

## Chapter 2

# Characteristics of Juvenile Delinquents

In 2010, there were nearly 1.6 million arrests of juveniles (Snyder & Mulako-Wangota, 2013). While this appears to be a staggering number of juvenile arrests, it actually represents a considerable decline from previous years. For example, in the late 1980s and early 1990s, the number of juvenile arrests in the United States peaked at over two million arrests, particularly for violent crimes (Snyder & Sickmund, 2006). Since 2001, however, the rates have dropped nearly 21 %, with the number of arrests for violent crimes having the greatest decline (Puzzanchera, 2013). In 2010, juveniles were involved in about one in ten arrests for murder; one in four arrests for robbery, burglary, and disorderly conduct; and nearly one in five arrests for larceny-theft and motor vehicle theft. When examining arrest data and comparing the rates of juvenile arrests to adults, however, it is important to take into consideration that arrest data represent the *total number of arrests* of youth offenders, not the number of youth arrested; therefore, it is possible that the same youth may have had multiple arrests in the same year. Consequently, the total number of arrests does not necessarily translate into the total number of juveniles involved in crimes in a given year. Also, since many crimes go unreported or no arrest is made, the reported numbers may be an underestimate of the actual number of illegal acts committed by youth offenders. Finally, in comparing arrest rates for youth to those of adults, it is likely that youth are overrepresented, since they are more easily apprehended than adults (Puzzanchera, 2013).

Of the total number of juvenile offender arrests, violent offenses accounted for approximately 4.6 % of all juvenile arrests in 2010, with the number of violent crimes being the lowest it has been since at least 1980 (Snyder & Mulako-Wangota, 2013). Violent crimes include murder and nonnegligent manslaughter, forcible rape, robbery, and aggravated assault. Aside from a peak in violent crimes between 2004 and 2006, violent crimes have steadily declined since the early 1990s. In the case of forcible rape, for example, the number of juvenile arrests in

2010 was the lowest since 1980, at nearly one-third of what its high was in 1991. Juveniles were involved in approximately 14 % of all forcible rape arrests in 2010, with the majority of those youth being between 15 and 17 years of age (Puzzanchera, 2013). The number of aggravated assault arrests was also lower than it has been in over 20 years, with more than a 50 % decrease since its peak in 1997. Interestingly, however, the number of juvenile arrests for robbery increased nearly 43 % from 2002 through 2009 and then declined by 21 % in 2010 (Puzzanchera, 2013).

Property offenses, which include burglary, larceny-theft, motor vehicle theft, and arson, accounted for nearly 22 % of the total juvenile arrests. There was a decrease in juvenile property offenses in 2010, while an increase in adult property offenses was observed (Snyder & Mulako-Wangota, 2013). In regard to arson, nearly 40 % of all individuals arrested for arson are youth, with over half of these individuals being younger than 15 years old. In regard to offenses against person, simple assault is the most common for which individuals are arrested. Between 1980 and 1997, the arrest rate of juveniles for simple assault increased dramatically, nearly 200 %. The arrest rate for simple assault has declined some in the past few years; however, rates remain high as compared to arrests for other offenses.

The majority of juvenile arrests are of youth over the age of 15, with youth younger than this accounting for approximately 27 % of total arrests. Specifically, youth under the age of 10 accounted for less than 1 % of total juvenile arrests; approximately 5 % of arrests were youth between the ages of 10 and 12 years of age, with youth between the ages of 13 and 14 accounting for approximately 21 % of all juvenile arrests (Snyder & Mulako-Wangota, 2013).

With respect to sex, adolescent males comprise a significant proportion of juvenile arrests, accounting for nearly 71 % of all juvenile arrests. Despite the disparity between sexes in regard to total juvenile arrests, females have not necessarily experienced the same decline in offending as has been observed in males (Puzzanchera, 2013). In addition, although overall rates of juvenile crimes have decreased over the past decade, rates of offenses committed by females have risen or the declines have been considerably less than that found in males. For example, while the incidence of violent crimes has decreased considerably for males, it has remained consistent for females, and the incidence of aggravated assault arrests by females has increased. The rate of arrests for simple assaults has also remained relatively high for females. There were also increases observed in property crimes by females, particularly in larceny-theft, and while the male arrest rate for burglary has declined by nearly 75 % since 1980, the arrest rate for female juveniles has decreased around 50 %.

In regard to ethnicity, minority youth are overrepresented in the juvenile justice system, as is discussed in more detail in the following section. Minority youth are disproportionately arrested for crimes, with this disparity in minority representation in offending being most notable for robbery, in which Black youth were arrested at a rate of ten times that of White youth (Puzzanchera, 2013).

## Characteristics and Risk Factors of Juvenile Delinquency

There is a substantial amount of research literature that has investigated a variety of risk factors and characteristics that are common among most delinquent youth. While juvenile delinquents are largely a complex group of children and adolescents with no verifiable cause(s) of delinquency identified, research has recognized several common characteristics found among the juvenile delinquency population. In addition, research has identified characteristics that appear to place certain children and adolescents at a greater risk of committing illegal acts and reoffending once they have been adjudicated and released or placed on probation.

Characteristics and/or risk factors are generally considered those factors that are associated with an increased probability that a juvenile will engage in illegal acts (Hoge, 2001). A variable may be identified as a “risk factor” if it is associated with the youth before he or she is adjudicated as a juvenile delinquent and if it still exists after other possible confounding variables have been controlled. A variety of risk factors appear to place certain youth at risk for engaging in illegal acts, although the mere presence of such risk factors does not imply causation or indicate that a particular individual will, in fact, engage in such acts. Such risk factors only suggest that there will be an increase in the probability that a youth will engage in delinquent behavior—they do not make it a certainty. It is notable, however, that research has found a cumulative effect of risk factors, in that having multiple risk factors places a youth at a greater risk of engaging in illegal acts and problematic behaviors. For example, a study by Herrenkohl et al. (2000) found that a 10-year-old with six or more risk factors was ten times more likely to engage in violent behavior before age 18 than a 10-year-old with only one risk factor. Therefore, risk assessment instruments, which are frequently used by professionals during the evaluation of juveniles and adults who have been arrested in an attempt to classify the person’s likelihood of reoffending, are typically based on the number of risk factors that the individual possesses at the time of the evaluation. Numerical scores are assigned to sets of risk factors, and those scores are used to rank an individual’s likelihood of re-offending, ranging from low to high risk (Hoge, 2002; Schwalbe, 2007). These instruments rely on research examining factors related to delinquency and are used both for prevention and intervention programs for youth offenders and at-risk youth.

Numerous investigations have been conducted to identify variables associated with juvenile delinquency, with one of the first major studies being conducted by Glueck and Glueck (1950). These researchers examined 500 delinquents and 500 nondelinquents between 11 and 17 years of age. Their research identified several factors associated with increased juvenile delinquency, including poor parenting skills in the household, family criminal history, and defiant attitudes of the youth. Glueck and Glueck also reported that there was an additive nature to the factors, with the more factors being present the higher the likelihood of a youth offending. A variety of other studies have also appeared in the literature, and common risk factors or characteristics that are prevalent among these youth appear to include the following: ethnicity, with a disproportionate number of youth across the United

States who are arrested being identified as belonging to a minority group; lower socioeconomic status; below average intelligence; having an educational disability; low academic achievement levels in reading and math; and, the presence of a mental health diagnosis (Beebe & Mueller, 1993; Morris & Morris, 2006; Skowrya & Coccozza, 2007).

Despite the availability of literature examining risk factors associated with delinquency, inconsistent findings are still present in the research. These inconsistencies are due, in part, to the various methodologies and samples used in studies, as the majority of studies utilize only all-male samples, are limited to groups of juveniles who have committed either relatively minor or severe offenses, include only incarcerated youth or only detained youth, or rely on self-reported delinquency while other studies rely on court records of arrest histories. In addition, many studies utilize samples of primarily male delinquents or combine male and female delinquents into one sample, despite ample available evidence that suggests male and female delinquents differ in their risk factors (e.g., Thompson & Morris, 2013; Tille & Rose, 2007; Vitopoulos, Peterson-Badali, & Skilling, 2012).

The following sections provide an overview of the risk factors research has found to be associated with juvenile delinquency. In addition to the factors listed below, the juvenile delinquency research literature clearly suggests that there is an overrepresentation of youth having a disability within the juvenile justice system, with studies finding prevalence values ranging from 20 to 750 % (e.g., Bullis & Yovanoff, 2005; Bullock & McArthur, 1994; Morgan, 1979; Morris & Morris, 2006). This relationship is discussed in brief below, with a more thorough discussion of the relationship between juvenile delinquency and disability (i.e., cognitive, developmental, educational, and mental health disabilities) appearing in Parts II and III of this book.

## *Sex*

As previously noted, males are more represented in the juvenile justice system than females. This is likely due to a variety of factors. First, males are more likely to be arrested for committing such illegal acts as theft or assault, while females are more likely to be detained for status offenses—that is, those offenses which would *not* be illegal if the individual was an adult, such as running away from home or truancy (Puzzanchera, 2013). Some suggest that this may be related to the fact that females are often treated differently than males at the initial point of contact with the law (e.g., when stopped by a police officer, females may be less likely to be formally arrested). However, the literature does show that the overall number of delinquency cases for females has risen dramatically over the past few decades, with the number of cases involving females increasing by 92 % between 1985 and 2002 (e.g., Snyder & Sickmund, 2006). In addition, the percentage of female delinquents being arrested for violent crimes has risen dramatically in the past decade. For example, in the 1980s, males were four times as likely as females to be arrested for a violent crime,

whereas they are now only twice as likely (Snyder & Sickmund, 2006). Some have argued that this is due to declining rates of violent offenses on the part of males, while others argue that this is because females are, in fact, involved in more violent crimes. Others maintain that this closing of the gender gap between males and females only means that the “arrest culture” on the part of police has changed, with law enforcement being less reluctant than in earlier years to arrest females who have engaged in delinquent acts (Zahn et al., 2010).

Risk factors of delinquency have been found to be significantly different for male and female offenders, which may also contribute to the disproportionate representation of males and females in the juvenile justice system. For example, studies have found that female delinquents are significantly more likely to have been exposed to trauma than male delinquents, with more than 60 % of females reporting that they have been raped or are fearful of being raped. In addition, females may be more negatively impacted by a disruptive home environment than males (Zahn et al., 2010).

Interestingly, as will be mentioned in subsequent chapters of this book, many of the disabilities common among the juvenile delinquent population are also more prevalent among males versus females. This is particularly true for impulse control and disruptive behavior disorders, as ADHD, oppositional defiant disorder, and conduct disorder are all more common among males than females (American Psychiatric Association [APA], 2013), and these are also the most common disabilities found among juvenile delinquents (Teplin, Abram, McClelland, Dulcan, & Mericle, 2002).

## ***Ethnicity***

Minority youth have been overrepresented in the juvenile justice system for a number of years. In 2004, for example, the Office of Juvenile Justice and Delinquency Prevention reported that of all juvenile arrests for violent crimes, 52 % were White, 46 % were Black, 1 % were Asian-American, and 1 % were Native American (Snyder & Sickmund, 2006), whereas the general composition of child and adolescent population was 78 % White, 17 % Black, 4 % Asian, and 1 % Native American. Unfortunately, many government agencies have historically combined into one category “White” and “Hispanic” youth, so data specifically related to Hispanic youth are not available nationwide. Some states, however, do differentiate between Hispanic and White youth and have reported disproportional representation of Hispanic youth among those juveniles who have been arrested. For example, in 2007, the Arizona Department of Juvenile Corrections (2008) reported that there was an overrepresentation of minority youth, particularly Hispanic youth, who were adjudicated within their system. Specifically, 51.1 % of adjudicated youth were classified as Hispanic, 30.1 % were Caucasian, 12.8 % were African-American, 4.8 % were Native American, and 0.7 % were Asian. This is compared to the general youth population of 75.5 % Caucasian, 25.3 % Hispanic, 3.1 % African-American, 5 % Native American, and 1.8 % Asian.

In regard to types of offenses, available literature suggests significantly more minorities are adjudicated for violent versus nonviolent offenses (van Wijk et al., 2005), and some studies have found that Caucasians are more prevalent in the specific category of sex offenses (e.g., van Wijk, Van Horn, Bullens, Bijleveld, & Doreleijers, 2005; Veneziano, Veneziano, LeGrand, & Richards, 2004).

In 1988, amendments were made to the *Juvenile Justice and Delinquency Prevention Act of 1974* that required those states participating in federal programs to determine if minority youth were overrepresented and, if so, to make an effort at reducing the disproportionate representation. Studies have found mixed results regarding whether this program has been effective (e.g., Barrett, Katsiyannis, & Zhang, 2006; Jones, Harris, Fader, & Grubstein, 2001; Rodriguez, 2007; Wu, Cernkovich, & Dunn, 1997). A review of studies between 1989 and 2001 that looked at minority contact within the juvenile justice system concluded that despite some alleviation in the disproportionate representation of minorities in the juvenile justice system, ethnicity and race still affected the processing of youth through the juvenile justice system (Pope, Lovell, & Hsia, 2002).

### ***Socioeconomic Status***

A significant correlation has been found between juvenile delinquency and low socioeconomic status (SES; Loeber & Farrington, 2012; Hay, Fortson, Hollist, Altheimer, & Schaible, 2007). A theoretical explanation for why low socioeconomic status may have an impact on delinquency is evident in different sociological theories, such as *strain theory* and *social control theory*, and some researchers have indicated that economic background may be the best predictor for which juveniles will become incarcerated (Johnson et al., 1999). In this regard, Snyder and Sickmund (2006) found that in 2002, one out of every six juveniles lived in poverty. Directly related to ethnicity, African-American and Hispanic youth—two ethnic groups already overrepresented in the juvenile justice system—were also three times more likely to live in poverty compared to Caucasian juveniles. Some researchers have posited that the direct relationship between poverty and low academic achievement, which itself has been linked to delinquency, may also increase the risk of youth from low socioeconomic classes being likely to be arrested (Cohen, 1955; Lawrence, 1998; Pagani, Boulerice, Vitaro, & Tremblay, 1999). In this regard, Pagani et al. (1999) examined the impact that poverty may have on academic achievement and delinquency for adolescent males living in low-income neighborhoods, with results suggesting that poverty level significantly predicted delinquency. Jarvelin, Laara, Rantakallio, and Moilanen (1994) also concluded in their investigation of adolescent males that the incidence of delinquency is higher for those who are from lower socioeconomic classes, and highest for those from a low socioeconomic background with a history of poor academic performance.

Despite evidence supporting low socioeconomic status as being a strong primary risk factor for juvenile delinquency, some later research suggested that it may

actually be a moderator variable, having a more indirect effect. For example, a study by Defoe, Farrington, and Loeber (2013) used advanced statistical modeling to explore causal factors of delinquency and found that low socioeconomic status was not a direct cause of delinquency, but rather an indirect influence and was a contributing factor only in relation to other variables. A study by Low, Sinclair, and Shortt (2012) also suggested that socioeconomic status might be more of a moderator variable rather than a direct contributing factor to delinquency. In this study, the researchers found that low socioeconomic status placed more strain on family relationships, which therefore contributed to delinquency.

### ***Family Background and Childhood Abuse and Neglect***

Some studies have also reported that nearly one-quarter of juvenile delinquents live in single-parent households (e.g., Sickmund & Puzzanchera, 2014). Consistent with this, studies looking at the relationship between single-parent households and delinquency have found that those delinquents whose fathers were not involved in their life were more likely to reoffend (Barrett, Katsiyannis, & Zhang, 2010). Other family characteristics that research has associated with juvenile delinquency include a family history of involvement with the juvenile or adult criminal justice system (Farrington, 1989), as well as limited parental involvement in the youth's upbringing (Farrington, Loeber, Yin, & Anderson, 2002).

While the relationship between a history of childhood abuse or neglect and juvenile delinquency is far from understood, research has consistently found that there is a higher prevalence of youth with a history of abuse or neglect than found in the general population (e.g., Ford, Chapman, Mack, & Pearson, 2006; Hong, Huang, Golden, Patton, & Washington, 2014). Studies have found that more than 60 % of first-time offenders have a history of family involvement in the child welfare system (Sickmund & Puzzanchera, 2014). Involvement with the child welfare system has also been associated with repeat offending and an earlier age of first offense for youth (Barrett, Katsiyannis, Zhang, & Zhang, 2014). There has also been some evidence to suggest that a history of physical abuse may be related to violent offending in youth (Hawkins et al., 2000; Maas, Herrenkohl, & Sousa, 2008).

Related to the high prevalence of childhood abuse and neglect reported among juvenile offenders, research has found significantly more youth offenders qualifying for a diagnosis of a trauma-related disorder, such as posttraumatic stress disorder (PTSD) and reactive attachment disorder, than in the equivalent general population of youth. For example, while it is estimated that approximately 4–9 % of children and adolescents in the general population meet the criteria for PTSD (Kilpatrick et al., 2003), studies have found that from 32 to 52 % of incarcerated juvenile delinquents may meet the criteria for PTSD (e.g., Kerig, Moeddel, & Becker, 2010; Wilson et al., 2013). The high incidence of trauma-related disorders in the youth offender population is largely attributed to the fact that many of these youth have been exposed to violence, abuse, or trauma during childhood (Chen, Voisin, & Jacobson, 2013).



For example, Stimmel, Cruise, Ford, and Weiss (2014) found that 86 % of their sample of youth offenders had been exposed to at least one traumatic event, with those meeting criteria for PTSD having a greater number of emotional and behavioral problems. A more detailed discussion of the implications of PTSD and other trauma-related disorders in the juvenile delinquency population is presented in Chap. 11.

### ***School Achievement***

For nearly a century, research has investigated the association between delinquency and academic achievement, consistently finding that juvenile delinquents tend to perform lower in academic achievement than their same-age peers. In 1950, Glueck and Glueck found that nearly 85 % of juvenile delinquents were behind their peers academically, with more recent studies reporting similar estimates (Beebe & Mueller, 1993; Zamora, 2005). A later study by Thompson and Morris (2013) examined a large sample of over 1000 delinquent youth and found that less than half of male delinquents were passing state standardized achievement tests in reading, writing, and math.

Research has also suggested that a failure to properly develop basic reading and writing skills may be a strong predictor of later incarceration (e.g., Drakeford, 2002; Rogers-Adkinson, Melloy, Stuart, Fletcher, & Rinaldi, 2008). Reading and mathematics are the most commonly researched areas, with findings suggesting that in some cases, as many as 70 % of incarcerated delinquents read at or below the fourth grade level (U.S. Bureau of Justice Statistics, 1997). A meta-analysis conducted by Foley (2001) for articles published between 1975 and 1999 found that the average reading level of delinquents was between the fourth and seventh grades, significantly below the expected reading level for the age of these youth. A study by Baltodano, Mathur, and Rutherford (2005) concurred with the lower-than-average reading level for juvenile delinquents, finding that delinquents have significantly lower standardized test scores in reading. Some research has even investigated a link between severity of offense and academic achievement levels, suggesting that youth who engage in violent offenses display the greatest academic deficits when compared to those engaging in nonviolent offenses (Beebe & Mueller, 1993; van Wijk, Loeber et al., 2005). On the other hand, findings have been different for juvenile sex offenders, with it being suggested that these youth display fewer academic weaknesses than other types of juvenile offenders (Jacobs, Kennedy, & Meyer, 1997; Milloy, 1994). van Wijk, Van Horn et al. (2005) also reported that a smaller percentage of sex offenders displayed low academic achievement than violent offenders.

Related to these latter findings, research has shown that there is a significant overrepresentation of youth with educational disabilities (i.e., learning and emotional disabilities) in the juvenile justice system. For example, within the public school system across the United States, it is estimated that between 10 and 13 % of students



receive special education services for educational disabilities (U.S. Department of Education, 2014), while studies have shown that between 30 and 75 % of youth in the juvenile justice system qualify for an educational disability and are eligible to receive special education services (e.g., Morris & Morris, 2006; Quinn, Rutherford, Leone, Osher, & Poirier, 2005). As is discussed in more detail in Chapter 8, research has also found a relationship between the type of educational disability and offense patterns in juveniles (e.g., Cruise, Evans, & Pickens, 2011).

Additional support for a relationship between low academic achievement and juvenile delinquency has been provided by studies demonstrating that academic interventions lead to decreased rates of recidivism (Archwamety & Katsiyannis, 2000; Katsiyannis & Archwamety, 1997; Malmgren & Leone, 2000). For example, a study by Blomberg, Bales, and Piquero (2012) examined academic achievement in a sample of 4146 delinquents and found that those with average academic achievement were significantly more likely to return to school after being released and were less likely to be rearrested in a one-year post-release period. As previously mentioned, a study by Defoe et al. (2013) used structural equation modeling to identify causal factors of delinquency, including low socioeconomic status, academic achievement, hyperactivity, and mental health issues in their model. Their results found low academic achievement to be the only direct causal variable of delinquency, with other variables such as SES and hyperactivity having indirect effects, but moderated by academic achievement. These authors proposed that academic achievement should be a primary focus on interventions for juvenile delinquents given the strong causal relationship between low achievement and delinquency.

Youth who drop out of school are significantly more likely to be involved with the juvenile justice system than those who remain in school, with high school dropouts being 3.5 times more likely to be arrested than those who do not dropout (U.S. Department of Education, 1994). In this regard, throughout the entire US correctional system, it has been reported that approximately 82 % of adult prison inmates are high school dropouts (Ysseldyke, Algozzine, & Thurlow, 1992). Moreover, approximately 10.9 % of young adults are not enrolled in school and have not completed high school (Snyder & Sickmund, 2006). These numbers vary slightly between male and female adolescents (12.0 and 9.9 % dropout rates, respectively), but substantial variations are seen when focusing on ethnicity. For example, the dropout rate for Hispanic youth was reported by Snyder and Sickmund (2006) to be 27.8 %, 13.1 % for African-American youth, 6.9 % for Caucasian youth, and 3.8 % for Asian youth. As previously mentioned, Hispanic and African-American youth are also significantly overrepresented in the juvenile delinquency population.

## ***Cognitive Functioning***

The cognitive functioning of juvenile offenders has become an area of increasing focus in recent research literature, though explorations of the relationship between general intelligence (IQ) and delinquency have been present for decades. Several

researchers have identified a link between low IQ and delinquency (Fergusson & Horwood, 2002; Hirschi & Hindelang, 1977; Koolhof, Loeber, Wei, Pardini, & D'escury, 2007; Lynam, Moffitt, & Stouthamer-Loeber, 1993; Moffitt & Silva, 1988). Early studies suggested that delinquents performed as much as 15–20 points below the general population in intellectual functioning (Caplan, 1965), while later studies have found more varied results, with some suggesting that it is a deficit in Verbal IQ that characterizes delinquents rather than a general Full Scale IQ deficit (Culbertson, Feral, & Gabby, 1989; Raine et al., 2005). Little research exists, however, that has examined the actual causal link between IQ and juvenile delinquency. Lynam et al. (1993) explored the relationship between IQ and delinquency by controlling for several other risk factors, with their research suggesting that low IQ may have a more indirect link to delinquency, in that low IQ contributes to low academic achievement which, in turn, is related to delinquency. Other explanations vary regarding why lower IQ is correlated with juvenile delinquency, but include the negative relationship between low IQ and academic achievement, as well as the notion that juveniles with low IQs may not as easily evade detection from law enforcement and, therefore, are arrested and/or incarcerated at a higher rate (Vold & Bernard, 1986).

In regard to types of offenders, the literature is mixed as to whether IQ level can differentiate violent offenders from nonviolent offenders. In an analysis of intellectual, behavioral, and personality correlates of violent versus nonviolent juvenile offenders, Kennedy, Burnett, and Edmonds (2011) found that verbal intelligence differentiated between types of offenders, but other studies have not found such a relationship (e.g., van Wijk, Vermeiren, Loeber, Doreleijers, & Bullens, 2006).

With respect to intellectual disability, research has reported that there is a higher prevalence of intellectual disability among juvenile delinquents than there is in the general public school population. Specifically, while intellectual disabilities exist in approximately 1 % of the general school population (U.S. Department of Education, 2014), studies have found that approximately 10 % of juvenile offenders have an intellectual disability (Quinn et al., 2005; Stahlberg, Anckarsater, & Nilsson, 2010).

In addition to general intelligence, studies have revealed that juvenile delinquents display other cognitive deficits, such as memory, abstract reasoning, receptive and expressive language, and executive functioning deficits. One theory of delinquency is biological theory, which posits that that criminal behavior may be due, in part, to neuropsychological deficits (Shoemaker, 2005). While there are a variety of neuropsychological variables that can be measured, such as auditory and visual memory, visual-spatial skills, and motor skills, two major areas that the research literature suggests may be related to juvenile delinquency are executive functioning skills and verbal processing skills. Specifically, within the construct of executive functioning, deficits in juvenile offenders have been suggested in such area as attention, response inhibition, and planning. Within the construct of verbal skills, specific deficits have been suggested in the areas of receptive language and language comprehension (Bryan, Freer, & Furlong, 2007).

*Executive Functioning.* The frontal lobe of the human brain controls systems that implement a variety of different behavioral strategies in response to the environment

(Kolb & Whishaw, 2008). Behavioral functions controlled by the frontal lobe include aspects such as (but not limited to) planning, self-awareness, regulation of behavior, attention, concentration, working memory, reasoning, cognitive flexibility, inhibitory control, and problem solving, collectively known as executive functioning (e.g., Kolb & Whishaw, 2008; Zillmer & Spiers, 2001). Deficits in executive functioning may lead to problems with environmental control of behavior, including poor response inhibition, risk taking, rule breaking and failure to comply with instructions, gambling, self-regulatory problems, and poor problem solving skills (e.g., Kolb & Whishaw, 2008; Milner, 1964). Some studies suggest that frontal lobe functions may also control emotional responses such as regulation of emotion, aggression, and antisocial personality traits (Bauer, O'Connor, & Hesselbrock, 1994; Yeudall & Fromm-Auch, 1979).

Given that executive functioning is responsible for regulation of an individual's behavior, many studies have examined executive functioning skills in juvenile offenders. There is some empirical support that these youth do, in fact, display a relative weakness in executive functioning, with some researchers maintaining that executive functioning deficits can distinguish between juvenile delinquents and nondelinquents and, more specifically, violent from nonviolent youth (e.g., Raine et al., 2005). However, not all researchers have agreed, and it is argued by some that the deficits may be the result of other confounding variables such as the presence of attention deficit hyperactivity disorder in these youth (e.g., Cauffman, Steinberg, & Piquero, 2005; Sequin, Pihl, Hardin, Tremblay, & Boulerice, 1995). Available research does vary to some extent in regard to what specific executive functioning deficits exist and to what magnitude, but, in general, common executive functioning deficits include poor attention and concentration, impulsivity, response perseveration, poor flexibility, poor response inhibition, poor planning of actions, and poor organization.

Lueger and Gill (1990) conducted a study on executive functioning in juvenile delinquents, finding that delinquents experienced deficits in problem solving, cognitive flexibility (e.g., ability to quickly adapt to changing demands in the environment), sustained attention, working memory (e.g., ability to retain information while completing a task, such as following multistep instructions), and related motor tasks. Participants included 21 adolescents between 13 and 17 years of age, who were residents in a facility for the treatment of court-referred behaviorally disordered and emotionally disturbed youth and 20 normal controls. Participants were administered a variety of neuropsychological measures associated with frontal lobe functioning, including the *Wisconsin Card Sorting Test* (WCST), a task to measure problem solving and cognitive flexibility; the *Sequential Matching Memory Test*, which measures the ability to sustain attention; the *Kaufman Assessment Battery for Children Hand Movements Test*, a measure of sequential motor memory; the *Trail Making Test*, a widely used measurement of sequential processing, planning, and visual-motor performance; and the *Auditory Verbal Learning Test*, a memory test. Results indicated that youth diagnosed with conduct disorder did, in fact, perform more poorly on measures of frontal lobe functioning than did controls. Specifically, youth having a conduct disorder performed more poorly on tasks of

cognitive flexibility, sustained attention, sequencing of memory, and motor tasks. A later study by Raine et al. (2005) also examined problem solving and attention in a sample of 500 teenage boys and found that those with a history of violent and aggressive behavior displayed deficits in attention. A number of other studies have also been conducted to measure executive functioning skills, such as response inhibition (e.g., impulse control), finding that delinquents perform significantly lower in this skill area than their nondelinquent peers (e.g., Dery, Toupin, Pauze, Mercier, & Fortin, 1999; Moffitt, Lynam, & Silva, 1994; Wolff, Waber, Bauermeister, Cohen, & Ferber, 1982; Yeudall, Fromm-Auch, & Davies, 1982).

*Verbal Skills.* David Wechsler, a prominent psychologist during the mid-twentieth century, was among the first to suggest that “adolescent psychopaths” displayed deficits in verbal abilities (Wechsler, 1944). Although his initial observation was subjective and based only on clinical experience and case studies, his observations were subsequently empirically confirmed (e.g., Graham & Kamano, 1958; Raine et al., 2005; Vermeiren, Schwab-Stone, Ruchkin, De Clippele, & Deboutte, 2002; Yeudall et al., 1982). These deficits in verbal skills have been found across many domains, including a Performance IQ versus Verbal IQ discrepancy on various Wechsler scales of intelligence (e.g., the *Wechsler Intelligence Scale for Children* and the *Wechsler Adult Intelligence Scale*) and specific deficits in receptive verbal skills, verbal memory, and language comprehension (e.g., Braggio, Plshkln, Gameros, & Brooks, 1993; Dery et al., 1999; Linz, Hooper, Hynd, Isaac, & Gibson, 1990; Lynam et al., 1993; Moffitt & Silva, 1988; Olvera, Semrud-Clikeman, Pliszka, & O'Donnell, 2005). For example, in a long-term study conducted on a birth cohort of several hundred New Zealand adolescents, researchers found specific verbal and nonverbal memory abilities to be the factors most strongly related to predicting delinquency by 18 years of age (Moffitt et al., 1994). In this study of over 1000 children, males and females were administered a psychological evaluation every 2 years between 3 and 18 years of age, with a neuropsychological evaluation administered at age 18. Verbal measures included verbal subsets from a Wechsler intelligence test as well as a verbal memory test. A self-reported delinquency scale was administered to participants at age 13, as well as at 18 years of age, to determine whether there was evidence of delinquency. Results found that those participants with a history of delinquent behavior displayed significant deficits in verbal skills and verbal memory abilities when tested at age 13.

It is unknown exactly why there may be a relationship between verbal deficits and juvenile delinquency. One explanation is that individuals with expressive language deficits struggle to express their needs, wants, and frustrations, which can lead to engaging in disruptive behavior (e.g., Conti-Ramsden & Botting, 2008). Other explanations have suggested the link between poor verbal ability and academic achievement, given that these abilities and skills are highly correlated, and research has consistently reported a link between low academic achievement and delinquency. Another hypothesis is that an information-processing deficit exists, directly affecting antisocial behavior (e.g., Nas, Orobio De Castro, & Koops, 2005). The possible link between these cognitive deficits and disability cannot be ignored since, as we discuss in various chapters in this book, cognitive deficits are commonly

observed with many of the disabilities that are prevalent in the juvenile offender population. In this regard, the field of cognitive neuroscience has been increasingly demonstrating that impairments in, for example, executive functioning skills are a common weakness in individuals with attention deficit hyperactivity disorder (Coghill, Hayward, Rhodes, Grimmer, & Matthews, 2014). Deficits in executive functions have also been found in youth with bipolar disorder and other mood disorders such as depression (Lundy, Silva, Kaemingk, Goodwin, & Quan, 2010; Nieto & Castellanos, 2011). Similarly, language impairments are typically observed in individuals with developmental disabilities such as autism spectrum disorder and intellectual disability (APA, 2013).

## Risk Factors of Recidivism

Juvenile delinquents as a population consist mainly of minority youth from low-income families who have a variety of educational and/or mental health disabilities (e.g., Pagani et al., 1999; Teplin et al., 2002). These youth also show a high frequency of reoffending (e.g., Cottle, Lee, & Heilbrun, 2001). In this regard, a major area of concern surrounding the problem of juvenile delinquency is that of recidivism or, generally speaking, the repetition of criminal behavior or repeated arrests by an individual. Although the overall arrest rates of youth have declined to some extent over the past decade, recidivism percentages among youth offenders remain high and stable, and it is estimated that 70 to 90 % of these youth will reoffend (e.g., McMackin, Tansi, & LaFratta, 2004; Trulson, Marquart, Mullings, & Caeti, 2005; Van Der Geest & Bijleveld, 2008). There is a lack of consensus, however, in the literature regarding a standard definition of recidivism. For example, it is not clear from the available literature whether a probation violation counts as a separate arrest, given that some states include probation violations as an additional offense while others do not during their respective collection of data on these youth. As a result of this type of variation in data collection, no nationally based recidivism data are tracked for juveniles and, therefore, comparison between states on rates of recidivism is difficult to perform. In addition, the only recidivism data available for various juvenile courts are the official court records for the particular jurisdiction, which represents recidivism that came to the attention of that particular court and only for those offenses that took place again in that same jurisdiction (Snyder & Sickmund, 2006). The lack of a standard definition of recidivism is also a methodological consideration when examining empirical studies of recidivism, as rates tend to change depending on the definition of recidivism used. Despite these limitations, some national data that do exist suggest that nearly six out of every ten juveniles return to juvenile court before they turn 18 years of age. In fact, Snyder and Sickmund (2006) reported that at age 17, nearly 84 % of juveniles referred to the court have had at least one prior referral, and 53 % of those referred at age 17 have had seven or more referrals. These numbers highlight the societal concerns related to juvenile offender recidivism and are suggestive of the need for more effective psychosocial intervention and prevention programs for youth offenders.

Another factor to take into consideration when analyzing recidivism percentages is the period of time analyzed to determine whether recidivism actually took place with certain youth. Since longitudinal studies are rare and difficult to carry out, recidivism must often be determined over a relatively short period of time and may not include a youth's entire offense history. Also, because of privacy laws it is difficult to track the offenses of youth into adulthood, so most available data are only related to the recidivism of youth during the time that they are considered legally as a "juvenile," that is, until the youth become 18 years of age.

There are a variety of explanations and studies available which discuss factors related to youth who recidivate. Risk factors that have been consistently found to be associated with higher recidivism rates include the following: age of first offense, type(s) of offense committed, and academic achievement levels (e.g., Archwamety & Katsiyannis, 2000; Cottle et al., 2001; Dembo et al., 1995; Jones et al., 2001; Katsiyannis, Ryan, Zhang, & Spann, 2008). A variety of other factors have also been found to be predictive of recidivism, but these factors have been inconsistently supported in the literature. These lesser supported factors include the presence of a history of substance abuse, single-parent family background, being an ethnic minority, lower socioeconomic status, level of intelligence, and a history of conduct behavior problems (e.g., Dembo et al., 1995, 1998; Duncan, Kennedy, & Patrick, 1995; Katsiyannis & Archwamety 1997; Myner, Santman, Cappelletty, & Perlmutter, 1998; Repo & Virkkunen, 1997; Wierson & Forehand, 1995).

## *Offense History*

One factor found to be a stable predictor of recidivism is the child's or adolescent's age at the time of first offense. Specifically, research consistently suggests that the earlier a youth begins committing illegal acts, the greater the likelihood that the person will continue to reoffend (e.g., Cottle et al., 2001; Jones et al., 2001; Trulson et al., 2005). As mentioned earlier, due to privacy laws, these findings are typically limited to youth under 18 years of age; therefore, more recidivism data are available for those who begin offending early since there is a greater time period before they reach 18 years of age. Nevertheless, the age of first offense has been described as "...the single most important predictor in recidivism" (Hoge, 2001, p. 28).

In addition to age of first offense, research suggests that youth who commit more severe crimes are likely to reoffend (e.g., Archwamety & Katsiyannis, 1998; Cottle et al., 2001; Dembo et al., 1995, 1998; Myner et al., 1998). In this regard, Cottle et al. (2001) conducted a meta-analysis of studies examining risk factors that best predicted juvenile recidivism. The results showed that offense history was found to be the strongest predictor of recidivism, with those committing more serious crimes having a higher risk of recidivism.

## ***Academic Achievement***

Researchers have also repeatedly linked academic achievement with recidivism, with the juvenile delinquency population being overwhelmingly represented by those in need of academic remediation. For example, Archwamety and Katsiyannis (2000) examined juvenile delinquents in remedial math and reading groups and found that these youth were twice as likely to recidivate as those in the control group. In addition, a literature review by Vacca (2008) that focused on reading achievement and delinquency concluded that if more time was spent on teaching delinquents to read, then recidivism rates would decrease. A review of relevant studies by Katsiyannis et al. (2008) also reported that a significant relationship existed between low academic achievement levels and higher rates of recidivism. Related to this, educational disabilities have also been found to be related to recidivism (Zhang, Barrett, Katsiyannis, & Yoon, 2011).

## ***Sex***

Studies that have differentiated between males and females in data analyses have suggested that sex may be a major contributing factor in recidivism, with male juvenile delinquents being more likely to be rearrested than females (e.g., Baffour, 2006; Steketee, Junger, & Junger-Tas, 2013; Thompson & Morris, 2013; Trulson et al., 2005). For example, Archwamety and Katsiyannis (1998) conducted a study that focused solely on female delinquents and recidivism. They found that age of first offense and the age that a female delinquent was first committed to either a detention or correctional facility significantly predicted female recidivists from non-recidivists. The study also indicated that gang affiliation, history of child abuse, and length of stay in a correctional facility were predictive of recidivism. Archwamety and Katsiyannis (1998) also found that like the results reported for males in the literature, females had poor math skills that were significantly related to recidivism; however, unlike the results reported for males, no significant relationship was found in females between reading skills level and recidivism.

A study by Tille and Rose (2007) also identified factors unique to female delinquents between 13 and 18 years of age, finding that female recidivists were more likely to have emotional and behavioral problems and come from an unstable family situation in comparison to the same-age first-time female offenders that they studied. Another study by Thompson and Morris (2013) examined risk factors of recidivism for male versus female delinquents, finding that time spent in detention, dual involvement within the juvenile court system, emotional disability, adjudication status, and socioeconomic status were all significant risk factors regarding recidivism for females, while these factors, as well as low writing and math achievement, were risk factors for male delinquents. In this study, poor academic achievement was not



predictive of recidivism for females, and learning disabilities were not predictive of recidivism for males or females; however, the presence of an emotional disability was a significant predictor of recidivism for both sexes.

## Conclusion

There are a variety of risk factors and characteristics associated with juvenile delinquency and recidivism. While these factors do not explain fully the cause of juvenile delinquency, they do provide those working with youth offenders additional knowledge and directions for the initiation of prevention and intervention programs. As mentioned in the introduction to this chapter, there are a variety of other risk factors or characteristics of youth offenders that relate to the high prevalence of disabilities among these individuals. The relationship between juvenile delinquency and disability is further discussed in Chap. 3, and the impact that various disabilities have on delinquency will be the focus of the remainder of this book.

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