = .020$) were significant. However, Nagelkerke's R^2 of .08 indicated a very weak relationship between prediction and grouping. Furthermore, the Wald criterion demonstrated that only current family satisfaction, when included with all other predictors as a set, made a significant contribution to prediction ($p < .01$). The $Exp(B)$ value indicates that when current family satisfaction is raised by one unit, the odds ratio is .98 times smaller and therefore offenders are .98 times less likely to be a *persistent offender*. A summary of the logistic regression analysis for the full model are presented in Table 5.

Model 2: Current criminal thinking, family satisfaction, and perceived social support. A second model was built using only variables that independently made a significant contribution to prediction in Model 1 when all other variables were held constant. In Model 2, current criminal thinking, current family satisfaction, and current perceived social support were included as predictors. A test of Model 2 against a constant only model was statistically significant, $X^2(3, N = 435) = 18.81, p < .001$, indicating that the predictors, as a set, reliably distinguished between *juvenile-only offenders* and *persistent offenders*. Model 2 was able to correctly classify 50.0% of *persistent offenders* and 61.7% of *juvenile-only offenders*, for an overall success rate of 56.1%. When examining whether each variable independently improved the model when all other variables were held constant, only current family satisfaction was

significant ($p = .001$). Nagelkerke's R^2 of .06 indicated an even weaker relationship between prediction and grouping than did Model 1. As was the case with Model 1, the Wald criterion in Model 2 demonstrated that only current family satisfaction, when included with all other predictors as a set, made a significant contribution to prediction ($p = .001$). The $Exp(B)$ value was also identical to Model 1, indicating that when current family satisfaction is raised by one unit, the odds ratio is .98 times smaller and therefore offenders are .98 times less likely to be a *persistent offender*. A summary of the logistic regression analysis for Model 2 are presented in Table 6.

Thematic Analyses of Open-Ended Questions

Past neighborhood environment. When asked to describe the neighborhood environment in which they lived at the time of their most serious juvenile offense, 105 (46.3%) *juvenile-only offenders* indicated their past neighborhood was unsafe. These participants described their surroundings as “urban,” “rundown,” “ghetto,” “poverty ridden,” or “full of crime.” Participants who indicated their past neighborhood was safe ($n = 122$, 53.7%) described their surroundings as “suburban,” “supportive,” “friendly neighbors,” “low crime,” or “a wealthy area.”

Responses were similar among the *persistent offenders* with 94 participants (41.2%) indicating their past neighborhood was unsafe. These *persistent offenders* described their surroundings as “urban,” “violent,” “dangerous,” “ghetto,” “lots of crime,” or “low income.” *Persistent offenders* who indicated their past neighborhood was safe ($n = 114$, 54.8%) described their surroundings as “suburban,” “close community and neighbors,” “friendly neighbors,” or “upscale.”

Current neighborhood environment. When asked how their current neighborhood environment differs from their past neighborhood environment, 91 (40.1%) *juvenile-only offenders* indicated their current neighborhood environment is the same as the neighborhood environment in which they lived at the time of their most serious juvenile offense. Of those 91 participants, 27 reported their past neighborhood and their current neighborhood was unsafe and 64 reported their past neighborhood and their current neighborhood was safe. Fifty-three (23.3%) *juvenile-only offenders* indicated their current neighborhood environment is worse than their past neighborhood environment and described their current neighborhood as “less safe,” “more ghetto,” or had “unsupportive neighbors.” The remaining 83 (36.6%) *juvenile-only offenders* indicated their current neighborhood environment is better and described their neighborhoods as “more safe,” “more supportive,” “wealthier,” or “way better.”

When *persistent offenders* were asked how their current neighborhood environment differs from their past neighborhood environment, 82 (39.4%) participants indicated it is the same as the neighborhood environment in which they lived at the time of their most serious juvenile offense. Of those 82 participants, 30 indicated their past neighborhood was unsafe and 52 indicated their past neighborhood was safe. Similar to *juvenile-only offenders*, 42 (20.2%) *persistent offenders* indicated their current neighborhood is worse than the neighborhood in which they lived at the time of their most serious juvenile offense. These participants described their current neighborhood as “the hood,” “ghetto,” “scary,” “a lot of crime,” “low class,” “rough part of town,” or “lots of drug and gang activity.” In contrast, 84 (40.4%) *persistent offenders* indicated their current neighborhood is safer than their past neighborhood and described it as “nicer,” “friendlier,” “suburban,” and “comfortable.”

Past relationships with family. Participants were asked to describe their relationship with their family at the time of their most serious juvenile offense. Of the *juvenile-only offenders*, 106 (46.7%) described their past relationships with family as “distant,” “not close,” “alienated from each other,” or were “strangers living in the same house.” Twenty (8.8%) *juvenile-only offenders* described their past relationships with family as “strict” or “very strict,” 65 (28.6%) *juvenile-only offenders* described their past relationships as “loving” or “caring,” and 15 (6.6%) *juvenile-only offenders* indicated their past relationships with family were a combination of “loving” and “strict.” In contrast, 13 (5.7%) *juvenile-only offenders* indicated their past relationships with family were “very strained,” “dysfunctional,” “crazy,” or “frustrating.” Finally, 8 (3.5%) *juvenile-only offenders* indicated they felt “misunderstood” by their family in the past.

Similar to the *juvenile-only offenders*, a majority of *persistent offenders* (82, 39.4%) indicated their past relationships with family were “distant,” “uninvolved,” “cold,” “unsupportive,” or “nonexistent.” Seventy-one (34.1%) *persistent offenders* indicated their past relationships with family were a combination of “loving” and “strict,” whereas 21 (12.9%) *persistent offenders* indicated their past family relationships were “very strict.” An additional 25 (12.1%) *persistent offenders* indicated their past relationships with family were “bad,” “terrible,” “rough,” “rocky,” “violent,” “horrible” or “full of hate.” Also similar to *juvenile-only offenders*, 9 (4.3%) *persistent offenders* indicated they felt “misunderstood” or “unheard” by their family in the past.

Current relationships with family. Participants were asked to describe their current relationship with their family. Of the *juvenile-only offenders*, 35 (15.4%) indicated their current family relationships are the same as their past family relationships. Of those 35 participants, 8

described their past relationship as “distant,” 22 described their past relationship as “loving” or a mix of “loving” and “strict,” and 5 described their past relationship as “strict.” An additional 170 (74.9%) *juvenile-only offenders* indicated their current relationship with their family is “better,” “closer,” “less distant,” “more supportive,” “more loving,” “far less tense,” or “more comfortable” than their past relationships with family. Finally, 22 (9.7%) *juvenile-only offenders* described their current relationship with family as “worse,” “more distant,” or “less close” than their past relationship with family.

Similar to the *juvenile-only offenders*, 41 (19.7%) *persistent offenders* indicated their current relationship with family is the same as their past relationship with family. Of those 41 participants, 25 indicated their past relationship was “loving” or “supportive,” 3 indicated their past relationship was “strict,” 9 indicated their past relationship was “distant” or “cold,” and 4 indicated their past relationship was “bad.” Also similar to *juvenile-only offenders*, a majority of *persistent offenders* (n = 116, 55.8%) indicated their current relationship with family is “better,” “more supportive,” “more loving,” or “more comfortable” than their past relationships with family. Lastly, 51 (24.5%) *persistent offenders* indicated their current relationship with family is “worse,” “more distant,” “less loving” or “full of hate” compared to their past relationship with family.

Past perceived support systems. Participants were asked to describe their overall support system at the time of their most serious juvenile offense. A majority of *juvenile-only offenders* (n = 94, 41.4%) indicated their past support system was “very close,” whereas 88 (38.8%) *juvenile-only offenders* indicated they either had no support system or had “limited” support at the time of their most serious juvenile offense. Fifteen (6.6%) *juvenile-only offenders* reported their past support systems were “bad,” or “horrible.” Finally, 30 (13.2%) *juvenile-only*

offenders reported that they were often offered support by friends or family but either “rejected it,” “didn’t feel like talking to family,” “didn’t want help,” or “didn’t care what they had to say.”

A majority of *persistent offenders* either indicated their past support systems were “very strong,” “positive” or “close” (n = 89, 42.8%), or indicated they had limited or no support in the past (n = 102, 49.3%). The remaining 17 (8.2%) *persistent offenders* indicated they were offered support in the past but they either “chose not to take it,” “chose not to utilize it,” “refused it,” “wouldn’t let them support me,” or “didn’t want their support.”

Current perceived support systems. Participants were asked to compare their current support system with their support system at the time of their most serious juvenile offense. Of the *juvenile-only offenders*, 53 (23.3%) indicated their current support system is “no different” or “the same as” their past support system. Of those 53 participants, 13 reported they had “limited” or “no” support in the past, 37 reported they had “positive,” “strong” or “good” support in the past, and 3 indicated they were offered support in the past but “refused” or “didn’t want” the support. A majority of *juvenile-only offenders* (n = 151, 66.5%) reported their current support system is “better,” “stronger,” or “more available” than their past support system. Finally, 23 (10.1%) *juvenile-only offenders* indicated their current support system is “worse,” “less effective” or “less close” than their past support system.

A majority of *persistent offenders* (n = 123, 59.1%) indicated their current support system is “stronger,” “closer,” or “better” than their past support system, whereas 31 (14.9%) *persistent offenders* reported their current support system is “weaker” or “worse” than their past support system. Fifty-four (25.9%) *persistent offenders* indicated their current support system is the “same” or “no different” than their past support system. Of those 54 participants, 26 reported their past support system was “close,” “loving,” or positive; 25 described their past support as

“limited” or “non-existent;” and 3 participants indicated they were offered support in the past but “chose not to take it.”

Additional comments about experiences. At the end of the survey, all participants were given the opportunity to share additional comments. Participants from both samples provided comments to highlight their personal experiences. Some of the more personal comments from the *juvenile-only offenders* include: “I regret a lot of things I did when I was younger,” “Anyone can change, there’s always hope,” “I have totally changed my life around as when I was a kid. I really take life experiences to the full extent now. I was with a bad crowd as a kid,” and “I had a lot of trust issues growing up and I still do. I think that contributed to my inability or unwillingness to engage in many meaningful relationships.” Fewer participants from the *persistent-offender* sample chose to provide additional comments; however, some of their comments include: “I would just like to say that I have grown as a person who had a bad past and now I just stay focused on doing well and improving,” “I think I have learned a lot since my arrests,” “My wife changed my life- because of her I am settled in property business,” and “I was a messed up kid who got caught up in alcohol. I’ve been sober now for 15 years and live a clean life.”

Discussion

A large body of research exists to support the pattern of criminal engagement from adolescence into adulthood. Although researchers have sought to examine what exactly leads individuals to persist in or desist from criminal behavior, it is unclear what factors best distinguish between *juvenile-only offenders* and *persistent offenders*. The present study investigated a number of previously hypothesized recidivism predictors in a sample of 227 *juvenile-only offenders* and 208 *persistent offenders*.

An initial analysis of demographic variables revealed no significant differences in age or number of consequences in response to juvenile arrests among the two samples. Although the justice response to juvenile crime is theoretically expected to deter individuals from future criminal engagement, research shows such consequences may not lead to desistance from crime (Huizinga et al., 2003; Huizinga & Espiritu, 1999). In this study, the number of consequences in response to juvenile arrests made no difference in terms of whether the individual desisted from crime as a juvenile or continued engaging in crime as an adult. Although these consequences are a well-established component of today's juvenile justice system, such interventions should not be viewed solely as efforts to keep individuals from engaging in crime in the future.

Educational and occupational endeavors, including the belief that one is capable of achieving positive goals they have set for themselves, are typically viewed as protective factors when considering whether a juvenile offender will continue to persist in criminal engagement throughout adulthood (Loeber et al., 2013). In the present study, *juvenile-only offenders* were more likely to have obtained a higher level of education and been at their current job longer than *persistent offenders*; however, there was no significant difference in self-efficacy among the two samples. Even though *juvenile-only offenders* appeared to have been more educationally and occupationally successful than *persistent-offenders*, these successes may not have been the result of their belief in their ability to succeed in these areas.

Although self-efficacy does not appear to have been a protective factor at play in the current study, other factors, such as the existence of a support system or positive family relationships, may explain differences in educational and occupational attainment among the two groups. A higher proportion of *persistent offenders* (24.5%) described their current family relationships as worse than their past family relationships when compared to *juvenile-only*

offenders (9.7%). Moreover, a larger proportion of *juvenile-only offenders* (74.9%) indicated their current family relationships are better than their past family relationships when compared to *persistent offenders* (55.8%). A larger proportion of *juvenile-only offenders* (66.5%) also reported having better current support systems than their past support systems compared to *persistent offenders* (59.1%). Together, these findings suggest that *juvenile-only offenders* may have an overall more supportive environment than *persistent offenders*. Although self-efficacy may not have played a role in educational or occupational achievement in this study, perhaps being in a supportive environment played a role in participants believing they were capable of achieving such goals.

When comparing *juvenile-only* and *persistent offender's* scores on a number of predictor variables, results revealed that *juvenile-only offenders* had significantly higher current family satisfaction and current perceived social support than *persistent offenders*. This finding is also consistent with information reported in the open-ended questions of this study. *Juvenile-only offenders* also had significantly lower current criminal thinking scores than *persistent offenders*. Together, these findings are supported by theory and previous recidivism research in that relationships with family and other support systems are seen as a major component of leading a successful, crime-free lifestyle. *Persistent offenders* described their childhood support systems as, "I chose the wrong friends growing up and that led me to the juvenile issues I had" and "I think that I would have been able to avoid most of my problems if I had a better support system, people to depend/rely on, people that were there for me and kept me on track, and more discipline from parents/family growing up." A *juvenile-only offender* described his family as "distant and strict" while growing up but stated, "We all help each other and the relationships are better now" when asked to describe his current relationship with family. Other *juvenile-only*

offenders described their current relationships with family by stating, “Our [family] relationship has been better because I calmed down,” “I am closer with my family because I am more mature now,” “Things are better now because I have grown out of my rebellious stage,” and “My family is happy that I turned my life around.”

In an effort to better understand what factors best distinguish between the two offender-types, binary logistic regressions were used to build models to predict the likelihood that an individual is a *persistent offender*. Although a large body of research supports the notion that multiple factors significantly influence recidivism, results from the present study were somewhat disappointing. In a full model consisting of 12 predictor variables with offender type as the dependent variable, current family satisfaction, current perceived social support, and current criminal thinking were significant predictors when all other variables were held constant. However, current family satisfaction was the only variable that made a significant contribution to prediction when all variables were included as a set. The full model was only able to correctly classify 52.4% of *persistent offenders* and 66.5% of *juvenile-only offenders*. In a second model with only current criminal thinking, current family satisfaction, and current perceived social support included as predictor variables, current family satisfaction was again the only significant contributor to prediction. In Model 2, 50.0% of *persistent offenders* and 61.7% of *juvenile-only offenders* were correctly classified.

This study provides insight into the importance of family satisfaction in understanding recidivism. A total of 147 (64.7%) *juvenile-only offenders* described their relationship with family during adolescence as “distant,” “strict,” “uncaring,” and “strained,” and indicated they felt “misunderstood,” but 170 (74.8%) *juvenile-only offenders* reported their current relationship with family members is “closer,” “more supportive,” and “more understanding” than their past

relationship with family. A similar number of *persistent* offenders (n = 137, 65.8%) indicated their past relationships with family were “strained,” “bad,” “distant,” and they felt “misunderstood.” However, only 116 (55.7%) persistent offenders indicated their current relationship with family is better than their past relationships with family. Although support and positive relationships are only two pieces of a complicated, multi-dimensional recidivism concept, they are well supported in the literature as important, noteworthy components of leading crime-free lives. Open-ended questions in this study provided insight into the unique experiences of each of the participants. There is a clear distinction between the level of support and relationships with family for *juvenile-only offenders* and *persistent offenders*.

This study provides both practical and legal implications for interventions targeted towards interrupting the development of a criminal lifestyle. Until the 1970’s, rehabilitation was a key component of correctional policy (Benson, 2003). Offenders were encouraged to develop skills and participate in psychological treatment. Court mandated sentences often included a treatment or rehabilitation component for offenders. Since the 1970’s, rehabilitation has taken a backseat in corrections as part of a “get tough on crime” initiative. As a result, the United States now has the highest prison population than any other developed country. Over the last 30 years, psychologists have produced a mass amount of literature supporting the importance of rehabilitative approaches to crime prevention. Empirically-based, rehabilitative interventions should become the focus to improve offenders’ chances of leading successful lives as adults. Emphasizing the importance of positive, encouraging support systems, the role of educational and occupational attainment, and the overall significance of establishing a positive lifestyle should be discussed as part of correctional protocols following juvenile arrests. In this study, 26.9% (n = 117; 59 *juvenile-only offenders*, 58 *persistent offenders*) of participants served time

in juvenile detention and 8.5% ($n = 37$; 22 *juvenile-only offenders*, 15 *persistent offenders*) of participants were sentenced to some form of inpatient rehabilitation. Traditionally, individuals in either of these settings would have received a court-order to participate in some sort of treatment program. Implementing a treatment component targeted towards emphasizing positive lifestyle choices into established, court-ordered programs, or as part of a probation or community service sentence, could greatly impact overall recidivism rates in the future.

This study is not without limitations. First, the instruments used to assess current and past family satisfaction and perceived social support were not intended to be used in a historical sense. Therefore, scores for past family satisfaction and perceived social support may not be an accurate reflection of participants' relationships during adolescence. However, there is value in examining the perceptions of individuals' pasts. In addition, inferences were made based upon the strength of relationships between past and current family satisfaction and social support. Additional research may be needed to explore the appropriateness of using these measures in this unique way.

Sample selection may also be problematic, however, there have been several studies supporting the use of MTurk for psychological research (Buhrmester et al., 2011; Rand, 2011). Specifically, participant reading level may have been an issue. Many of the instruments used in this study require at least a sixth grade reading level; it is unclear whether participants were able to read and fully comprehend each item. Future studies could focus on obtaining larger sample sizes for each group and researchers may even consider using longitudinal methods to study one group of individuals from adolescence into adulthood. Additional steps should also be taken to insure participants meet the minimum reading level ability required to complete each measure.

The concepts studied in the current research project were defined in specific ways and do not fully encompass all possible definitions of any given construct. Recidivism research has been, and should continue to be improved and built upon by exploring factors from a number of different angles.

Overall, this study contributes valuable information to recidivism literature. Findings from the current study suggest that the number of juvenile arrests and the types of or number of consequences received in response to juvenile arrests do not necessarily distinguish *juvenile-only offenders* from *persistent offenders*. In other words, arrests and traditional court mandated consequences, such as juvenile detention, inpatient rehabilitation, or community service, do not appear to deter juvenile offenders from crime. Quantitative results, as well as thematic analyses of open-ended questions, indicated that *juvenile-only offenders* have higher current family satisfaction and perceived social support than *persistent offenders*. A larger proportion of persistent offenders reported having a “weak” or “bad” current support system and a “poor” or “cold” current relationship with their family (14.9% and 24.5%, respectively) compared to juvenile-only offenders (10.1% and 9.7%, respectively). Furthermore, logistic regression models indicated that current family satisfaction is a significant factor in distinguishing juvenile-only offenders from persistent offenders.

Together, these results lend substantial support for the notion that support, including both family as well as other sources of support, is a key component in criminal desistance. As such, the mission to deter juveniles from a life of crime should include a substantial support component which emphasizes the importance of surrounding oneself with healthy, strong, positive support systems. Today’s juvenile justice system has come from a checkered past of rehabilitation, punishment, and everything in between. In order to continue making progress in

the fight to reduce recidivism rates across the country, policymakers, practitioners, and juvenile justice authorities must make informed, responsible decisions by consulting recidivism research, such as this study, when sentencing juvenile offenders.

References

- Andrews, D. A., & Bonta, J. (2010). *The psychology of criminal conducts* (5th ed.). New Providence, NJ: Matthew Bender.
- Bandura, A. (2006). Toward a psychology of human agency. *Perspectives on Psychological Science, 1*, 164-180. doi: 10.1111/j.1745-6916.2006.00011.x
- Barraca, J., Yarto, L., & Olea, J. (2000). *Psychometric properties of a new family life satisfaction scale, 16*, p. 98-106. doi: 10.1027//1015-5759.16.2.98
- Benson, E. (2003). Rehabilitate or punish? *Monitor, 34*, 46-47.
- Buhrmester, M., Kwand, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk: A new source of cheap, yet high-quality, data? *Perspectives on Psychological Science, 6*, 3-5. doi: 10.1177/1745691610393980
- Carver, M. D., & Jones, W. H. (1992). *The family satisfaction scale*. *Social Behavior and Personality, 20*, 71-84. doi: 10.2224/sbp.1992.20.2.71
- Chen, G., Gully, S., & Eden, D. (2001). Validation of a new general self-efficacy scale. *Organization Research Methods, 4*, 62-83. doi: 10.1177/109442810141004
- Hahn, C. (2007). *Finding the trail to success: A multiple case study exploring the life success of former juvenile offenders* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3273877)
- Huizinga, D., & Espiritu, R. (1999). *Delinquent behavior of youth in the juvenile justice system: Before, during, and after different court dispositions*. Report prepared for the National Center for Juvenile Justice, National Juvenile Court Judges Association, Pittsburgh, PA.
- Huizinga, D., Weiher, A., Espiritu, R., & Esbensen, F. (2003). Delinquency and crime: Some highlights from the Denver youth survey. In T. Thornberry & M. Krohn (eds.), *Taking*

- stock of delinquency: An overview of findings from contemporary longitudinal studies.* (pp.47-91). New York: Kluwer Academic/Plenum Publishers.
- Iselin, A., Mulvey, E., Loughran, T., Chung, H., & Schubert, C. (2012). A longitudinal examination of serious adolescent offenders' perceptions of chances for success and engagement in behaviors accomplishing goals. *Journal of Abnormal Child Psychology*, *40*, 237-249. doi: 10.1007/s10802-011-9561-z
- Le Blanc, M., & Frechette, M. (1989). *Male criminal activity from childhood through youth: Multilevel and developmental perspectives.* New York: Springer.
- Loeber, R., & Farrington, D. (2011). *Young homicide offenders and victims: Risk factors, prediction, and prevention from childhood.* New York: Springer.
- Loeber, R., Farrington, D., & Petechuk, D. (2013). *From juvenile delinquency to young adult offending (study group on the transitions between juvenile delinquency and adult crime).* Unpublished report. U.S. Department of Justice.
- Maller, D. (2009). *Juvenile offenders to reformed women: A narrative analysis of transformative change* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3388599)
- Morgan, R. D., Fisher, W. H., Duan, N., Mandracchia, J. T., & Murray, D. (2010). Prevalence of criminal thinking among state prison inmates with serious mental illness. *Law and Human Behavior*, *34*, 324-336. doi: 10.1007/s10979-009-9182-z
- Olson, D. H. & Wilson, M. A. (1982). Family Satisfaction Scale. In D. H. Olson, H. I. McCubbin, H. L. Barnes, A. S. Larsen, M. J. Muxen, & M. A. Wilson (Eds.), *Family Inventories* (p. 25-31). St. Paul, MN: Family Social Science, University of Minnesota.

- Palmer, E., & Hollin, C. (2004). Predicting reconviction using the Psychological Inventory of Criminal Thinking Styles with English prisoners. *Legal and Criminological Psychology*, 9, 57-68. doi: 10.1177/0093854806288066
- Rand, D. G. (2011). The promise of Mechanical-Turk: How online labor markets can help theorists run behavioral experiments. *Journal of Theoretical Biology*, 299, 172-179. doi: 10.1016/j.jtbi.2011.03.004
- Simourd, D. J. (1997). The Criminal Sentiments Scale-Modified and Pride in Delinquency Scale: Psychometric properties and construct validity of two measures of criminal attitudes. *Criminal Justice and Behavior*, 24, 52-70. doi: 10.1177/0093854897024001004
- Stouthamer-Loeber, M. (2010). *Persistence and desistence in offending*. Unpublished report. Life History Research Program, University of Pittsburgh, Pittsburgh, PA.
- Wallinius, M., Johansson, P., Larden, M., & Dernevik, M. (2011). Self-serving cognitive distortions and antisocial behavior among adults and adolescents. *Criminal Justice and Behavior*, 38, 286-300. doi: 10.1177/0093854810396139
- Walters, G. D. (1995). The Psychological Inventory of Criminal Thinking Styles: Part I. Reliability and preliminary validity. *Criminal Justice and Behavior*, 22, 307-325. doi: 10.1177/0093854895022003008
- Walters, G. D. (2006). Proactive and reactive composite scales for the Psychological Inventory of Criminal Thinking Styles (PICTS). *Journal of Offender Rehabilitation*, 42, 23-36. doi: 10.1300/J076v42n04_02
- Walters, G. D. (2007a). Predicting institutional adjustment with the Psychological Inventory of Criminal Thinking Styles: Replication and extension. *Legal and Criminological Psychology*, 12, 69-81. doi: 10.1348/135532505x83587

- Walters, G. D. (2007b). Measuring proactive and reactive criminal thinking with the PICTS: Correlations with outcome expectancies and hostile attribution biases. *Journal of Interpersonal Violence, 22*, 371-385. doi: 10.1177/0886260506296988
- Walters, G. D. (2012). Criminal thinking and recidivism: Meta-analytic evidence on the predictive and incremental validity of the Psychological Inventory of Criminal Thinking Styles (PICTS). *Aggression and Violent Behavior, 17*, 272-278. doi: 10.1016/j.avb.2012.02.010
- Walters, G. D. (2013). *Psychological Inventory of Criminal Thinking Styles Professional Manual*. Allentown, PA: Center for Lifestyle Studies.
- Walters, G. D., & Elliott, W. N. (1999). Predicting release and disciplinary outcome with the Psychological Inventory of Criminal Thinking Styles: Female data. *Legal and Criminological Psychology, 4*, 15-21. doi: 10.1348/135532599167743
- Zimet, G., Dahlem, N., Zimet, S., & Farley, G. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment, 52*, 30-41.
doi: 10.1207/s15327752jpa5201_2

APPENDICES

Appendix A

Information Statement

The Department of Educational Psychology at the University of Kansas supports the practice of protection for human subjects participating in research. The following information is provided for you to decide whether you wish to participate in the present study. You should be aware that even if you agree to participate, you are free to withdraw at any time without penalty.

We are conducting this study to better understand factors that influence recidivism, or the continued engagement in criminal activities despite receiving interventions for previous criminal behavior. This will entail your completion of a survey. Your participation is expected to take approximately 20-40 minutes to complete. The content of the survey should cause no more discomfort than you would experience in your everyday life.

Although participation may not benefit you directly, the information obtained from this study will help us gain a better understanding of the recidivism factors that distinguish individuals who continue to engage in crime through adulthood from individuals who desist from criminal involvement prior to age 18. Your participation is solicited, although strictly voluntary. Your name will not be associated in any way with the research findings. Your identifiable information will not be shared unless (a) it is required by law or university policy, or (b) you give written permission. No personally identifying information will be gathered from you using the MTurk system. Your unique MTurk identification number will be collected in order to properly disperse payment upon completion of the survey. The information that we do gather will be kept on an encrypted flash drive that only the researchers will have access to. It is possible, however, with internet communications, that through intent or accident someone other than the intended recipient may see your response.

You will be paid \$2.00 for your participation in this study. This payment to you will be distributed using the Mturk reimbursement system. Payment will only be distributed for surveys that are complete and include seemingly honest information. **Participants whose surveys include irrelevant or erroneous information, particularly for the open-ended questions, will not be reimbursed.**

If you would like additional information concerning this study before or after it is completed, please feel free to contact us via email.

By clicking “NEXT” and completing this survey, you are indicating that you are willing to take part in this study and that you are male, at least 25 years old, and you satisfy the eligibility requirements outlined in the MTurk posting. If you have any additional questions about your rights as a research participant, you may call (785) 864-7429 or write the Human Subjects Committee Lawrence Campus (HSCL), University of Kansas, 2385 Irving Hill Road, Lawrence, Kansas 66045-7563, email irb@ku.edu.

Sincerely,

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Appendix B

MTurk Study Announcement: Juvenile-Only Offender Sample

The purpose of this study is to compare recidivism factors among different samples of individuals. In order to be eligible to participate, you must be **male, at least 25 years of age**, have been **arrested at least twice as a juvenile** (i.e., before age 18), and have **NO history of arrests as an adult** (i.e., after age 18). Your participation will include the completion of several questionnaires which should take no longer than 20-40 minutes to complete. Upon completion and review of your responses, you will be reimbursed \$2.00 for your participation.

Appendix C

MTurk Study Announcement: Persistent Offender Sample

The purpose of this study is to compare recidivism factors among different samples of individuals. In order to be eligible to participate, you must be **male, at least 25 years of age**, have been **arrested at least twice as a juvenile** (i.e., before age 18), and have been **arrested at least twice as an adult** (i.e., after age 18). Your participation will include the completion of several questionnaires which should take no longer than 20-40 minutes to complete. Upon completion and review of your responses, you will be reimbursed \$2.00 for your participation.

Appendix D

Demographic Questionnaire

Please enter your Mechanical Turk Identification number. This number will be used to distribute payment upon completion and review of your survey.

Age: _____ (open ended)

Current marital status (choose one):

- A. Single
- B. Married
- C. Unmarried, living with partner
- D. Divorced
- E. Widowed
- F. Separated

I consider my sexual orientation to be (choose one):

- A. Straight (heterosexual)
- B. Bisexual
- C. Gay
- D. Asexual

I consider my race/ethnicity to be (choose one):

- A. Caucasian/White American
- B. Black/African American
- C. Asian/Pacific Islander
- D. Hispanic/Latino American
- E. Other

Please choose the highest level of education you have obtained:

- A. No high school
- B. Some high school
- C. Received high school diploma
- D. Received GED
- E. Some College
- F. Associate's degree (2-year degree)
- G. Bachelor's degree (4-year degree)
- H. Master's degree
- I. Doctoral degree (M.D., Ph.D., J.D., etc.)

What is your current occupation? If you are not currently employed, please put "unemployed."

_____ (open ended)

How long (in months) have you been at your current occupation (choose one)?

- A. Less than 6 months
- B. 7 – 12 months
- C. 13 – 18 months
- D. 19 – 24 months
- E. More than 24 months

How many times were you arrested as a juvenile (before age 18)?

- A. Once
- B. Twice
- C. Three times
- D. Four times
- E. Five times
- F. Six times
- G. Seven times
- H. More than seven times

Briefly describe what you were arrested for as a juvenile (before age 18) (e.g., burglary, theft, assault, drug possession, battery, sex offense, etc.): _____

What legal consequences did you receive, if any, in response to the crimes you committed as a juvenile? Please select all that apply to you.

- A. I never received any legal consequences for the crimes I committed
- B. I was sentenced to probation
- C. I was sentenced to serve time in a juvenile detention facility
- D. I was sentenced to serve time in an inpatient rehabilitation facility
- E. I was sentenced to community service
- F. I was sentenced to pay fines/restitution
- G. Other (please describe) _____

How many times have you been arrested as an adult (after age 18)? (Only included in Persistent-Offender measures)

- A. None
- B. Once
- C. Twice
- D. Three Times
- E. Four times
- F. Five times
- G. Six times
- H. Seven times
- I. More than seven times

Briefly describe what you have been arrested for as an adult (after age 18) (e.g., burglary, theft, assault, drug possession, battery, sex offense, etc.): _____ (Only included in Persistent-Offender measures)

What legal consequences did you receive, if any, in response to the crime(s) you committed as an adult? Please select all that apply to you. (Only included in Persistent-Offender measures)

- A. I never received any legal consequences for the crimes I committed
- B. I was sentenced to probation
- C. I was sentenced to serve time in jail/prison
- D. I was sentenced to serve time in an inpatient rehabilitation facility
- E. I was sentenced to community service
- F. I was sentenced to pay fines/restitution
- G. Other (please describe) _____

Appendix E

Psychological Inventory of Criminal Thinking Styles

Instructions: The following items, if answered correctly, are designed to help better understand your thinking and behavior. Please complete each of the items using the four-point scale provided below.

	Disagree	Uncertain	Agree	Strongly Agree
1. I will allow nothing to get in the way of me getting what I want.				
2. I find myself blaming society and external circumstances for the problems I have had in life.				
3. Change can be scary.				
4. Even though I may start out with the best of intentions, I have trouble remaining focused and staying "on track."				
5. There is nothing I can't do if I try hard enough.				
6. When pressured by life's problems I have said "the hell with it" and followed this up by using drugs or engaging in crime.				
7. It's unsettling not knowing what the future holds.				
8. I have found myself blaming the victims of some of my crimes by saying things like "they deserved what they got" or "they should have known better."				
9. One of the first things I consider in sizing up another person is whether they look strong or weak.				
10. I occasionally think of things too horrible to talk about.				
11. I am afraid of losing my mind.				
12. The way I look at it, I've paid my dues and am therefore justified in taking what I want.				
13. The more I got away with crime the more I thought there was no way the police or authorities would ever catch up with me.				
14. I believe that breaking the law is no big deal as long as you don't physically hurt someone.				
15. I have helped out friends and family with money acquired illegally.				

16. I am uncritical of my thoughts and ideas to the point that I ignore the problems and difficulties associated with these plans until it is too late.				
17. It is unfair that I have been imprisoned for my crimes when bank presidents, lawyers, and politicians get away with all sorts of illegal and unethical behavior every day.				
18. I find myself arguing with others over relatively trivial matters.				
19. I can honestly say that the welfare of my victims was something I took into account when I committed my crimes.				
20. When frustrated I find myself saying “fuck it” and then engaging in some irresponsible or irrational act.				
21. New challenges and situations make me nervous.				
22. Even when I got caught for a crime I would convince myself that there was no way they would convict me or send me to prison.				
23. I find myself taking shortcuts, even if I know these shortcuts will interfere with my ability to achieve certain long-term goals.				
24. When not in control of a situation I feel weak and helpless and experience a desire to exert power over others.				
25. Despite the criminal life I have led, deep down I am basically a good person.				
26. I will frequently start an activity, project, or job but then never finish it.				
27. I regularly hear voices and see visions which others do not hear or see.				
28. When it’s all said and done, society owes me.				
29. I have said to myself more than once that if it wasn’t for someone “snitching” on me I would have never gotten caught.				
30. I tend to let things go which should probably be attended to, based on my belief that they will work themselves out.				
31. I have used alcohol or drugs to eliminate fear or apprehension before committing a crime.				
32. I have made mistakes in life.				

33. On the streets I would tell myself I needed to rob or steal in order to continue living the life I had coming.				
34. I like to be on center stage in my relationships and conversations with others, controlling things as much as possible.				
35. When questioned about my motives for engaging in crime, I have justified my behavior by pointing out how hard my life has been.				
36. I have trouble following through on good initial intentions.				
37. I find myself expressing tender feelings toward animals or little children in order to make myself feel better after committing a crime or engaging in irresponsible behavior.				
38. There have been times in my life when I felt I was above the law.				
39. It seems that I have trouble concentrating on the simplest of tasks.				
40. I tend to act impulsively under stress.				
41. Why should I be made to appear worthless in front of friends and family when it is so easy to take from others?				
42. I have often not tried something out of fear that I might fail.				
43. I tend to put off until tomorrow what should have been done today.				
44. Although I have always realized that I might get caught for a crime, I would tell myself that there was “no way they would catch me this time.”				
45. I have justified selling drugs, burglarizing homes, or robbing banks by telling myself that if I didn’t do it someone else would.				
46. I find it difficult to commit myself to something I am not sure of because of fear.				
47. People have difficulty understanding me because I tend to jump around from subject to subject when talking.				
48. There is nothing more frightening than change.				
49. Nobody tells me what to do and if they try I will respond with intimidation, threats, or I might even get physically aggressive.				
50. When I commit a crime or act irresponsibly I will perform a “good deed” or do something				

nice for someone as a way of making up for the harm I have caused.				
51. I have difficulty critically evaluating my thoughts, ideas, and plans.				
52. Nobody before or after can do it better than me because I am stronger, smarter, or slicker than most people.				
53. I have rationalized my irresponsible actions with such statements as “everybody else is doing it so why shouldn’t I.”				
54. If challenged I will sometimes go along by saying “yeah, you’re right,” even when I know the other person is wrong, because it’s easier than arguing with them about it.				
55. Fear of change has made it difficult for me to be successful in life.				
56. The way I look at it I’m not really a criminal because I never intended to hurt anyone.				
57. I still find myself saying “the hell with working a regular job, I’ll just take it.”				
58. I sometimes wish I could take back certain things I have said or done.				
59. Looking back over my life I can see now that I lacked direction and consistency of purpose.				
60. Strange odors, for which there is no explanation, come to me for no apparent reason.				
61. When on the streets I believed I could use drugs and avoid the negative consequences (addiction, compulsive use) that I observed in others.				
62. I tend to be rather easily sidetracked so that I rarely finish what I start.				
63. If there is a short-cut or easy way around something I will find it.				
64. I have trouble controlling my angry feelings.				
65. I believe that I am a special person and that my situation deserves special consideration.				
66. There is nothing worse than being seen as weak or helpless.				
67. I view the positive things that I have done for others as making up for the negative things.				
68. Even when I set goals I frequently do not obtain them because I am distracted by events going on around me.				

69. There have been times when I tried to change but was prevented from doing so because of fear.				
70. When frustrated I will throw rational thought to the wind with such statements as “fuck it” or “the hell with it.”				
71. I have told myself that I would never have had to engage in crime if I had had a good job.				
72. I can see that my life would be more satisfying if I could learn to make better decisions.				
73. There have been times when I have felt entitled to break the law in order to pay for a vacation, new car, or expensive clothing that I told myself I needed.				
74. I rarely considered the consequences of my actions when I was in the community.				
75. A significant portion of my life on the streets was spent trying to control people and situations.				
76. When I first began breaking the law I was very cautious, but as time went by and I didn't get caught I became overconfident and convinced myself that I could do just about anything and get away with it.				
77. As I look back on it now, I was a pretty good guy even though I was involved in crime.				
78. There have been times when I have made plans to do something with my family and then cancelled these plans so that I could hang out with my friends, use drugs, or commit crimes.				
79. I tend to push problems to the side rather than dealing with them.				
80. I have used good behavior (abstaining from crime for a period of time) or various situations (fight with a spouse) to give myself permission to commit a crime or engage in other irresponsible activities such as using drugs.				

Appendix F

New General Self-Efficacy Scale

Instructions: Please indicate how strongly you agree or disagree with each statement.

1	2	3	4	5
Strongly disagree	Disagree	Neutral	Agree	Strongly Agree

1. I will be able to achieve most of the goals that I have set for myself.
2. When facing difficult tasks, I am certain that I will accomplish them.
3. In general, I think that I can obtain outcomes that are important to me.
4. I believe I can succeed at most any endeavor to which I set my mind.
5. I will be able to successfully overcome many challenges.
6. I am confident that I can perform effectively on many different tasks.
7. Compared to other people, I can do most tasks very well.
8. Even when things are tough, I can perform quite well.

Appendix G

Family Satisfaction by Adjectives Scale

Instructions: This questionnaire is about your satisfaction with **your current family**. For purposes of this questionnaire, family is defined as those individuals with whom you currently live. If you do not live with family, please think of the family members with whom you are closest. Do not think about extended family members who are only involved in your life occasionally. For each pair of words, please indicate your current level of satisfaction with respect to how you feel when you are with your family. For example, if you feel “to some extent happy,” you would select the third response option in the Happy-Unhappy row. If you feel “to some extent unhappy,” you would select the fourth response option in the Happy-Unhappy row.

When I am with my family, I feel.....

	Totally	Quite	To some extent	To some extent	Quite	Totally	
1. Happy							Unhappy
2. Alone							Accompanied
3. Cheerful							Miserable
4. Consoled							Disconsolate
5. Understood							Misunderstood
6. Tranquil							Disturbed
7. Discontented							Contented
8. Insecure							Secure
9. Pleased							Displeased
10. Satisfied							Dissatisfied
11. Inhibited							At ease
12. Discouraged							Encouraged
13. Censored							Supported
14. Uncomfortable							Comfortable
15. Harassed							Relieved
16. Disrespected							Respected
17. Relaxed							Tense
18. Excluded							Involved
19. Agitated							Peaceful
20. Calm							Nervous
21. Attacked							Protected
22. Joyful							Sad
23. Free							Weighed down
24. Appreciated							Not appreciated
25. Not close							Close
26. Excited							Restrained
27. Bad							Well

Please list the individuals you considered as your family while completing this measure. Do not use names. Indicate individuals by listing your relationship with that person (e.g., my mother, my grandmother, my son, my uncle, etc.). _____

Appendix H

Multidimensional Scale of Perceived Social Support

Instructions: This questionnaire is about the support you **currently receive** from your friends, family, and significant other(s). Use the scale to indicate how strongly you agree or disagree with each statement.

	Very strongly disagree	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Very strongly agree
1. There is a special person who is around when I am in need.							
2. There is a special person with whom I can share my joys and sorrows.							
3. My family really tries to help me.							
4. I get the emotional help and support I need from my family.							
5. I have a special person who is a real source of comfort to me.							
6. My friends really try to help me.							
7. I can count on my friends when things go wrong.							
8. I can talk about my problems with my family.							
9. I have friends with whom I can share my joys and sorrows.							
10. There is a special person in my life who cares about my feelings.							
11. My family is willing to help me make decisions.							
12. I can talk about my problems with my friends.							

Appendix I

Family Satisfaction by Adjectives Scale-Past

Instructions: Think back to the time of your most serious offense as a juvenile (before age 18).

What was your most serious juvenile offense (before age 18)? _____

How old were you when you committed this offense? _____

What types of consequences (if any) did you receive as a result of committing this offense?

This questionnaire is about your satisfaction with your family **at the time of your most serious juvenile offense**. For purposes of this questionnaire, family is defined as those individuals with whom you lived while committing your most serious juvenile offense. If you did not live with family, please think of the family members with whom you were closest at that time. Do not think about extended family members who were only involved in your life occasionally. For each pair of words, please indicate your level of satisfaction with respect to how you felt when you were with your family at the time of your most serious juvenile offense. For example, if you felt “to some extent happy” during that time, you would select the third response option in the Happy-Unhappy row. If you felt “to some extent unhappy” during that time, you would select the fourth response option in the Happy-Unhappy row.

When I was with my family, I felt.....

	Totally	Quite	To some extent	To some extent	Quite	Totally	
1. Happy							Unhappy
2. Alone							Accompanied
3. Cheerful							Miserable
4. Consoled							Disconsolate
5. Understood							Misunderstood
6. Tranquil							Disturbed
7. Discontented							Contented
8. Insecure							Secure
9. Pleased							Displeased
10. Satisfied							Dissatisfied
11. Inhibited							At ease
12. Discouraged							Encouraged
13. Censored							Supported
14. Uncomfortable							Comfortable
15. Harassed							Relieved
16. Disrespected							Respected
17. Relaxed							Tense
18. Excluded							Involved
19. Agitated							Peaceful
20. Calm							Nervous
21. Attacked							Protected
22. Joyful							Sad

23. Free							Weighed down
24. Appreciated							Not appreciated
25. Not close							Close
26. Excited							Restrained
27. Bad							Well

Please list the individuals you considered family while completing this measure. Do not use names. Indicate individuals by listing your relationship with that person (i.e., my mom, my grandmother, my son, my uncle, etc.). _____

Appendix J

Multidimensional Scale of Perceived Social Support-Past

Instructions: This questionnaire is about the support you received from your friends, family, and significant others **at the time of your most serious juvenile offense**. Use the scale to indicate how strongly you agree or disagree with each statement with regards to how you felt at the time of your most serious juvenile offense.

	Very strongly disagree	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Very strongly agree
1. There was a special person who was around when I was in need.							
2. There was a special person with whom I could share my joys and sorrows.							
3. My family really tried to help me.							
4. I got the emotional help and support I needed from my family.							
5. I had a special person who was a real source of comfort to me.							
6. My friends really tried to help me.							
7. I could count on my friends when things went wrong.							
8. I could talk about my problems with my family.							
9. I had friends with whom I could share my joys and sorrows.							
10. There was a special person in my life who cared about my feelings.							
11. My family was willing to help me make decisions.							
12. I could talk about my problems with my friends.							

Appendix K

Open-Ended Questions

1. How would you describe the neighborhood in which you lived at the time of your most serious juvenile offense (e.g., safe/unsafe, rural/urban, level of support/closeness of relationships with neighbors, etc.)?

2. How would you say your current neighborhood differs, if at all, from the neighborhood in which you lived at the time of your most serious juvenile offense?

3. How would you describe your relationship with your family at the time of your most serious juvenile offense (e.g., close/distant, loving, strict, etc.)?

4. How would you say your current relationship with your family differs, if at all, from the relationship you had with your family at the time of your most serious juvenile offense?

5. How would you describe your support system at the time of your most serious juvenile offense (e.g., close support, limited support, etc.)?

6. How would you say your current support system differs, if at all, from the support system you had at the time of your most serious juvenile offense?

7. Is there anything else you would like to share about your experiences?

Appendix L

Tables for Results

Table 1

Percentages for juvenile-only and persistent offender samples on categorical demographic variables

Demographic Variable	Juvenile-Only Offender Sample (n = 227)	Persistent Offender Sample (n = 208)	Chi-Square Value
<i>Marital Status</i>			
Single	46.3%	45.9%	3.28
Married	35.2%	31.7%	
Unmarried, living with partner	14.1%	13.5%	
Divorced	3.5%	5.3%	
Separated	0.89%	-	
<i>Sexual Orientation</i>			
Straight/Heterosexual	91.6%	91.8%	1.15
Bisexual	5.7%	5.3%	
Gay	2.2%	2.9%	
Asexual	0.44%	-	
<i>Race/Ethnicity</i>			
Caucasian/White American	65.2%	69.2%	4.95
Black/African American	7.5%	9.6%	
Asian/Pacific Islander	17.2%	16.3%	
Hispanic/Latino American	9.3%	4.3%	
Other	0.88%	.48%	
<i>Education Level</i>			
No high school	-	1.9%	20.33**
Some high school	1.8%	5.3%	
GED	8.4%	7.7%	
High school diploma	8.8%	17.8%	
Some college	25.1%	25.0%	
Associate's degree	13.2%	7.7%	
Bachelor's degree	34.8%	26.9%	
Master's degree	7.9%	7.7%	
<i>Length at Current Occupation</i>			
Less than 6 months	5.3%	6.3%	9.67*
7 – 12 months	8.4%	11.1%	
13 – 18 months	9.3%	10.1%	
19 – 24 months	11.9%	8.2%	
More than 24 months	52.4%	48.2%	
Unemployed	12.8%	21.6%	
<i>Types of Consequences Received (select all that apply)</i>			
None	7%	10.6%	
Probation	55.5%	57.7%	
Juvenile detention	26%	27.9%	
Inpatient rehabilitation	9.7%	7.2%	
Community service	49.8%	42.3%	
Pay fines/restitution	45.8%	39.4%	
Other	6.6%	1.0%	

Note. * $p < 0.05$, ** $p < 0.01$

Table 2

Descriptive statistics and F-values associated with follow-up univariate analyses for total scores for both samples on all predictor variables

Predictor Variable	Juvenile-Only Offender Sample (n = 227)	Persistent Offender Sample (n = 208)	F Value
# Juvenile Arrests	2.72 (1.04)	2.64 (0.97)	0.66
# Juvenile Cons.	1.93 (1.12)	1.75 (1.12)	2.81
PICTS: Gen.	61.81 (11.93)	63.76 (12.16)	2.86
PICTS: Pro.	62.11 (14.74)	64.38 (14.81)	2.55
PICTS: React.	59.47 (8.25)	60.81 (8.58)	2.76
PICTS: Cur.	58.49 (9.78)	60.47 (10.18)	4.27*
PICTS: Hist.	58.60 (11.79)	59.92 (12.15)	1.31
Self-Efficacy	30.89 (5.62)	29.94 (6.17)	2.81
FSAS: Current	120.65 (26.93)	108.88 (31.17)	17.83**
FSAS: Past	82.30 (29.97)	86.29 (30.39)	1.89
MSPSS: Current	62.67 (14.22)	59.38 (15.14)	5.45*
MSPSS: Past	48.89 (16.39)	51.23 (16.52)	2.18

Note: # Juvenile Arrests = total number of arrests prior to age 18; # Juvenile Cons. = total number of legal consequences received in response to juvenile arrests; PICTS: Gen. = General Criminal Thinking score; PICTS: Pro. = Proactive Criminal Thinking score; PICTS: React. = Reactive Criminal Thinking score; PICTS: Cur. = Current Criminal Thinking score; PICTS: Hist. = Historical Criminal Thinking score; Self-Efficacy = New General Self-Efficacy Scale; FSAS = Family Satisfaction by Adjectives Scale; FSAS: Past = Family Satisfaction by Adjectives Scale- Past; MSPSS: Multidimensional Scale of Perceived Social Support; MSPSS: Past = Multidimensional Scale of Perceived Social Support- Past.

* $p < 0.05$, ** $p < 0.01$

Table 3

Predictor variable correlations for juvenile-only offender sample (N = 227)

	Juvenile Cons.	Juvenile Arrests	PICTS: Gen.	PICTS: Pro.	PICTS: React.	PICTS: Cur.	PICTS: Hist.	Self Efficacy	FSAS Past	FSAS: Past	MSPSS
Juv. Arrests	.11										
PICTS: Gen.	-.03	.13									
PICTS: Pro.	.01	.13	.97**								
PICTS: React.	-.08	.10	.91**	.79**							
PICTS: Cur.	-.11	.04	.85**	.73**	.96**						
PICTS: Hist.	.06	.14*	.91**	.92**	.76**	.68**					
Self-Efficacy	.15*	.10	-.16*	-.09	-.27**	-.34**	-.09				
FSAS	.13*	-.01	-.41**	-.34**	-.47**	-.50**	-.34**	.59**			
FSAS: Past	-.13*	-.08	.06	.07	.03	.02	-.04	-.12	.12		
MSPSS	.10	.00	-.21**	-.15*	-.29**	-.31**	-.18**	.58**	.75**	.02	
MSPSS: Past	-.07	.00	.12	.16*	.04	.02	.05	.08	.02	.53**	.24**

Note: Juvenile Cons. = total number of legal consequences in response to juvenile arrests; Juvenile Arrests = total number of arrests prior to age 18; PICTS: Gen. = General Criminal Thinking score; PICTS: Pro. = Proactive Criminal Thinking score; PICTS: React. = Reactive Criminal Thinking score; PICTS: Cur. = Current Criminal Thinking score; PICTS: Hist. = Historical Criminal Thinking score; Self-Efficacy = New General Self-Efficacy Scale; FSAS = Family Satisfaction by Adjectives Scale; FSAS: Past = Family Satisfaction by Adjectives Scale- Past; MSPSS: Multidimensional Scale of Perceived Social Support; MSPSS: Past = Multidimensional Scale of Perceived Social Support- Past. * $p < .05$, ** $p < 0.01$.

Table 4

Predictor variable correlations for persistent offender sample (N = 208)

	Juvenile Cons.	Juvenile Arrests	Gen.	PICTS: Gen.	Pro.	PICTS: React.	PICTS: Cur.	PICTS: Hist.	Self Efficacy	FSAS Past	MSPSS
Juv. Arrests	.16*										
PICTS: Gen.	-.03	.18**									
PICTS: Pro.	-.04	.21**	.97**								
PICTS: React.	-.02	.11	.92**	.81**		.96**					
PICTS: Cur.	.01	.08	.87**	.75**	.78**	.69**					
PICTS: Hist.	.05	.18**	.90**	.91**	.78**	.69**					
Self-Efficacy	-.05	.15*	-.26**	-.17*	-.36**	-.42**	-.16*				
FSAS	-.04	.11	-.41**	-.37**	-.41**	-.42**	-.36**	.47**			
FSAS: Past	-.07	-.02	-.01	-.01	-.01	.01	-.04	.09	.21**		
MSPSS	-.07	.06	-.31**	-.29**	-.31**	-.33**	-.22*	.56**	.74**	.10	
MSPSS: Past	-.09	.03	-.01	-.01	-.02	-.03	-.01	.36**	.33**	.47**	.52**

Note: Juvenile Cons. = total number of legal consequences in response to juvenile arrests; Juvenile Arrests = total number of arrests prior to age 18; PICTS: Gen. = General Criminal Thinking score; PICTS: Pro. = Proactive Criminal Thinking score; PICTS: React. = Reactive Criminal Thinking score; PICTS: Cur. = Current Criminal Thinking score; PICTS: Hist. = Historical Criminal Thinking score; Self-Efficacy = New General Self-Efficacy Scale; FSAS = Family Satisfaction by Adjectives Scale; FSAS: Past = Family Satisfaction by Adjectives Scale- Past; MSPSS: Multidimensional Scale of Perceived Social Support; MSPSS: Past = Multidimensional Scale of Perceived Social Support- Past. * $p < .05$, ** $p < 0.01$.

Table 5
Summary of logistic regression analysis for full model predicting recidivism

Predictor Variable	B	S.E.	Wald	Exp(B) (odds ratio)
PICTS: Gen.	-.11	.26	.17	.90
PICTS: Pro.	.06	.14	.20	1.01
PICTS: React.	-.01	.15	.00	1.00
PICTS: Cur.	.05	.04	1.45	1.05
PICTS: Hist.	-.01	.02	.01	.99
Self-Efficacy	.01	.02	.29	1.01
FSAS: Current	-.02	.01	9.18**	.98
FSAS: Past	.01	.01	.24	1.00
MSPSS: Current	.01	.01	.06	1.00
MSPSS: Past	.01	.01	1.56	1.01
Number Juvenile Arrests	-.03	.11	.06	.98
Number Juvenile Cons.	-.11	.09	1.49	.89

Note: PICTS: Gen. = General Criminal Thinking score; PICTS: Pro. = Proactive Criminal Thinking score; PICTS: React. = Reactive Criminal Thinking score; PICTS: Cur. = Current Criminal Thinking score; PICTS: Hist. = Historical Criminal Thinking score; Self-Efficacy = New General Self-Efficacy Scale; FSAS = Family Satisfaction by Adjectives Scale; FSAS: Past = Family Satisfaction by Adjectives Scale- Past; MSPSS: Multidimensional Scale of Perceived Social Support; MSPSS: Past = Multidimensional Scale of Perceived Social Support- Past; Number Juvenile Arrests = total number of arrest prior to age 18; Number Juvenile Cons. = total number of consequences received in response to juvenile arrests. The dependent variable in the analysis is recidivism coded so that 0 = no adult arrests and 1 = at least 2 adult arrests. ** $p < 0.01$.

Table 6
Summary of logistic regression analysis for model 2 predicting recidivism

Predictor Variable	B	S.E.	Wald	Exp(B) (odds ratio)
PICTS: Cur.	.01	.01	.01	1.01
FSAS: Current	-.02	.01	10.87**	.98
MSPSS: Current	.01	.01	1.31	1.01

Note: PICTS: Cur. = Current Criminal Thinking score; FSAS = Family Satisfaction by Adjectives Scale; MSPSS: Multidimensional Scale of Perceived Social Support. The dependent variable in the analysis is recidivism coded so that 0 = no adult arrests and 1 = at least 2 adult arrests. ** $p < 0.01$.