The New School Psychology Bulletin
2010, Vol. 7, No.1

Print ISSN: 1931-793X; Online ISSN: 1931-7948

Juvenile False Confessions and Competency to Stand Trial: Implications for Policy Reformation and Research

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In the 1990s, youth crime rates peaked, which led to an increase in arrests, interrogations, and prosecutions of juveniles (U.S. Department of Justice and Federal Bureau of Investigation, 2006). The influx of juveniles in the justice system prompted many researchers to inquire about legal competence in minors. Despite recent declines in juvenile crime rates, researchers are still concerned about developmental capacities of adolescents who are involved in the legal system (Grisso et al., 2003). This review will address two related aspects of legal competence: false confessions resulting from the interrogation process and competency to stand trial. Factors associated with competence such as development, mental illness, and mental retardation will be reviewed. Lastly, suggestions are made for policy reformations and directions for future study.

The Miranda Waiver/interrogation process and competency to stand trial (CST) are two related forms of legal competence. The ability to understand the Waiver process and Miranda rights is referred to as pre-adjudicative competence (Redlich, Silverman, & Steiner, 2003). By definition, Miranda rights give suspects the right to remain silent after arrested, the knowledge that any statements made can be used against them in a court of law, and an understanding they have the right to an attorney (*Miranda v. Arizona*, 1966). Miranda rights are important because they protect a suspect from interrogation; once these rights are waived, interrogation is free to begin (Kassin & Gudjonsson, 2004). In contrast, adjudicative competence (also known as CST) refers to a person's capacity to understand the legal process, court procedures, and the right to counsel after he or she is accused of a crime (Redlich et al., 2003).

Adolescents are at an increased risk for legal incompetence due to evolving development in multiple domains (Steinberg & Cauffman, 1999). The past two decades saw a substantial spike in juvenile (i.e., under age 18) crime rates, followed by a recent decline (U.S. Department of Justice and Federal Bureau of Investigation, 2006). During the spike, more juveniles were interrogated and put on trial, which caused increased concern about the legal standards for youths in the Miranda Waiver/interrogation process as well as in CST proceedings (Cox, 2008).

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Background on Legal Cases and Statutes

Since the 1990s, legal policy reforms have increased the severity of punishment to adolescent offenders in juvenile court while simultaneously lowering the age that a minor can be tried as an adult (Grisso et al., 2003). Yet no standards currently exist to specify the age at which juveniles can be interrogated, or assessed for CST (Frumkin & Garcia, 2003). New guidelines are needed for juveniles in the justice system because they are less likely than adults to understand their rights and more likely than adults to waive these rights (Kassin & Gudjonsson, 2004). Researchers have recently begun to look at factors associated with false confessions and CST. Most studies have found significant correlations between competence and cognitive development, mental illness (MI), and mental retardation (MR) (Cox, 2008; Redlich et al., 2003). In spite of the increased attention to this topic, there has yet to be any major changes in the treatment of juveniles in the justice system.

Adolescents were traditionally treated under the philosophy of parens patriae, which held that youths needed to be protected by the state authorities due to their developing knowledge of the legal system (Oberlander, Goldstein, & Ho, 2001). Under this principle, juvenile court began with the intention of rehabilitating adolescents rather than punishing them. However, since the early twentieth century there has been an increasing trend toward punishing juvenile offenders and, more recently, an extension of legal rights to this population

(Burnett, 2000).

The first U.S. Supreme Court case to address problems associated with the interrogation process was *Miranda v. Arizona* (1966). In this case, the Supreme Court held that suspects could only waive their Miranda rights and make a confession after they were informed of their rights by law enforcement officials. Miranda rights were soon extended to juveniles with the Supreme Court cases *Kent v. United States* (1966) and *In re Gault* (1967). The issue of juvenile waiver of Miranda rights was later addressed in the U.S. Supreme Court case *Fare v. Michael C.* (1979). In *Fare*, the justices ruled that juveniles could waive their Miranda rights only if they appreciated the consequences of their statements. The court further decided that factors such as age and intelligence could be used to determine whether the juvenile in fact understood his or her rights.

The Supreme Court considered the developmental differences of juvenile offenders in the case of *Roper v. Simmons* (2005). In this case, the court ruled that juvenile offenders were developmentally different from adult offenders in terms of their "immature and irresponsible behavior," vulnerability to negative social pressures, and lack of control over their own environments (*Roper v. Simmons*, 2005, p. 553). The court concluded that the developmental differences of juveniles led to a diminished level of criminal responsibility, which refers to an individual's state of mind at the time of the crime (Meyer & Weaver, 2006).

In recognition that juveniles are developmentally different than adults, states have also begun to enact legislation that offers them special protections. For example, the California Welfare and Institutions Code (n.d.) was recently expanded to require police officers and attorneys to inform juveniles of their legal rights. Additionally, the California Penal Code (n.d.) recently incorporated the creation of standardized law enforcement procedures for juvenile interviews. Regardless of increasing protections in California, many states still do not have laws protecting juvenile offenders.

Varying levels of legal protections for juveniles is problematic since many law enforcement agencies continue to use deceptive methods, such as producing fake evidence or minimizing potential charges. Such coercion leads many suspects to waive their Miranda rights and can result in devastating consequences (Steinberg & Cauffman, 1999). Prosecutors, judges, and juries tend to treat suspects who confess more harshly even in the face of contradictory evidence (Leo, 2009). For instance, juveniles who provide false confessions pertaining to rape or murder are typically transferred to adult criminal court (Drizin & Leo, 2004). In criminal court, juveniles are placed at increased risk for conviction due to their stage of development (Grisso et al., 2003).

Psychological Development

According to some researchers, early adolescence is a distinct and separate phase from late adolescence that takes place between the ages of 10 to 15 (Heuves, 2003). During this period, the onset of puberty causes youth to undergo rapid hormonal, neurological, and physical changes. These changes have a bidirectional interaction with cognition, behavior, emotional and social development (Susman & Rogol, 2004). Hormonal and neuronal transformations during puberty are specifically responsible for transformations in cognition and information processing. The early adolescent brain begins a process called dendritic pruning, which involves the "pruning out" of unused neural connections in order for specialized connections to take place (Windle et al., 2009).

The maturation and reorganization of synaptic connections and neurotransmitters within the brain, especially the frontal lobe, typically reaches full development in late adolescence or early adulthood. Late adolescence begins around age 16, but varies depending on the onset of sexual maturation (Keating, 2004; Windle et al., 2009). The frontal lobe is responsible for a multitude of cognitive abilities such as thinking about the consequences of behavior, regulating emotions and behavior, solving complex cognitive problems, plan-

ning ahead, making decisions, freely recalling information, and manipulating information in working memory (Baldo & Shimamura, 2002; Owen-Kostelnik, Reppucci, & Meyer, 2006). Many of these developmental changes are associated with legal competence in juveniles (Viljoen & Roesch, 2005).

Changes within the frontal lobe lead to an increase in rule-violating behavior due to the decreased ability to inhibit behaviors (Moffitt & Caspi, 2001). Breaking rules may expose juveniles to more contact with the police where they are more vulnerable to interrogation due to poor emotion regulation (i.e. rapid mood state fluctuations and emotional intensity), low stress tolerance, and displays of nervous behaviors (Moffitt & Caspi, 2001; Leo, 2009). Some of these behaviors include poor eye contact, increased restlessness, and faster rate of speech with more errors (Owen-Kostelnik et al., 2006; Viljoen & Wingrove, 2007). Adolescents also tend to display lower self-confidence in their ability to communicate thoughtfully and effectively, especially when in stressful situations such as interrogations. While all individuals are susceptible to displaying deceptive behaviors when nervous, juveniles tend to be more likely than adults to engage in such conduct (Colwell, Miller, Lyons, & Miller, 2006).

Furthermore, developing cognitive capacities often affect juveniles' verbal intelligence level. Viljoen and Roesch (2005) found that verbal intelligence (i.e., ability to solve complex problems through language based reasoning) may be a key factor for adolescents' ability to effectively communicate with counsel, understand written or spoken rules and procedures, and appreciate the legal implications of their choices. Although adults with language and intellectual deficits may also have difficulties understanding their legal situations, juveniles must contend with the other aspects of continuing development at the same time (Redlich, 2007).

Juveniles' reduced understanding of legal terminology and knowledge about when to consult with an attorney leads to increased risk of waiving their Miranda rights (Grisso, 1997; Owen-Kostelnik et al., 2006). A person's waiver of his or her rights allows police officers to begin an interrogation (Inbau, Reid, Buckley, & Jayne, 2004). The interrogation process leads to more false confessions in juveniles than in adults, in part because they have increased problems remembering exactly what happened on the date in question, conceptualizing the seriousness of questioning, and understanding the relationship between making a false confession and later sentencing (Leo, 2009; Steinberg & Cauffman, 1999). Juveniles' developmental tendency to focus on the present, combined with the stress of interrogation and promises of leniency, increases their likelihood of pleading guilty (Owen-Kostelnik et al., 2006).

During early adolescent development youth are also more susceptible to environmental pressures (Owen-Kostelnik et al., 2006; Steinberg & Cauffman, 1999). Peer influence peaks around ages 11 to 13, when juveniles are more likely to develop morals, values, and beliefs in line with their peers (Windle et al., 2009). Additionally, self-concept, identity, and confidence are not fully been established at this age (Harter, 1999). Thus, juveniles become increasingly conscious of not only their bodies, but the way they fit into their social environment (Susman & Rogol, 2004). In a legal context, juveniles are less likely to correct misinformation presented by law enforcement officials, are more likely to acquiesce to authority figures, and are more susceptible to social pressures than adults (Owen-Kostelnik et al., 2006; Redlich et al., 2003).

Research on Cognitive and Psychosocial Abilities in Juveniles

The MacArthur Foundation Research Network on Adolescent Development and Juvenile Justice studied differences in cognitive and psychosocial abilities based on age. The foundation collected data from five different sites for a total of 935 individuals ages 10 to 30. Approximately 50% of the participants were female and 50% were male from diverse ethnic and socioeconomic backgrounds. Cognitive abilities were measured by tests of working memory and verbal fluency, while psychosocial maturity was assessed by self-report mea-

sures of risk perception, sensation seeking, impulse control, and ability to resist peer pressure (Steinberg, Cauffman, Woolard, Graham, & Banich, 2009).

The study found that adolescents and adults differed significantly in psychosocial abilities, which continued to develop into late adolescence and often into early adulthood (Steinberg et al., 2009). The data did not reveal significant differences between adolescents and adults in terms of their cognitive ability to reason logically about moral, social, and interpersonal matters. However, there were significant differences between juveniles and adults in their ability to make legal decisions and think before acting. The MacArthur Foundation reported that these differences in cognitive ability decreased dramatically by age 16. The authors concluded that the court should take these factors into consideration when sentencing juveniles.

Mental Illness and Mental Retardation

MI and MR are two additional risk factors for false confession, incompetency to stand trial, and involvement in the legal system (McGaha, Otto, McClaren, & Petrila, 2006; Redlich, 2007). Individuals diagnosed with MI are generally less assertive, more suggestible, and suffer from cognitive impairments (Redlich, 2004). In addition, individuals with diagnosable disorders (e.g. Major Depressive Disorder, Bipolar Disorder, Schizophrenia, etc.) are vulnerable during the interrogation process because they often have less coherent thought processes and behaviors (Redlich, 2004). While MI and MR appear to impact legal competence for both juveniles and adults, youth still remain more vulnerable to false confessions and incompetency due to the added risk factor of age and associated developmental processes (Owen-Kostelnik et al., 2006).

Research continues to demonstrate that juveniles involved with the justice system have higher rates of MI than the general public. Shaffer et al. (1996) found that 21% of juveniles in the general population suffer from mental disorders with 11% having severe MI that caused impaired functioning. Conversely, Shufelt and Cocozza (2006) and Teplin, Abram, McClelland, Dulcan, and Mericle (2002) found the prevalence rates of MI in detained juveniles was significantly higher than in juveniles in the community.

Shufelt and Cocozza (2006) collected data on 1,400 youth from 29 different detention centers and legal programs. Participants were given the Diagnostic Interview Schedule for Children-Voice Version IV (Voice DISC-IV; Shaffer, Fisher, Lucas, Dulcan, & Schwab-Stone, 2000) to assess for MI. The study found that 70% of the juveniles met criteria for at least one mental health disorder. Forty-six percent of the disorders diagnosed were substance use disorders, 34% were anxiety disorders, and 18% consisted of mood disorders. The majority of juveniles who met criteria for one disorder also met criteria for three or more. Even when substance use disorders and Conduct Disorder were excluded, 46% of the overall sample still had a diagnosable disorder. Moreover, 27% of the overall sample qualified for severe MI defined as a disorder requiring "significant and immediate treatment" (Shufelt & Cocozza, 2006, p. 4).

Similarly, Teplin et al. (2002) found high rates of MI in juveniles who were arrested and detained. The majority of their 1,829 participants met diagnostic criteria, as assessed by the Structured Clinical Interview for DSM-IV (SCID; First & Gibbon, 2004), for at least one mental disorder. After Conduct Disorder, the most common diagnoses were substance use disorders, disruptive behavior disorders, and affective disorders including Major Depression. The researchers stated that arrested juveniles were at extreme risk for dual diagnoses with older juveniles having the highest rates of many of the disorders (Teplin et al., 2002). Such a finding raises concern that juveniles may still be at risk for legal incompetence even as they reach psychosocial and cognitive maturity. These concerns were substantiated by Steadman, Osher, Clark Robbins, Case, and Samuels (2009) who found elevated rates of serious MI (23%), as assessed by the SCID, in adult jail inmates in comparison to the general public.

The above studies point to the importance of MI as it affects those in the justice system. It may be easy

to assume that individuals who use substances or have behavioral problems, which are often resolved by rehabilitation or medication, commit the majority of crimes. However, research has shown that a significant percentage of youth and adults involved with the legal system suffer from severe MI. These mental disorders generally require extensive treatment and are more likely to affect the cognitive abilities involved in legal decision-making.

MR affects legal competence similarly to MI. Suspects who meet criteria for MR are at increased risk for legal incompetence for three main reasons: diminished cognitive and language skills, increased compliance and suggestibility, and decision-making based on short-term rewards (Kassin & Gudjonsson, 2004; Leo, 2009). These factors often result in mentally retarded individuals having trouble understanding their Miranda rights and subsequently waiving these rights, saying "yes" to incorrect and misleading questions, and having difficulty understanding the long-term consequences of their behaviors (Kassin & Gudjonsson, 2004; Leo, 2009).

In reference to juveniles, a significant percentage of youth found incompetent to stand trial have a diagnosis of MR. McGaha et al. (2006) collected data on 471 juveniles who were found incompetent to stand trial and committed to treatment facilities between 1997 and 2000. The data showed that of those juveniles found incompetent, 58% had a diagnosis of MR. Despite the significant levels of MI and MR in adolescents involved with the justice system, only a small percentage receive court ordered mental health services (Janku & Yan, 2009).

The legal system has the potential for bias when officers of the court do not obtain the proper training or do not have experience with MI and MR (Janku & Yan, 2009). For example, police officers often do not know how to identify MI/MR or how to approach such suspects during interrogation. Moreover, research is lacking on what percentage of judges understand how MI and MR may affect legal competence. Such scarce data is unfortunate because legal personnel are likely to interrogate or process juveniles with diagnosable mental disorders (Redlich, 2007).

False Confessions and the Interrogation Process

The guiding principle of the interrogation process is to presume a suspect is guilty and obtain a confession. Law enforcement officials use confrontational and deceptive tactics including accusing the suspect, presenting fake evidence, and using leading questions to secure a confession (Feld, 2006; Kassin & Gudjonsson, 2004). The interrogation process also puts excessive amounts of pressure on a suspect through such techniques as isolating the suspect in a room, confronting the suspect about suspicious behaviors, or minimizing the crime (Feld, 2006; Kassin & Gudjonsson, 2004).

Although using such police tactics are legal, the pressure of the interrogation may be so great that the suspect begins to distrust or forget his or her memories. Police officers may also suggest a possible motive and then promise that if the suspect confesses to the crime, the interrogation will end (Kassin & Gudjonsson, 2004; Leo, 2009). The result is often a false confession or "any detailed admission to a criminal act that the confessor did not commit" (Kassin & Gudjonsson, 2004, p. 48). Although adults also succumb to interrogation pressures, these tactics result in more false confessions with juveniles due to their maturing psychosocial, emotional, and cognitive capacities (Feld, 2006).

The Reid technique is the most common police interrogation procedure and uses a pre-interrogation interview to determine if the suspect is innocent or guilty (Owen-Kostelnik & Reppucci, 2009). If a suspect's statements and behaviors are determined to be innocent, he or she is released from custody with no further questioning. However, if the police officer determines that the suspect is being deceptive, the individual is presumed guilty and read his or her Miranda rights. The ultimate goal is to get the suspect to waive his or her rights because this allows law enforcement officials to interrogate the person and obtain a confession (Inbau et al., 2004).

Interestingly, Kassin and Norwick (2004) found that innocent individuals were more likely to waive their Miranda rights than guilty individuals. In this study, 72 university students were told they were either guilty or innocent of a mock crime, instructed to do or say what was necessary to avoid a trial, and then interrogated. Eighty-one percent of the innocent participants signed the Miranda waiver in contrast to 36% of the guilty participants. Similarly, Leo (1996) found that suspects without criminal records were more likely to waive their Miranda rights than those with prior felonies. Both sets of researchers speculated that the innocent individuals believed in the power of justice to set them free and were therefore more likely to waive their rights (Kassin & Norwick, 2004; Leo, 1996).

One problem with the Reid technique is that both the pre-interrogation interview and the interrogation depend on recognizing guilty behaviors. However, research indicates that individuals, including police officers, have low rates of accurate deception detection (Colwell et al., 2006; Hartwig, Granhag, Stromwall, & Vrij, 2004). Furthermore, training on the Reid technique actually increases baseline levels of inaccurate lie detection (Feld, 2006; Kassin & Fong, 1999).

In a study by Kassin and Fong (1999), researchers videotaped 16 students who were either "guilty" or "innocent" of a mock crime. Those who were "innocent" were told to tell the truth about what happened, while "guilty" participants were told to lie about their involvement in the crime. The researchers then had 40 college students watch the interrogation tapes of the 16 "suspects" and determine who was guilty. Prior to this task, some of the college students were randomly assigned to watch two 15 minute videotape clips from John E. Reid & Associates, the creators of the Reid technique. Training included how to detect deception based on verbal and nonverbal cues. The remaining participants did not receive any training before being asked to judge the suspects. The findings revealed that those trained in the Reid technique were less accurate in lie detection, yet reported more confidence in their decisions (Kassin & Fong, 1999).

In 2002, Meissner and Kassin showed the same interrogation videotapes of the student suspects to 44 police officers. Sixty-eight percent of the officers indicated they had received formal training on interrogation techniques and deception detection. The researchers found similar results to Kassin and Fong (1999), which indicated that the presence of prior training increased the police officers false deception detection and confidence in their decisions of guilt versus innocence. The researchers called this phenomenon the "investigator bias" and noted that it occurred even after years of experience in law enforcement (Meissner & Kassin, 2002).

Another problem with the Reid technique is that it uses the same procedures on both adults and juveniles, although major developmental changes occur in early adolescence (Feld, 2006). Owen-Kostelnik and Reppucci (2009) recently gathered survey data on 1,828 police officers to determine how increased training on the Reid technique impacted understanding of juvenile development. A total of 514 police officers reported that they had received formal training on the Reid technique at some point during their careers. Interestingly, the data analysis showed that those trained in the technique were actually less sensitive to adolescent development. These officers were more likely to presume that juveniles were competent during interrogation (i.e., understood their rights and the intent of interrogation) as well as employ more coercive techniques such as the presentation of false evidence and minimization.

The above findings are unfortunate since early adolescence is a period where information processing, emotion regulation, and social competence are still developing and affect behavior (Feld, 2006; Susman & Rogol, 2004). Typical juvenile behavior (e.g., fidgeting and stumbling over words) during the pre-interrogation interview resembles suspicious behavior and may cause law enforcement officials to start an interrogation (Owen-Kostelnik et al., 2006). Current deception training does not inform police about how adolescent development impacts juvenile behavior and makes interrogation and the judgment of guilt more likely.

Research on Juvenile False Confessions

Over the last few years, several studies have looked at the correlation between age and the likelihood of providing a confession to police officers. Viljoen, Klaver, and Roesch (2005) conducted a study with 73 female and 79 male defendants ages 11 to 17, detained in a pre-adjudication facility. The researchers asked the defendants questions about their most recent offense and contact with police. Viljoen et al. found that 75% of the defendants were questioned by police. Of these 75%, approximately 13% reported they refused to waive their Miranda rights and remained silent, 31% denied their involvement in the crime, and 55% confessed to the crime. The data further revealed that the majority of defendants who remained silent were older while the younger defendants were more likely to confess. However, the 15 to 17 year olds were significantly more likely than the 11 to 14 year olds to make false confessions with the presentation of evidence.

A similar finding was observed in a study by Redlich and Goodman (2003). The researchers assessed false confessions in three age groups: 12 to 13, 15 to 16, and 18 to 26. The participants, the majority of whom were Caucasian, included 48 females and 48 males. The participants were asked to complete a computer activity and instructed not to press the "ALT" key. A few minutes into each experiment, the computer spontaneously crashed and the participant was asked if he or she touched the key. The examiner provided one half of the participants with a computer printout that falsely reported they hit the ALT key (false evidence condition) and told the other half of the participants that the computer report would not print (no false evidence condition).

Initially, none of the participants in either condition confessed to hitting the ALT key. However, after the experimenter claimed to have evidence of the transgression, the percentage of false confessions increased. In the false evidence condition, 73% of the participants in the 12 to 13 age group, 88% of the participants in the 15 to 16 age group, and 50% of the participants in the young adult group falsely confessed to hitting the key. The percentage of false confessions for the no evidence condition was 81% for the 12 to 13 age group, 56% for the 15 to 16 year olds, and about 68% for the young adults (Redlich & Goodman, 2003).

The researchers found a drop in compliance (i.e., signing a confession statement) with the presentation of evidence for the 12 to 13 and young adult age groups. However, this decrease in compliance was insignificant between the false evidence and no false evidence conditions. Conversely, the researchers found that the difference between the false evidence and no false evidence conditions for the 15 to 16 year olds was statistically significant. This age group was more likely to confess when presented with false evidence (Redlich & Goodman, 2003). A similar finding was also observed by Viljoen et al. (2005).

Redlich and Goodman (2003) explained that the presentation of false evidence might not have impacted the 12 to 13 year olds because they were already highly compliant. For example, the majority (65%) of the 12 to 13 year olds did not say a single word before signing the statement of confession in comparison to 48% of the 15 to 16 year olds and 33% of the young adults. Overall, the researchers found juveniles between the ages of 12 and 16 were particularly vulnerable to false confessions. The fifteen and 16 year olds were the most vulnerable to false confessions even with low coercive techniques such as the presentation of fake evidence. The researchers theorized that actual interrogations, which are typically riddled with coercive and deceptive techniques, may lead to even greater levels of false confessions in juveniles.

A study by Goldstein, Condie, Kalbeitzer, Osman, and Geier (2003) concluded that the more juveniles understood their Miranda rights, the less likely they were to give false confessions. However, when knowledge of Miranda rights and intelligence were controlled, age predicted juveniles' likelihood of falsely confessing. Specifically, the 13 to 15 year olds were more likely to provide a false confession to at least one hypothetical crime than the 16 to18 year olds. Overall, individu-

als who are younger and have MI and/or MR are more vulnerable to interrogation pressures and false confessions, especially when the techniques are based on deception and suggestion (Kassin & Gudjonsson, 2004; Scott-Hayward, 2007).

Competency to Stand Trial

The case of *Youtsey v. United States* (1899) established CST constitutionally and was later expanded in the case of *Dusky v. United States* (1960). The adult criminal court ruled in *Dusky* that an individual had the right to be tried as a defendant of the court only if that person had "a rational as well factual understanding of the proceedings" and a "sufficient present ability to consult with his lawyer" (Bonnie, 1992, p. 402). If the defendant was impaired by MR or MI, the court could find the defendant incompetent to stand trial. The judge would not permit the trial to go further until the defendant had sufficient clinical rehabilitation consisting of education and training in court and legal procedures (Bonnie, 1992). Unfortunately, most individuals who are found incompetent cannot be rehabilitated due to MI or MR (Grisso et al., 2003). Although the *Dusky* ruling is applied in all adult courts, it is only used in juvenile courts in about one half of the states (Grisso et al., 2003).

Juvenile adjudicative competence has recently caught the attention of many researchers who have raised concern about the current standards for adolescents to stand trial. For example, Bonnie (1992) proposed a new conceptualization of the *Dusky v. United States* (1960) standard to include an understanding of the legal process, the capacity to know the significance of the legal circumstances, the ability to communicate information to counsel, and the ability to use reasoning in making decisions. Adjudicative competence is currently defined by three areas that include the ability to reason (reasoning), the ability to understand (understanding), and the ability for a defendant to appreciate his or her circumstances (appreciation) (Grisso et al., 2003). Juveniles have not fully developed these capacities and thus may not have the ability to make informed legal decisions on their own (Grisso, 1997).

One problem associated with juvenile adjudicative competence is the measures used to assess CST in juvenile defendants. The MacArthur Competence Assessment Tool-Criminal Adjudication (MacCAT-CA; Poythress et al., 1999) is the most widely used measure for evaluation of CST in both adults and juveniles (Grisso et al., 2003). The measure was created using a sample of adult offenders with MI and has yet to be validated with adolescent populations. Using adult measures to assess CST in juvenile offenders is problematic because the test may not adequately capture the developmental levels of youths (Grisso et al., 2003).

Research on Juvenile Adjudicative Competence

Researchers are beginning to assess juvenile competence using both adult measures of competence using youth measures of cognitive capacity in addition to adult measures of competence. As previously mentioned, researchers believe that developmental maturity, MI, and MR are factors that impact CST for adolescent offenders. Additionally, studies have included age and intelligence levels as components related to CST. Most of the findings have resulted in qualitative differences between adult and juvenile competency abilities based on the factors mentioned above (Grisso et al., 2003; LaVelle Ficke, Hart, & Deardorff, 2006).

Burnett et al. (2004) compared 70 juveniles, between the ages of 10 and 17, who were awaiting adjudication to an age-matched control group of 40 juveniles, using the MacCAT-CA. The juveniles' scores on the measure were compared to those of an adult population. Results demonstrated that in both groups, juveniles under age 15 had significantly lower scores than those of the adult comparison group. The group of juveniles awaiting adjudication group also had significantly lower scores than the comparison group after controlling for all other factors. Such findings suggested a difference in reasoning and understanding abilities in the adolescent offenders. In addition, scores on the reasoning and appreciation scales were significantly

correlated with age, intelligence, and education level. This indicated that CST involved cognitive abilities and maturity.

Grisso et al. (2003) compared two juvenile groups consisting of one community sample and one incarcerated sample. The two groups were also compared to 466 adults from either community or forensic settings. The researchers evaluated CST using the MacCAT-CA and MacArthur Judgment Evaluation (MacJEN; Grisso et al., 2003), which assesses psychosocial maturity through vignettes about risk appraisal and peer pressure. The study assessed mental health problems and intelligence using the Massachusetts Youth Screening Instrument-Version 2 (MAYSI-2; Grisso & Barnum, 2006) and the Wechsler Abbreviated Scale of Intelligence (WASI; Wechsler, 1999), respectively. The researchers hypothesized that maturity in social situations would help determine juvenile competence.

The results showed that all of the juveniles under the age of 16 obtained significantly lower scores than older juveniles and young adults on the measure of adjudicative competence. Similar to the study by Burnett et al. (2004), Grisso et al. (2003) found that the scores did not differ significantly between the adolescents aged 16 to 17 and those of adults. Interestingly, one third of the 11 to 13 year olds and one fifth of the 14 to 15 year olds scored comparable to adult offenders with serious MI. The juvenile offenders also tended to score lower in intelligence and competence than adolescents in the community.

Grisso and colleagues (2003) further noted significant differences in the MacJEN scores with juveniles under 15 years old. Juveniles in this age category were more likely to comply with authority figures and less likely to understand the effects of peer pressure, properly assess for risk, and understand the long term consequences of their legal decisions. All of the variables assessed on the MacJEN were correlated with age and intelligence level, with lower scores indicative of less understanding of legal proceedings (Grisso et al., 2003).

Viljoen and Roesch (2005) expanded on earlier studies and assessed the relationship between competence in juveniles and psychological symptoms, legal capacities, cognitive abilities, and legal learning opportunities. Similar to the above research, the results revealed that adjudicative competence increased with age. A person's ability to sustain his or her attention also emerged as a salient factor that positively correlated with competence. In contrast, lower socioeconomic status, less contact with an attorney, and youth with signs of attention deficit disorders were negatively correlated with scores on another measure of CST called the Fitness Interview Test-Revised (FIT-R; Roesch, Zapf, Eaves, & Webster, 1998). When assessing the relationship between CST and cognitive abilities, verbal ability scores were important predictors of adjudicative competence and tended to increase with age (Viljoen & Roesch, 2005).

Due to the consistent finding that current assessments are not age or developmentally appropriate, research should aim to create new measures that evaluate for CST in juvenile offenders. Policy changes are also needed in order to ensure that juveniles have the same rights as adults. Specifically, policy changes should include new procedures for CST evaluation as well as mandate such assessment for youth within the sensitive developmental age range (i.e., under age 16). Further research in this area and focus on policy reformation are particularly important due to previously mentioned studies that found psychosocial maturity, cognitive abilities, and MI/MR affect juveniles in the justice system.

Suggested Policy Implications: Review

Involvement in the legal system is an event that may seriously impact the course of a juvenile's life. Janku and Yan (2009) pointed out that legal involvement can often bring about stigmatization and separation from supportive community ties. Time in jail or prison can also lead to traumatic experiences (e.g. witnessing or being victim to physical or sexual assault) that later affects mental well-being, relationships, and the ability

to maintain employment. Youth are more vulnerable to having difficulties navigating the justice system than adults due to developmental differences.

Specifically, between the ages of 10 and 15 juveniles experience extensive biological changes that continue into late adolescence or early adulthood (Heuves, 2003; Susman & Rogol, 2004; Windle et al., 2009). Puberty leaves juveniles vulnerable to decision-making errors, emotional unsteadiness, reduced language skills, and social influence (Moffitt & Caspi, 2001; Owen-Kostelnik et al., 2006; Viljoen and Roesch, 2005). In addition, juveniles have not yet formed a self-identify and are therefore more self-conscious than the average adult (Harter, 1999). An adolescent's lack of confidence in his or her abilities is likely to affect an interrogation or competency proceeding. For that reason it is important for the legal system to enact and enforce policies that take developmental stage into consideration (Steinberg & Cauffman, 1999; Viljoen & Wingrove, 2007).

In order to address the developmental changes that occur during adolescence, the interrogation process needs to undergo reform. While some jurisdictions may already engage in these practices, there are no standardized legal guidelines. First, an interrogation must be recorded to allow the judge to determine whether the juvenile's Miranda rights were involuntarily waived or whether his or her statements were the direct result of police suggestion (Leo, 2009; Scott-Hayward, 2007). Recording may also deter police officers from using coercive techniques and instead promote neutral interviewing approaches (Kassin & Gudjonsson, 2004).

Second, law enforcement officials should eliminate interrogation techniques that give juveniles a false sense of security or pressure them to falsely confess. The interview should be a predetermined length of time; longer interrogations increase juveniles' vulnerability to exhaustion and stress and may result in the desire to escape the situation (Kassin & Gudjonsson, 2004). Lastly, a legal advocate or attorney must be present during the questioning of a juvenile to prevent the juvenile from unknowingly waiving his or her legal rights (Scott-Hayward, 2007).

Reforms are also needed regarding CST. Adjudicative competence reformers have proposed lowering the standards for finding juveniles incompetent, while concurrently lessening the punishments in juvenile court (Grisso et al., 2003). Viljoen and Wingrove (2007) also recommended reassessment for competency in the event of transfer to adult court. Under constitutional law, a juvenile tried in adult court must hold to the adult competency standards, although many adult courts informally lower juvenile CST requirements (Viljoen & Wingrove, 2007). Due to this discrepancy, competency should be reevaluated in juveniles who are found competent in juvenile court and later transferred to adult criminal court.

Another proposal by Viljoen and Roesch (2005) is that juveniles need to have the opportunity for increased contact with legal representation. This suggestion is based on the authors' finding that juvenile scores on CST measures increased with amount of time spent with an attorney. However, the researchers mentioned that more data is needed on this topic to test the reliability and validity of their findings. In addition, new measures of CST in juveniles are needed. Most courts currently measure adjudicative competence in juveniles based on adult measures (Grisso et al., 2003). A few instruments exist that assess psychosocial maturity aspects of competence, but these measures are in the preliminary stages of development and are not currently used in legal situations (Grisso et al., 2003).

New Policy Implications: Juvenile Legal Competence

Competency Measures and Future Research

The developmental literature on early adolescence should inform research and policy. Therefore, juveniles who have the intellectual requisites to pass current CST measures may still be psychosocially immature and not apt to proceed in a trial (Grisso et al., 2003). We suggest that measures of adjudicative competence used with juveniles incorporate a social developmental component. The hope is that such a component will pro-

tect adolescents from social pressures that are not currently assessed by CST measures. While the MacJEN is a good measure of psychosocial maturity, it was not created to assess CST in adolescents. The MacJEN, in its pilot stage of research, also has limited evidence of construct and concurrent validity with other measures of developmental maturity (Grisso et al., 2003). These limitations should be addressed in future research. Further, existing and new measures must be standardized on same-aged peers in forensic settings. Current measures of adjudicative competence used with juveniles were validated with a sample of mentally ill adults and may not adequately capture their stage of development (Viljoen & Wingrove, 2007).

Regarding Miranda Waiver, there are currently no standardized screening measures to assess whether the juvenile is competent to waive his or her rights and proceed with an interrogation (Ryba, Brodsky, & Shlosberg, 2007). At present, adolescents can only contest their competency during the adjudicative phase. Here, an expert witness may be called in to evaluate whether the youth voluntarily, knowingly, and intelligently waived his or her Miranda rights (i.e., capacity to waive Miranda rights [CWM]) (Ryba et al., 2007).

The gold standard measures for CWM are the Instruments for Assessing Understanding and Appreciation of Miranda Rights (Miranda Instruments; Grisso, 1998). The Miranda Instruments consist of four measures that retroactively evaluate whether a suspect understands the concept and implications of waiving his or her rights (Redlich et al., 2003; Ryba et al., 2007). These instruments are an important part of the CWM evaluation process due to their ability to provide objective data. However, the instruments are criticized for publication with small sample sizes and limited evidence of criterion, content, and construct validity (Ryba et al., 2007).

Fortunately, current research on Miranda Waiver measures appears to be headed in the right direction. Goldstein, Zelle, and Grisso (cited in Zelle, 2008) are currently working on updating the Miranda Instruments to include a larger, more diverse sample (e.g., offenders held in juvenile detention centers) and a fifth measure to assess when and under what circumstances false confessions are made. The revised Miranda Instruments are named the Miranda Rights Comprehension Instruments-II (MRCI-II) and the manual is scheduled for publication in the near future (Zelle, 2008).

Despite available Miranda Waiver competency measures, most psychologists prefer to use non-standardized techniques such as clinical interviews and chart reviews of police records (Ryba et al., 2007). For example, in a survey of clinical psychologists who indicated that they conducted CWM evaluations, the majority reported they did not use the Miranda Instruments. Most of the surveyed psychologists also reported their testimonies were always accepted in court (Ryba et al., 2007). It is unknown how using clinical interviews rather than empirically supported CWM measures affects juveniles in the justice system, but this certainly warrants future research.

With these issues in mind, we propose that researchers focus on creating and validating a pre-adjudicative competency measure for juveniles that screens for CWM. The measure should be used in conjunction with clinical interviewing and record review. Such a measure may decrease the number of false confessions by making sure that the detained juvenile understands his or her legal rights before proceeding to interrogation. Additionally, a pre-adjudicative competency measure may reduce the need for retroactive CWM evaluations that take extensive amounts of time to complete. However, such retroactive evaluations should not be completely eliminated as they are an important legal protection in case constitutional rights are violated during the pre-adjudicative phase.

Psychologist Involvement

The court is responsible for recommending competence evaluations for juveniles who are facing trial. The only way a psychologist can evaluate for CST is upon request of the defendant's attorney and approval by the judge (Viljoen & Roesch, 2005). Similarly, psychologists typically only take part in the interrogation

process when they are called into court to testify as part of the CWM evaluation (Ryba et al., 2007). We suggest the legal system increase psychologist involvement by mandating CST assessments and pre-adjudicative CWM screens for juvenile defendants 16 years of age and younger. Several studies and the developmental literature point to age 16 as a cut-off for psychosocial maturity with notable decreases in susceptibility to false confessions and incompetence to stand trial (Grisso et al., 2003; Redlich & Goodman, 2003; Steinberg et al., 2009).

Psychologists should also take an active role in legal trainings on MI and MR, especially since the majority of police officers and judges are not trained to identify and/or deal with these disorders (Redlich, 2004; Redlich, 2007; Reed, 2002). Trainings should incorporate symptom identification, an overview of mental health disorders and how they affect behavior, the consequences of interrogation with mentally ill and mentally retarded juveniles, and procedures for when a mental disorder has been identified in a juvenile suspect. Trainings should further focus on differences between juveniles and adults with MI and MR and how this plays a significant role in their understanding of the legal process.

Developmental maturity is also important in terms of training. For example, Meyer and Reppucci (2007) surveyed law enforcement officials on the developmental differences of youths and the interrogation process. The results indicated that police officers were able to identify the developmental differences, but did not apply this knowledge to the interrogation process. However, one third of police officers reported they would benefit from trainings on interrogation of juveniles (Meyer & Reppucci, 2007). Similarly, Viljoen and Wingrove (2007) conducted a study that found that judges and attorneys recognized immaturity as a cause for incompetence, but rated it as less important than MI or MR.

Current trainings on interrogation focus on lie detection and accurately interpreting verbal and nonverbal cues (e.g., Reid technique). However, research has shown that such trainings actually decrease the individual's ability to recognize deception (Kassin & Fong, 1999; Meissner & Kassin, 2002). Juveniles, who are more likely to display deceptive behaviors, are put at greater risk of succumbing to interrogation pressures. We therefore suggest that training should not center on observable behaviors that discriminate between innocence and guilt. Rather instruction for legal personnel should focus on how adolescents go through a period of biological changes that affect their cognition, emotion, behavior, and social competence.

Conclusion

More research is needed to help implement appropriate procedures for the adjudication of juvenile suspects. The reviewed research reveals major developmental differences between juveniles and adults. Young age, lower intellectual abilities, and psychosocial immaturity all lead to increased risk for false confessions and incompetency to stand trial (Scott & Grisso, 1997; Viljoen & Roesch, 2005). Juveniles involved in the legal system also have significant rates of MI and MR (Shufelt & Cocozza, 2006; Teplin et al., 2002), which calls for increased sensitivity in the interrogation and prosecution of adolescent offenders.

We advocate for new policies and research that (1) create and implement pre-adjudicative and adjudicative competency measures for juveniles 16 years of age and younger, (2) expand current norms for CWM and CST measures to include a psychosocial maturity component, (3) mandate training on MI, MR, and developmental processes in juveniles for police officers and judges, and (4) increase psychologist involvement in interrogation/CST procedures and legal trainings.

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