

THE MEASUREMENT OF JUVENILES' COMPETENCE RELATED ABILITIES

by

Amanda Marie Fanniff

Copyright © Amanda Marie Fanniff 2009

A Dissertation Submitted to the Faculty of the

DEPARTMENT OF PSYCHOLOGY

In Partial Fulfillment of the Requirements
For the Degree of

DOCTOR OF PHILOSOPHY

In the Graduate College

THE UNIVERSITY OF ARIZONA

2009

THE UNIVERSITY OF ARIZONA
GRADUATE COLLEGE

As members of the Dissertation Committee, we certify that we have read the dissertation prepared by Amanda Marie Fanniff entitled The Measurement of Juveniles' Competence Related Abilities and recommend that it be accepted as fulfilling the dissertation requirement for the Degree of Doctor of Philosophy

_____ Date: 4/13/09
Judith V. Becker, Ph.D.

_____ Date: 4/13/09
Connie J.A. Beck, Ph.D.

_____ Date: 4/13/09
Richard R. Bootzin, Ph.D.

_____ Date: 4/13/09
Bruce D. Sales, J.D., Ph.D.

_____ Date:

Final approval and acceptance of this dissertation is contingent upon the candidate's submission of the final copies of the dissertation to the Graduate College.

I hereby certify that I have read this dissertation prepared under my direction and recommend that it be accepted as fulfilling the dissertation requirement.

_____ Date: 4/13/09
Dissertation Director: Judith V. Becker, Ph.D.

STATEMENT BY AUTHOR

This dissertation has been submitted in partial fulfillment of requirements for an advanced degree at the University of Arizona and is deposited in the University Library to be made available to borrowers under rules of the Library.

Brief quotations from this dissertation are allowable without special permission, provided that accurate acknowledgment of source is made. Requests for permission for extended quotation from or reproduction of this manuscript in whole or in part may be granted by the copyright holder.

SIGNED: Amanda Marie Fanniff

ACKNOWLEDGEMENTS

The support and encouragement I have received from a number of individuals over the course of the past years have been essential to my successful completion of graduate school. I would particularly like to thank my mentor, Judith Becker, for all of her encouragement and invaluable guidance throughout graduate school. Her generous and positive spirit has been inspiring and a welcome antidote to my own occasional pessimism. Additionally, I would like to thank my committee members Connie Beck, Richard Bootzin, and Bruce Sales for their support and feedback, as well as their flexibility in responding to the realities of collecting data in a juvenile justice setting. Additionally, I want to thank Bruce for always pushing me to think clearly and deeply. I would also like to acknowledge the unique openness of the Pima County Juvenile Court in seeking out and supporting empirical research on policy-related questions, and to thank Beverly Tobiason and Patricia Cluss in particular for their support of this research. My research assistants, Lydia Armagnac, Sarah Biebelhausen, Brittany Coleman, and Evelyn Jaramillo all helped make the completion of this project possible. The support, encouragement, and motivation I have received from friends has also been incredibly important to me, without which graduate school would have seemed impossible. Finally, and most importantly, the love and indefatigable support of my parents are the foundation beneath any and all of my achievements. From ferrying me to viola lessons, to helping me move (again), to absorbing the brunt of my stress and anxiety, their unflagging faith in me and willingness to help in whatever way they could has given me the strength to pursue my highest aspirations.

This project was supported by an award from the American Academy of Forensic Psychology.

TABLE OF CONTENTS

ABSTRACT.....	8
THE UTILITY OF THE CAST-MR IN ASSESSING JUVENILE DEFENDANTS’ COMPETENCY TO STAND TRIAL.....	10
Introduction.....	10
<i>Competence Assessment Instruments used in Research with Juveniles</i>	13
<i>Competence Assessment in Practice</i>	17
<i>Research on the CAST-MR</i>	19
<i>The Current Study</i>	21
Methods.....	22
<i>Participants</i>	22
<i>Measures</i>	23
<i>The Competence Assessment for Standing Trial for Defendants with Mental Retardation (CAST-MR)</i>	23
<i>Intelligence</i>	23
<i>Mental Health Problems</i>	24
<i>Learning Problems</i>	25
<i>Legal Experience</i>	25
<i>Procedure</i>	25
<i>Data Analysis</i>	28
Results.....	29
<i>Internal Consistency</i>	29

TABLE OF CONTENTS - *Continued*

<i>Relevant Correlates</i>	30
<i>Moderator Analyses</i>	31
Discussion.....	33
CONSIDERING IMMATURITY AS A BASIS FOR INCOMPETENCE TO STAND	
TRIAL: THE IMPACT OF MATURITY OF JUDGMENT ON LEGAL DECISION-	
MAKING IN JUVENILE DEFENDANTS.....	
Introduction.....	41
<i>Concerns About Juveniles' Competence to Stand Trial</i>	42
<i>Immaturity as a Basis for Incompetence</i>	44
<i>Development of Judgment</i>	47
<i>Resistance to Other's Influence</i>	49
<i>Responsibility</i>	50
<i>Risk Perception</i>	51
<i>Temperance</i>	53
<i>Perspective</i>	53
<i>Potential Impact of Judgment on Competence</i>	55
<i>The Current Study</i>	57
Method.....	58
<i>Participants</i>	58
<i>Measures</i>	58
<i>The Judgment in Legal Contexts Instrument</i>	58

TABLE OF CONTENTS - *Continued*

<i>Intelligence</i>	59
<i>Interview</i>	60
<i>Procedure</i>	61
<i>Data Analysis</i>	63
Results.....	65
<i>Performance on the JILC</i>	66
<i>Choices Recommended</i>	66
<i>Predictors of Performance on Judgment Variables</i>	68
<i>Decisions Regarding One's Own Legal Situation</i>	69
Discussion.....	71
APPENDIX A: ANALYSES REGARDING THE CAST-MR.....	84
APPENDIX B: ANALYSIS REGARDING LEGAL DECISIONS AND JUDGMENT.....	91
REFERENCES.....	102

ABSTRACT

Juveniles' right to be competent to stand trial has been increasingly recognized since *In re Gault* (1967) granted juveniles essential due process rights. One formulation of competence proposes two facets: competence to assist counsel (e.g., understanding the roles of legal actors, the adversarial system,) and decisional competence (Bonnie, 1992). The first goal of this project was to investigate the psychometric properties and relevant correlates of one instrument to assess competence to assist counsel, the Competence Assessment for Standing Trial for Defendants with Mental Retardation (CAST-MR; this study used only the first two scales). Results indicated acceptable internal consistency, although concerns were raised regarding the appropriateness of some items. Scores were related to age and intelligence, as in prior research. No relationship was found with most mental health scale scores, prior legal system involvement, contact with defense counsel, or learning problems. The second goal of the study centered on decisional competence and the role of immaturity; specifically whether age is associated with immature judgment (assessed using the Judgment in Legal Contexts instrument) and if immature judgment predicts decisions made about one's own case. The current study found few significant relationships between age or intelligence and variables coded from the JILC (including authority compliance, risk recognition, risk appraisal, future recognition, resistance to peer influence). Additionally, age and the perceived strength of evidence were not predictive of individuals' decisions to confess, to fully disclose to defense counsel, or to accept a plea bargain. Juveniles who had confessed scored higher on future recognition, those who fully disclosed to their attorney scored lower on authority

compliance, and those who would accept a plea bargain scored higher on risk recognition and appraisal. While the results were modest, they suggest that immature performance on a judgment measure may predict individuals' legal decision-making. If a juvenile fails to appreciate the potential consequences of legal decisions, his or her decisional competence may be questioned. Generally, immaturity may need to be recognized as a basis for findings of incompetence if performance on relevant skills is shown to improve with age and immature performance is shown to interfere with competency.

THE UTILITY OF THE CAST-MR IN ASSESSING JUVENILE DEFENDANTS' COMPETENCY TO STAND TRIAL

Introduction

Competence to stand trial has long been recognized as a fundamental right of criminal defendants (e.g., *Pate v. Robinson*, 1966), yet for many years this right was not recognized in juvenile court. Competence to stand trial requires a defendant have “sufficient present ability to consult with his lawyer with a reasonable degree of rational understanding” and “a rational as well as factual understanding of the proceedings against him” (*Dusky v. US*, 1960, p. 402). One popular formulation of the abilities required to be competent proposes two facets: competence to assist counsel and decisional competence (Bonnie, 1992). Competence to assist counsel includes the “minimum conditions required for participating in one’s own defense” including understanding the charges and the legal system, appreciation for one’s legal situation, and the ability to recognize and communicate relevant information to counsel (Bonnie, 1992, p. 297). Decisional competence refers to the ability to make autonomous decisions, although the level of sophistication expected of defendants is unclear (i.e., whether a defendant has to demonstrate comprehension, appreciation, or a rational decision making process). The requirement that criminal defendants be competent serves a number of purposes, including preserving the dignity of the criminal proceedings, improving the accuracy of convictions, and ensuring the autonomy of defendants (Poythress, Bonnie, Monahan, Otto, & Hoge, 2002). Such values are critical in an adversarial system in which a defendant must participate in the proceedings, make decisions about his case, and defend

himself against the charges brought by the prosecution and from the potential loss of liberty associated with conviction.

Given that the juvenile court was established to intervene beneficently in the lives of juvenile offenders, such protections were initially considered unnecessary (Grisso, Miller, & Sales, 1987). The purposes served by the requirement of competence were irrelevant in juvenile court proceedings: the informal nature of the proceedings made concerns about the dignity of the process irrelevant, the interest in identifying and rectifying the youth's problems as opposed to a primary interest in guilt or innocence made the accuracy of conviction less important, and as youth were not expected to make any decisions the requirement that defendants be autonomous was meaningless in juvenile court (Bonnie & Grisso, 2000). In the *In re Gault* (1967) decision, however, the Supreme Court acknowledged that the juvenile court had not lived up to its beneficent ideal and that juveniles must be provided fundamental due process rights. Competence to stand trial was not addressed by the court in *Gault*, however, the provision of other due process rights led to the consideration of the right to be competent to stand trial in juvenile courts. In their review, Grisso and colleagues (1987) identified 18 states that had recognized the right of juveniles to be competent to stand trial. In an updated review, Redding and Frost (2001) found that 35 states explicitly acknowledge the right of juveniles to be competent and only one state explicitly denies this right. At least one additional state has since recognized the right of juvenile defendants to be competent (Indiana; *In re K.G.*, 2004). Policy trends that have made the juvenile justice system more punitive, including decreased confidentiality, new mechanisms of transferring youth to

adult court, and blended sentencing (Snyder & Sickmund, 2006), have made juveniles' competence to stand trial more relevant, resulting in a growing body of case law and state statutes devoted to the issue (Grisso, 1997; Redding & Frost, 2001).

As the right of juveniles to be competent is recognized in an increasing number of jurisdictions, more youth are being referred for competence evaluations. A clinical interview can be used to gather the information necessary to address a youth's competence (e.g., Barnum, 2000; Melton, Petrila, Poythress, & Slobogin, 2007); however, a structured assessment instrument can improve the quality of the evaluation. The need for "standardized, quantified methods" of assessment to supplement traditional psychological assessment strategies was recognized even among the earliest publications addressing juvenile competence to stand trial (e.g., Grisso et al., 1987). The use of structured assessments ensures that evaluators gather information specific to the relevant psycholegal question (Grisso, 2003), may improve interexaminer reliability of evaluations (Skeem, Golding, Cohn, & Berge, 1998), and are highly correlated with competency determinations (Nicholson & Kugler, 1991). Skeem and Golding (1998) noted that "competence-specific measures... should be used more routinely because they are strongly associated with determinations of CST and promote good interexaminer reliability" (p. 364).

While the use of specialized assessment instruments is widely considered desirable, it is important to note that no instrument can definitely determine whether an individual is competent. The standard for competency is intentionally vague to ensure it is flexible enough to be applied in a variety of circumstances, making it "difficult, and

arguably even impossible, to operationalize legal concepts to the extent that they can form the basis for developing psychological tests” (Roesch, Hart, & Zapf, 1996, p. 107). Furthermore, any opinion regarding an individual’s competence can only be rendered while being mindful of the individual’s particular legal situation (e.g., Bonnie & Grisso, 2000; Roesch et al., 1996; Skeem, Golding, & Emke-Francis, 2004). Therefore an individual’s performance during a competency evaluation, or his score on a particular competence assessment instrument, must be interpreted in light of his situation and is not independently indicative of competence. Despite the inability to develop instruments to assess competence that function like a traditional test (e.g., with cut-off scores), the use of forensic assessment instruments, designed to guide the clinician to gather relevant information for the specific legal question at hand, can improve the quality of assessments (Grisso, 2003).

Competence Assessment Instruments used in Research with Juveniles

A growing body of research has investigated juvenile competence to stand trial utilizing a variety of measures. Savitsky and Karras (1984) compared the performance of nondelinquent 12 year olds, detained 15-17 year olds, nondelinquent 15-17 year olds, and adult family members of children in detention on the Competency Screening Test (CST), a 22-item sentence completion test with good interrater reliability (e.g., Nicholson, Robertson, Johnson, & Jensen, 1988). Results indicated that the 12 year olds scored significantly lower than both groups of 15-17 year olds as well as adults. Additionally, the two 15-17 year old groups’ scores were not significantly different from each other but were significantly lower than the adults’ scores. Furthermore, Savistksy and Karras

(1984) found that CST scores were marginally correlated with an estimate of verbal intelligence (the Shipley Scale).

The Georgia Court Competency Test as revised at the Mississippi State Hospital (GCCT-MSH) was again revised to create an instrument more appropriate for juvenile defendants (Cooper, 1997). The GCCT-MSH is a 21 item multiple choice and short answer instrument with adequate internal consistency, good interrater reliability, and some evidence for validity (Nicholson, et al., 1988). The resulting juvenile revision (GCCT-JR) was studied in a sample of 112 juvenile offenders (ages 13-16) in a placement center post-adjudication, and results indicated the measure has adequate internal consistency and required a 4th grade, 4th month reading ability (Cooper, 1997). In this initial study, 13 year olds scored lower than 14, 15, and 16 year olds, who did not significantly differ from each other. Additionally, IQ was found to be significantly related to scores on the GCCT-JR (Cooper, 1997). Additional research using a sample of 163 male offenders (ages 12-20) in adult and juvenile correctional facilities found both age and IQ to be significant predictors of GCCT-JR scores (Pierce & Brodsky, 2002).

The Fitness Interview Test – Revised (FIT-R; Roesch, Zapf, Eaves, & Webster, 1998) has also been examined in a juvenile population (Viljoen & Roesch, 2005; Viljoen, Vincent, & Roesch, 2006). The FIT-R is a semi-structured clinical interview that consists of three scales: Understanding, Appreciation, and Communication with Counsel. Research has demonstrated excellent interrater reliability for most items and for the overall judgment of competence (Viljoen, Roesch, & Zapf, 2002) and a high level of agreement with hospital staff's opinions regarding competence (Zapf, Roesch, & Viljoen,

2002) in research on adults. Viljoen and colleagues (2006) found acceptable interrater reliability for the structured clinical ratings of competency and excellent interrater reliability for the FIT-R items, summary scores (for Understanding, Appreciation, and Communication with Counsel), and total score when assessing juvenile defendants. Age was significantly correlated with all three FIT-R scales, as was General Intellectual Ability (GIA) as assessed by the Woodcock-Johnson III Cognitive Assessment Battery (WJ III; Woodcock et al., 2001). The relationship between age and FIT-R scores was partially mediated by GIA, which is a non-age adjusted measure of intellectual ability. Additionally, age moderated the relationship between GIA and FIT-R scores such that relationship between GIA and scores on Appreciation and Communication with Counsel was stronger at younger ages (Viljoen & Roesch, 2005). Prior experience with the justice system did not predict scores on any scale of the FIT-R; however time spent with one's attorney was significantly associated with higher scores on all three scales (Viljoen & Roesch, 2005). Regarding mental health problems, only symptoms of ADHD were found to be negatively associated with FIT-R Appreciation and Communication, using the Brief Psychiatric Rating Scale for Children (Hughes et al., 2001).

The instrument used most frequently in research on juveniles' competence related abilities is the MacArthur Competence Assessment Tool- Criminal Adjudication (MacCAT-CA; Poythress et al., 1999), a structured assessment comprised of 22 open-ended questions assessing the individual's appreciation of his or her own situation as well as factual knowledge and decision-making ability in reference to a vignette. This instrument has three subscales (Understanding, Appreciation, and Reasoning) which have

been shown to have good internal consistency and good to excellent interrater reliability when used with adults (Otto et al., 1998). Additionally, MacCAT-CA scores were shown to be positively related to IQ, negatively related to psychotic symptoms, and to have criterion-related validity (Otto et al., 1998). Research on the MacCAT-CA with juveniles has generally replicated the good interrater reliability found in examining adults, although results regarding the Appreciation scale have been more variable (Burnett, Noblin, & Prosser, 2004; Ficke, Hart, & Deardorff, 2006; Grisso et al., 2003; Warren, Aaron, Ryan, Chauhan, & DuVal, 2003). This body of research has consistently found that increased age is associated with improved performance (Burnett et al., 2004; Ficke et al., 2006; Grisso et al., 2003; Warren et al., 2003). For example, in the largest study of juveniles' trial-related abilities to date, the performance of 453 detained juveniles, 474 community juveniles, 233 detained adults, and 233 community adults on the MacCAT-CA were compared (Grisso et al., 2003). Age was associated with performance such that juveniles under age 16 were significantly more likely to score in the impaired range than older participants. Additionally, 11-13 year olds performed worse than at least one older group on all three subtests and 14-15 year olds scored significantly worse than at least one of the two older age groups on all three subtests (Grisso et al., 2003). While several studies have found an effect of age, one study did not replicate this finding, but this study had a relative small sample consisting solely of community (i.e., nondelinquent) youth (Redlich, Silverman, & Steiner, 2003). As expected, estimated intelligence has been found to be significantly related to all three subscales (Ficke et al., 2006; Grisso et al., 2003; Warren et al., 2003) or to a single subscale (Understanding; Burnett et al., 2004).

Evidence regarding the relationship between mental health problems and MacCAT-CA scores has been mixed, with some research finding no relationship (Grisso et al., 2003) and others finding a significant relationship between at least one measure of mental health problems with all three subscales (Ficke et al., 2006; Warren et al., 2003).

Similarly, prior experience in the juvenile justice system was unrelated to any subscale of the MacCAT-CA in one study (Grisso et al., 2003) but was significantly related to Appreciation in another (Ficke et al., 2006). Additionally, there is some evidence that learning disabilities may be associated with lower scores on some or all subscales (Ficke et al., 2006; Warren et al., 2003). Finally, while concerns have been raised regarding the developmental appropriateness of the MacCAT-CA, it should be noted that an investigation of age bias using item response theory found only three items that underestimate the abilities of juveniles ages 11-15 (i.e., adolescents with the same underlying ability as adults will perform worse on those particular items), and found two items that appeared to be easier for 11-15 year olds than adults (Viljoen, Slaney, & Grisso, 2008). Additionally, there were only three items which showed bias when comparing 16-17 year olds to adults (Viljoen et al., 2008).

Of the four competence assessment instruments studied in juvenile offenders, the FIT-R and the MacCAT-CA seem to have the best evidence to date to justify their use with juvenile offenders: their psychometric properties have been examined within this population and scores on these instruments have been found to be significantly related to expected correlates.

Competence Assessment in Practice

Given that the use of forensic assessment instruments is recommended for competency evaluations and that there is a small but growing body of literature regarding youth's performance on certain adult measures of competence, one might expect that these instruments are being widely utilized by practitioners. While there is limited data on the methods being used by forensic psychologists and psychiatrists, the research suggests these instruments are not being widely implemented. In a survey of National Register members who identified juvenile forensic assessment as an area of expertise, 70% of respondents indicated that the use of forensic testing was either essential or recommended in juvenile competency evaluations (Ryba, Cooper, & Zapf, 2003). In contrast, only 35% reported using such instruments more than 40% of the time and only 46% of respondents listed one or more tests they utilize. Of those that listed specific tests, the most commonly reported was the Competence Assessment for Standing Trial for Defendants with Mental Retardation (CAST-MR; Everington & Luckasson, 1992), with 45% of respondents reporting its use. The next most commonly used instruments were the MacCAT-CA (21%), the CST (21%), the GCCT (11%), and Grisso's instruments for assessing understanding and appreciation of *Miranda* rights (Ryba et al., 2003). In an examination of 1,357 reports regarding 674 children in Florida, only 29% of reports included the use of a forensic assessment instrument (Christy, Douglas, Otto, & Petrila, 2004). The most commonly used instrument was the Trial Competency Instrument (7%). The CAST-MR was used in 4% of reports and the CST, GCCT, FIT, and MacCAT-CA were all utilized in less than 1% of reports. The information provided by these studies is limited by the potential for selection bias in the Ryba and colleagues (2003) survey and the use of a

single jurisdiction in the Christy and colleagues (2004) review of evaluation reports. Despite these limitations, it is clear that some evaluators are using the CAST-MR to assess juvenile defendants.

Research on the CAST-MR

The CAST-MR is comprised of three scales: Basic Legal Concepts (referred to throughout as Scale 1), Skills to Assist Defense (referred to throughout as Scale 2), and Understanding Case Events (referred to throughout as Scale 3). The first two scales utilize multiple choice questions because of concerns that open-ended questions would be too demanding for mentally retarded defendants and would therefore underestimate their knowledge (Everington, 1990). Additionally, the language and syntax was written for individuals with lower levels of verbal ability (Everington, 1990). Research with non-criminal mentally retarded adults, mentally retarded adult defendants, and mentally typical adult defendants has found good internal consistency and inter-rater reliability for the 3 scales (Everington, 1990; Everington & Dunn, 1995; Everington & Luckasson, 1992). Mentally retarded defendants found incompetent scored lower on each section of the CAST-MR than mentally retarded defendants who were evaluated and found to be competent, as well as defendants with mental retardation who were not referred for a competency evaluation and mentally typical defendants (Everington, 1990). Using data from all available samples, as reported in the CAST-MR manual, individuals with mental retardation found incompetent scored lower overall than those found competent and both groups of individuals with mental retardation scored lower than individuals without mental retardation (Everington & Luckasson, 1992). A later study of mentally retarded

defendants evaluated for competence also found that those found competent had higher scores on each scale than those found incompetent (Everington & Dunn, 1995).

Discriminant function analyses were also completed, setting cut scores for each scale and identifying the percentage of defendants classified accurately, with the lowest accuracy found for Understanding Case Events (63%) and equivalent accuracy for both Basic Legal Concepts and Skills to Assist Defense (71%). Additionally, as expected, intelligence was found to be significantly correlated with all scale scores and the total score (Everington & Dunn, 1995). There is no published data regarding the psychometric properties of the CAST-MR when used to assess juveniles.

There are potential advantages and disadvantages to using the CAST-MR to assess juvenile defendants. The CAST-MR was recommended by Barnum (2000) as a “screening instrument” that may “be useful in gathering information with adolescents” (p. 211). The instrument is very easy to administer and to score. The use of simple language and multiple choice questions may explain why examiners have selected this instrument for use with juveniles and may allow juveniles to demonstrate their knowledge more effectively than open-ended questions and instruments that have a complex structure or use more difficult language. However, as Grisso (2003) pointed out, in real-life situations, defendants are often not presented with alternative interpretations of what is happening but rather must be able to understand what is happening in the courtroom without prompting. While no instrument can definitely determine competence, this suggests that high scores on the CAST-MR may be less strongly associated with competence than high scores on some more challenging instruments. Additionally,

several items on the CAST-MR are potentially problematic when used to assess juvenile defendants. These items are listed in Table 1. Items 4, 8, 22, and 24 were considered potentially problematic due to the use of terms that are not applicable in juvenile court (e.g., a “sentence” is referred to as a “disposition” in juvenile court). Items 12 and 17 were modified simply because the term “penitentiary” is outdated and it is expected that terms such as “prison” will be more familiar to most youth. Finally, item 19 was modified because, anecdotally youth on probation sometimes feel that they cannot talk to anyone they know due to the requirement that they do not socialize with other youth on probation.

The Current Study

Given that the CAST-MR is being used to assess juveniles, the current study was designed to provide preliminary data regarding the psychometric properties of this instrument when used with this population. The internal consistency of each scale and the item-total correlations are examined in order to determine whether the items assess a unified underlying construct as has been found in the research on adults. The juveniles in this study were not referred for competence evaluations; therefore it is not possible to investigate criterion-related validity. Relevant correlates will be examined to determine whether these variables have the expected relationship with CAST-MR scores. Given that scores on competence assessment instruments are consistently found to be related to age (Burnett et al., 2004; Cooper, 1997; Ficke et al., 2006; Grisso et al., 2003; Pierce & Brodsky, 2002; Savitsky & Karras, 1984; Viljoen & Roesch, 2005) and that research consistently demonstrates that younger juveniles are in fact determined to be incompetent

more frequently than older juveniles and/or adults (Baeger, Griffin, Lyons, & Simmons, 2003; Cowden & McKee, 1995; McKee, 1998), it is expected that scores on the CAST-MR will be correlated with age. Similarly, it is expected that scores on the CAST-MR will be correlated with intelligence, based on the frequency of this finding in the literature reviewed above (Burnett et al., 2004; Cooper, 1997; Ficke et al., 2006; Grisso et al., 2003; Pierce & Brodsky, 2002; Savitsky & Karras, 1984; Viljoen & Roesch, 2005). Two variables that have been examined in one study each will also be considered. Time spent with one's attorney is expected to be positively related to CAST-MR scores (Viljoen & Roesch, 2005) and learning problems are expected to be negatively related to CAST-MR scores (Ficke et al., 2006). Given prior mixed results regarding a history of juvenile court involvement and mental health problems (Ficke et al., 2006; Grisso et al., 2003; Viljoen & Roesch, 2005), no particular hypotheses are made regarding these relationships.

Methods

Participants

Participants included 28 juvenile offenders (24 males, 4 females) in a county detention center in a Southwestern state. These juveniles had not been referred for a competency evaluation. Participants ranged in age from 12 years, 8 months to 17 years, 10 months, with an average age of 15.9 years ($SD = 1.33$ years). Participants' self-identified ethnic backgrounds were as follows: 35.7% non-Hispanic Caucasian, 46.4% Hispanic/Latino, 3.6% African American, and 10.7% other. This information, as well as most other variables, was missing for one participant who dropped out of the study after completing one measure (the JILC). This individual was excluded from the remaining

descriptive statistics and analyses. There were 19 participants who both provided consent for the research team to access their court files and whose files were able to be located and coded. These participants had been arrested an average of 9.8 times ($SD = 4.8$) with a range from 0-19. Participants were also asked to self-report the number of times they had been arrested. This data was available for 27 participants, who reported an average of 12 arrests ($SD = 12.7$) with a range from 0 to 60. The median number of self-reported arrests was 10. The average FSIQ using the 4 subtest version of the WASI ($n = 19$) was 91.7 ($SD = 9.1$) with a range from 72 to 109.

Measures

The Competence Assessment for Standing Trial for Defendants with Mental Retardation (CAST-MR)

As described above, the CAST-MR has been found to have good internal consistency, inter-rater reliability, and validity when used to assess adults (Everington, 1990; Everington & Dunn, 1995). The CAST-MR was administered by giving each defendant a copy of the response booklet and reading each question and the answer choices (for the first two sections) aloud to the participant. At least one of the two example questions were reviewed with each participant prior to beginning the instrument to ensure that all participants understood the task. Participants were encouraged to guess if they initially were unsure of an answer. Alternate forms of potentially problematic questions were asked as part of a set of interview questions. These were sometimes asked prior to the CAST-MR items and were sometimes asked after.

Intelligence

The Wechsler Abbreviated Scale of Intelligence (WASI; Psychological Corporation, 1999) is an easy to administer, well-normed, reliable, and valid brief intelligence assessment designed for use with individuals ages 6 through 89 (Keith, 2001). The WASI has demonstrated both test-retest and inter-rater reliability (Psychological Corporation, 1999). The WASI provides an estimate of intelligence, and this estimate is highly correlated with scores on the Wechsler Adult Intelligence Scale-III and the Wechsler Intelligence Scale for Children-III (Psychological Corporation, 1999). The WASI was administered in a manner consistent with the manual; however testing conditions were not always ideal. Participants may have been distracted at times by activity outside the interview rooms. While this may result in underestimates of intellectual functioning for some participants, no bias in results is anticipated, as individuals distracted by activity should be randomly distributed among the sample. Except where noted, the analyses utilize the full scale IQ estimate based on all four subtests of the WASI (FSIQ-4).

Mental Health Problems

The Massachusetts Youth Screening Instrument- Second Version (MAYSI-2; Grisso & Barnum, 2000) was utilized as a brief screen for mental health problems. This 52-item instrument was developed for use with juvenile-justice involved youth and provides scores on six clinical scales (Alcohol/Drug Use, Angry-Irritable, Depressed-Anxious, Somatic Complaints, Suicide Ideation, Thought Disturbance) as well as an index of traumatic experiences. The MAYSI-2 scales have been found to have adequate internal consistency and test-retest reliability (Archer, Stredny, Mason, & Arnau, 2004;

Grisso, Barnum, Fletcher, Cauffman, & Peuschold, 2001). Additionally, relevant scales were moderately correlated with scales from more extensive instruments that are widely utilized with juveniles (Grisso et al., 2001). While the MAYSI-2 scales do not map directly onto particular diagnoses, scale scores are indicative of psychopathology, particularly externalizing disorders and substance use disorders (Wasserman et al., 2004).

Learning Problems

Learning problems were assessed using the Wide Range Achievement Test, 4th edition (WRAT-4; Wilkinson & Robertson, 2006). While earlier versions of the WRAT have not been well-reviewed (Ward, 1995), some efforts have been made to improve the WRAT-4. Currently the WRAT-4 has demonstrated good internal consistency for the subtests and for the Reading Composite, acceptable stability over time (measured using alternate forms after delay), and expected relationships between subtests and with relevant correlates (e.g., age; Wilkinson & Robertson, 2006). Unfortunately, the manual does not report inter-rater reliability and the correlations with other achievement measures are only moderate to moderately high (Wilkinson & Robertson, 2006). Not all participants completed the WRAT-4, however when it was completed, most finished the tests necessary for the Reading Composite score. This score is utilized in the analyses, as it is considered more relevant to the skills needed to be competent than the individual subtests used to create it (Word Reading and Sentence Comprehension) or the other subtests in the measure (Spelling and Math).

Legal Experience

As part of a broader interview developed for this study, partially modeled after that used by Viljoen, Klaver, and Roesch (2005), participants were asked about the number of times they had met with their attorney. Additionally, as noted above, referrals to the juvenile court based on file review and self-report were collected.

Procedure

Participants were recruited by providing information to family members visiting children in detention. Initially, a sign was posted at the check-in for visitation with minimal information and a statement that anyone interested in learning more should ask for a flyer from the detention officer. When someone picked up the flyer, they would then be approached by research staff to discuss the nature of the study. Observation of the families checking in and discussion with those families who did express interest made it clear that many people did not look at the sign or made assumptions about what the study involved that resulted in few individuals expressing interest. Subsequently, we began handing out flyers with information to all individuals checking in for a visit, and a statement on the flyer encouraged them to speak to the research team member who handed them the flyer or to call the phone number provided to learn more. When a parent or guardian expressed interest, the study was explained to them according to a script. If parents/guardians were still interested, the consent process was completed. Parents who seemed unsure after the study was explained were encouraged to keep a copy of the consent form and call the phone number provided if they had further questions or decided they wanted to provide consent. After parental consent was obtained, juveniles were seen

in interview rooms near their living units in the detention center. The study was explained and an assent form was reviewed with each child.

During the consent and assent process, the voluntary nature of the project was heavily emphasized and participants were informed that participation had no impact on their court cases in order to minimize the potential for coercion. Additionally, a Certificate of Confidentiality was obtained, and the protection this provided was explained to all participants. On the consent and assent forms, participants had to initial to indicate whether they granted permission for the research team to review their court file. This allowed families that had privacy concerns regarding the juvenile's charges to participate. Additionally, all consent and assent forms were available in English and Spanish, and research staff included a fluent Spanish speaker to ensure that primarily Spanish-speaking families would be able to participate.

Participants completed the above instruments, the Judgment in Legal Contexts instrument (JILC; Woolard, Reppucci, Steinberg, Grisso, & Scott, 2003), and an interview that included questions regarding the juvenile's background, relationship with his or her attorney, and experience being interrogated. Results regarding the JILC and the interview are reported elsewhere. Participants completed the instruments in different orders, although a specific randomization of presentation scheme was not developed. The CAST-MR, JILC, and interview (in varying orders) were usually completed as the first three measures. Not all participants completed the full protocol for several reasons including fatigue and interruptions related to the detention schedule. Instruments were

administered by the first author or advanced undergraduates trained in the use of each measure. Scoring of the WASI and WRAT-4 was always completed by the first author.

File reviews were conducted, when permission was granted by the participant and his or her parent/guardian, to determine the number of times the participant was arrested, how many times he or she was convicted, and to score the Understanding Case Events scale of the CAST-MR.

Participants were compensated for their time with a \$10 gift certificate and an entry into a raffle for an iPod Shuffle. All procedures were approved by the facility where data were collected and the University of Arizona IRB.

Data Analysis

Internal consistency of the scales of the CAST-MR is examined using Cronbach's alpha as well as item-total correlations. If the scales measure a single underlying construct, an alpha of .60 or higher is expected. Additionally, item-total correlations should be .30 or above. If the items that were expected to be problematic, outlined above, do indeed have low item-total correlations, analyses will be re-run with the alternative items developed for the current study. It should be noted that there is significant missing data regarding Scale 3 (Understanding Case Events) of the CAST-MR. This scale was only able to be scored for 6 participants, either because the research team did not have permission to review the participant's file or because the arrest information in the file was not adequately detailed to accurately score the participant's responses.

Pearson product-moment correlations were used to examine the relationship between each scale of the CAST-MR and age, intelligence, mental health problems,

learning problems, and prior legal experience. All variables were analyzed as continuous variables. While some prior research has divided samples into specific age ranges (e.g., Burnett et al., 2004; Grisso et al., 2003; Viljoen & Roesch, 2005), the current sample is too small to be divided up in such a manner. Additionally, dichotomizing the variable would underestimate the correlation (Cohen & Cohen, 1983).

There is a possibility that the effects of age, intelligence, mental health problems, learning problems, or prior legal experience may be moderated by gender or ethnic group. The current sample has too few female participants to meaningfully investigate gender as a moderator. Whether minority status serves as a moderator will be investigated by according to procedures outlined by Baron and Kenny (1986).

Additionally, the possibility that the impact of intelligence on CAST-MR scores is moderated by age is examined. Following the procedure utilized by Viljoen and Roesch (2005), intelligence estimates and age will be standardized. Then the standardized predictors and their interaction will be entered into a regression equation. Also following Viljoen and Roesch (2005), the same procedure will be utilized to determine if intelligence moderates the relationship between legal learning opportunities and CAST-MR scores.

Results

Internal Consistency

The scales of the CAST-MR appear to have inadequate to acceptable internal consistency in the current study (see Table 1.2). Scale 1 demonstrated the highest internal consistency with a Cronbach's alpha of .68. There were 10 items that were answered

correctly by all participants. If these items were eliminated from the analysis, the Cronbach's alpha was .70. Among the 15 items with some variability in performance, 7 had item-total correlations less than .30, reflecting an inadequate relationship to the scale. One of these poorly-related items (number 24) was identified as potentially problematic; however, the alternative item did not prove to be more useful. All participants answered the alternative item correctly, therefore the item made no contribution to improving the internal consistency of the scale. Of the items identified *a priori* as potentially problematic, two were answered correctly by all participants (questions 19 and 22). Scale 2 demonstrated adequate internal consistency, with an alpha of .61. There were two questions on this scale that every participant answered correctly. Of the remaining 15 items, 6 had item-total correlations less than .30, suggesting an inadequate relationship with the scale as a whole.

Scale 3 proved difficult to score based on the available records. For many youth, a police report could not be located in the court file and for others, the police report provided very few details needed to score the items on Scale 3. There were only 6 participants for whom adequate information was available to score every item. Using only these 6 participants, Cronbach's alpha for Scale 3 was .52 and half of the items had item-total correlations above .30. Given how few participants were able to be scored on every item of this scale, this is not considered to be an accurate reflection of the scale's properties. Additionally, because sufficient data were available for so few participants, analyses regarding this scale will be excluded from the following sections.

Relevant Correlates

The CAST-MR appears to be correlated in the expected direction with some relevant variables. Age was significantly correlated with scores on Scale 1, as expected, but it was not related to Scale 2 (see Table 1.3). Intelligence, as measured by the WASI FSIQ-4, was significantly correlated with both Scale 1 and Scale 2. The Verbal IQ estimate was significantly correlated with Scale 1 and the Performance IQ estimate was significantly correlated with Scale 2. Scores on the Reading Composite of the WRAT-4 were not significantly correlated with either scale. Reporting greater problems with alcohol or drug use on the MAYSI-2 was significantly associated with poorer performance on Scale 2. The Thought Disturbance scale of the MAYSI-2, which is intended to assess psychotic symptoms, was also significantly negatively correlated with scores on Scale 1 of the CAST-MR. No other mental health problems were associated with scores on the CAST-MR. Additionally, prior arrests (based on self-report and file review), prior convictions, and the number of times an individual reported meeting with his or her attorney were not significantly associated with performance on the CAST-MR.

Moderator Analyses

There were no differences between males and females on Scale 1, $F(1, 25) = 2.25$, $p = .15$, or Scale 2, $F(1, 25) = 1.31$, $p = .26$. Similarly there were no differences based on ethnicity on Scale 1, $F(3, 23) = 1.59$, $p = .22$, or Scale 2, $F(3, 23) = .78$, $p = .52$. Ethnicity of the participants was recoded as a dichotomous variable, white or minority. Minority status did not moderate the relationship between age, intelligence, prior arrests (based on self-report or file review), number of times one met with an attorney, or mental health problems and CAST-MR scores.

To test whether age moderates the relationship between intelligence and CAST-MR scores, a hierarchical regression was conducted using standardized age, intelligence, and their interaction as predictors, the results of which are presented in Table 1.4. Age and intelligence were significant predictors of Scale 1 with fairly strong effect sizes, but the interaction was not significant. Repeating this analysis for Scale 2, age and intelligence were not significant predictors but their interaction was significant. This may be an artifact of the distribution of the data, as the two youngest participants also had particularly low IQs (72 and 87) and for several other young participants (under age 15) the intelligence data were missing. In fact, no participants who scored above the median on the FSIQ-4 were younger than 15.

Finally, there is a possibility that intelligence moderates the impact of legal learning opportunities. Intelligence and the number of times an individual reported meeting with his or her attorney were standardized and entered into a hierarchical regression. Neither the main effects nor their interaction were significant predictors of Scale 1, however all three were significant predictors of Scale 2. In examining the data, one individual had reported meeting with his attorney 9 times, which is several standard deviations above the mean number of meetings participants reported ($M = 1.85$, $SD = 1.83$). When this individual was removed from the analysis, intelligence remained a significant predictor of Scale 2 but self-reported meetings with an attorney and the interaction were no longer significant. Self-reported arrests were not a significant predictor of scores on either scale, nor were the interactions between self-reported arrests and intelligence.

Discussion

The current study provided mixed support for the psychometric properties of the CAST-MR when used to assess juvenile offenders. The Basic Legal Concepts (Scale 1) and Skills to Assist Defense scales (Scale 2) appeared to have adequate internal consistency, although a number of items had poor item-total correlations. Additionally, some items were answered correctly by all participants, and therefore these items did not correlate to overall scores at all. The Understanding Case Events scale (Scale 3) did not appear to have adequate internal consistency, but given the very few participants for whom sufficient information was available, these results are not considered indicative of the scale's properties. For this reason, Scale 3 was not included in any further analyses. Regarding relationships to relevant correlates, performance of the CAST-MR was again somewhat mixed. Age was expected to be related to both scales of the CAST-MR but was only significantly related to Scale 1. The full scale intelligence estimate was significantly correlated with Scales 1 and 2, as predicted. The Reading Composite score of the WRAT-4 was not associated with CAST-MR scores. Most mental health problems scores were also not correlated with CAST-MR scores, although scores on the Thought Disturbance scale were significantly negatively correlated with Scale 1 and scores on the Alcohol/Drug Use scale were significantly negatively correlated with Scale 2. Legal learning opportunities were not correlated with CAST-MR scores. In the current study, age moderated the relationship between intelligence and scores on Scale 2, but this finding may be an artifact of the structure of the data. No other moderating effects were identified.

Given the small sample size and limited variability in responses, it is difficult to draw firm conclusions regarding the internal consistency of the scales of the CAST-MR when used to assess juveniles. Research with adults has found the scales have more than acceptable internal consistency, with Cronbach's alphas of .91, .76, and .83 for Scales 1, 2, and 3 (Everington & Luckasson, 1992). It is notable that there were 12 questions that were answered correctly by all participants. This suggests that these items may be too easy to discriminate between competent and incompetent youth. The current study is not able to address this question directly, given that sample was an unselected group of detained juveniles and therefore likely answered more questions correctly than would a population of youth referred for evaluations due to concerns about competency. Still, this raises concerns regarding a ceiling effect in which most youth (both competent and incompetent) would perform well on this measure. Perhaps as noted by Grisso (1998), providing choices provides so much structure that responses are not indicative of how an individual would perform in an actual trial. If this is the case, low scores on the CAST-MR may indeed be indicative of incompetence to stand trial but high scores would not necessarily be indicative of competence. This can be thought of as being similar to having high sensitivity and low specificity, although as noted above, specific cut scores cannot be set for competency measures. If this proves true and even incompetent defendants score fairly high on the CAST-MR, it should not be used as a screening instrument, as youth who may ultimately be found incompetent may perform fairly well on this measure. This does raise a separate possibility, which is that the CAST-MR may potentially be useful in assessing malingering. If broader samples, including youth found

incompetent to proceed, perform fairly well on this measure, extremely low scores could be indicative of malingering. For example, if an individual answered less than a third of the questions on Scales 1 and 2 correctly, the individual would be performing worse than chance (each question has 3 answer choices). Further research is necessary regarding the range of scores on this instrument in relevant samples, but this could be a useful strategy when assessing malingering of incompetence.

Another potential problem in utilizing the CAST-MR to assess juveniles is that several questions use vocabulary that is different from that of the juvenile court (e.g., sentencing) or assess understanding of constructs that are irrelevant in juvenile court (e.g., jury). Evaluators already likely consider the content of each item when weighing its importance to competence to stand trial in juvenile court, possibly modifying these questions or simply not considering the juvenile's answers when forming an opinion. Despite their irrelevance, most of these questions were easier for the participants in this study than some questions assessing knowledge more relevant for the juvenile court. For example, more participants understood the term "sentencing" than "disposition." Therefore, if evaluators do rely on these problematic questions to form opinions, they may overestimate an individual's competence.

The fact that CAST-MR scores were correlated with age and intelligence is a positive indicator of utility in assessing juveniles. Prior research has consistently found a relationship between age and performance on measures of competence (Burnett et al., 2004; Cooper, 1997; Ficke et al., 2006; Grisso et al., 2003; Pierce & Brodsky, 2002; Savitsky & Karras, 1984; Viljoen & Roesch, 2005). Only one study did not find a

relationship between age and performance on a competence assessment instrument, and this study also had a small sample size (Redlich et al., 2003). Similarly, intelligence has been found to be significantly related to at least one scale of a competency assessment instrument in every published study that reports on this relationship (Burnett et al., 2004; Cooper, 1997; Ficke et al., 2006; Grisso et al., 2003; Pierce & Brodsky, 2002; Viljoen & Roesch, 2005), although one early study found only a marginal relationship (Savitsky & Karras, 1984). While the failure to find such effects would suggest the CAST-MR was not functioning in a similar manner to other competence assessment instruments, it is not direct evidence of validity. Studies examining criterion-related validity by comparing CAST-MR scores of juveniles found competent to those of juveniles found incompetent would provide greater confidence in the relevance and utility of the instrument in assessing juvenile offenders.

This study was unable to replicate the prior results regarding the relationship between learning problems and performance on a competence assessment instrument. Ficke and colleagues (2006) found WRAT-3 scores on Reading, Spelling, and Arithmetic all to be significant predictors of all three scales of the MacCAT-CA. There was considerable missing data regarding the WRAT-4 in the current study, however, therefore there may not have been enough power to detect a real effect of learning problems on CAST-MR scores.

Prior research has provided an inconsistent picture of the relationship between mental health problems and performance on competence assessment instruments. While some have found no relationship between the two (Grisso et al., 2003), others have found

that attention problems (Viljoen & Roesch, 2005), externalizing problems (Ficke et al., 2006), or suicidal ideation (Warren et al., 2003) to be related to at least one scale of a competence assessment instrument. The current study found an alcohol/drug use scale was significantly correlated to scores on Scale 2 of the CAST-MR and a thought disturbance scale was significantly correlated with scores on Scale 1. It is unclear why individuals with higher reported levels of alcohol or drug problems would score lower on Scale 2. Perhaps this is a Type I error, or perhaps youth with alcohol and drug problems are more disinhibited in ways that interfere with assisting in their own defense. The relationship between thought disturbance and Scale 1 is more readily interpretable, as psychotic symptoms have been found to be negatively associated with performance on competence assessment instruments in past research with adults (e.g., Otto et al., 1998). It is somewhat surprising to find this effect in a sample that was not selected for serious mental illness; however, if these youth were in fact experiencing some early psychotic symptoms, these symptoms would likely interfere with comprehension.

The lack of a relationship between prior arrests and performance on competence assessment measures, while perhaps counterintuitive, is consistent with a number of prior studies (Grisso et al., 2003; Viljoen & Roesch, 2005). One study that did find such a relationship found that prior legal experience predicted scores only on the Appreciation scale of the MacCAT-CA but not Understanding or Reasoning (Ficke et al., 2006). As noted, one intuitively expects that youth with more experience in the justice system, reflected by a history of more arrests, would know more about the system in which they have participated. Prior arrests may not be the optimal choice of predictors, given that an

arrest does not always result in formal proceedings against a juvenile. Number of prior convictions was also unrelated to either scales of the CAST-MR, suggesting that even youth who are formally processed do not necessarily learn much about the trial process from their experience. Furthermore, this study did not replicate Viljoen and Roesch's (2005) finding that youth who spent more time with their attorneys performed better on a competence assessment instrument. Anecdotally, most youth in the study indicated that they had not had extensive conversations with their attorneys. Some of these participants had been recently arrested and may have seen their attorney once or twice regarding their detention but had not yet discussed their case. The lack of relationship between number of meetings with an attorney and performance on the CAST-MR could also reflect the fact that most youth were represented by public defenders, who have notoriously large caseloads and may not be able to spend adequate time with a client to educate him or her about the legal process.

The current study has several major limitations. First, the small sample size limits the power to detect real effects. The correlation between age and Scale 2 scores, for example, is in the expected direction and is of medium magnitude, but was not significant. In a larger sample, this relationship may be found to be significant. Second, the large number of analyses completed increases the likelihood of Type II error, highlighting the importance of replication of these effects. Third, most research in this area includes youth under age 12 (e.g., Burnett et al., 2004; Ficke et al., 2006; Grisso et al., 2003; Viljoen & Roesch, 2005), whereas the youngest participant in the current study was almost 13 years old. Even more problematic is that the current study included only 5

participants under age 15. Given that prior research has indicated this is the age at which performance on competence assessment instruments may plateau (e.g., Grisso et al., 2003; Viljoen & Roesch, 2005), the small number of participants under this age is particularly problematic. This also precluded the replication of the manner in which much prior research demonstrates an age effect: dividing the sample into age categories (e.g., Burnett et al., 2004; Grisso et al., 2003). The negatively skewed age distribution and the apparent confounding of age and intelligence prevented the interpretation of the interaction between these variables in predicting scores on Scale 2 of the CAST-MR. Fourth, the current study included a general sample of youth in detention, rather than youth who were being evaluated for competence to stand trial. While this is common practice in the literature (Burnett et al., 2004; Ficke et al., 2006; Grisso et al., 2003; Viljoen & Roesch, 2005), and is superior to using solely community youth (Redlich et al., 2003), investigating the relationship between findings of competence and performance on a competence assessment instrument would provide stronger evidence of validity. Since the individual's legal situations must be considered in making competence determinations, no measure would be expected to be perfectly related to judges' determinations of competence; however, one would certainly expect that youth found competent on average would score higher than youth found incompetent.

The current study does provide initial information regarding the utility of the CAST-MR in assessing juvenile defendants. This is a critically important question to investigate, given that evaluators are already using this instrument to assess juveniles. While the CAST-MR is presumably not being utilized in isolation to develop an opinion

regarding competence, it is still important to identify whether the scales are internally consistent and if the items on the scales provide information that is relevant to distinguishing youth found competent from youth found incompetent. The current study provides some support for the use of the instrument, although further research with a larger sample is necessary and questions regarding a possible ceiling effect remain. As evaluations are likely improved by the use of competence assessments instruments (e.g., Skeem & Golding, 1998), it is important to provide practitioners with more information regarding the reliability and validity of the instruments they employ.

CONSIDERING IMMATURITY AS A BASIS FOR INCOMPETENCE TO STAND
TRIAL: THE IMPACT OF MATURITY OF JUDGMENT ON LEGAL DECISION-
MAKING IN JUVENILE DEFENDANTS

Introduction

Competence to stand trial has long been considered a fundamental due process right in American jurisprudence. The current standard for competence to stand trial was established in *Dusky v. U.S.* (1960), which states that a defendant must have “sufficient present ability to consult with his lawyer with a reasonable degree of rational understanding” and “a rational as well as factual understanding of the proceedings against him” (p. 402). The Supreme Court has also explicitly stated that a defendant must be able to assist in the preparation of his or her own defense (*Drope v. Missouri*, 1972). More recently, the Court’s decision in *Godinez v. Moran* (1993) highlights the importance of a defendant’s decision making abilities. In this decision, the majority rejected the notion that the standard for waiving one’s rights is higher than that necessary to be competent to stand trial, asserting “while the decision to plead guilty is undeniably a profound one, it is no more complicated than the sum total of decisions that a defendant may be called upon to make during the course of a trial” (*Godinez v. Moran*, 1993, p. 399). Thus any individual found competent must be capable of making autonomous, rational decisions.

A theoretical formulation of competence to stand trial, designed to elucidate the abilities necessary for competence, proposes that there are two underlying constructs: competence to assist counsel and decisional competence (Bonnie, 1992). Under this approach, competence to assist counsel consists of the basic abilities required of all

defendants, including capacity to understand the charges, the adversarial system, and the roles of various legal actors, the ability to appreciate one's situation as a defendant, and the ability to recognize and communicate relevant information to counsel. In contrast, decisional competence "encompasses conceptual abilities, cognitive skills, and capacities for rational thinking that are not required for assisting counsel" (Bonnie, 1992, p. 305). As defendants face different types of decisions of varying complexity, decisional competence is directly related to the situation of a particular defendant. The degree of decisional competence required is not entirely clear, and could range from the ability to understand relevant information to the ability to rationally manipulate information to reach a decision (Bonnie, 1992).

Concerns About Juveniles' Competence to Stand Trial

Despite its long history as an essential feature of fair trials in the criminal justice system, concerns regarding juveniles' competence to stand trial are much more recent. When juvenile courts were first established, minors who committed offenses were seen as having ineffective parents and the juvenile court was supposed to intervene on their behalf, providing the custody and care children had the right to, rather than depriving them of liberty (*Petition of Ferrier*, 1882). Proceedings in juvenile court were civil rather than criminal in nature, and youth did not need procedural protections in this beneficent, nonadversarial system (Grisso, Miller, & Sales, 1987). The Supreme Court decision *In re Gault* (1967) acknowledged that minors were subject to loss of liberty in juvenile court and therefore must be provided essential due process rights. Competence to stand trial was not addressed by the Court in *Gault*; however, the provision of other due process

rights led to the consideration of the right to be competent to stand trial in juvenile court proceedings. For example, an Indiana court argued “the want of competence renders the other rights meaningless,” asserting that competence to stand trial is an essential due process right necessary for fairness in juvenile proceedings (*In re K.G.*, 2004, p. 635). By 2001, 35 states had explicitly recognized this right either through statute or case law (Redding & Frost, 2001).

While the right of juveniles to be competent has been recognized in some jurisdictions for decades, questions regarding juvenile competence to stand trial began receiving more attention in the 1990s (Bonnie & Grisso, 2000). This increased attention was the result of a number of changes in policy during that decade, including the introduction of new mechanisms to transfer youth to criminal court (Bonnie & Grisso, 2000) as well as decreased confidentiality, use of juvenile adjudications to enhance adult sentences, and the introduction of blended sentencing in juvenile court (Redding & Frost, 2001). Between 1992 and 1997, 45 states made it easier to transfer juveniles to criminal court, 31 states expanded sentencing options, and 47 states reduced the degree of confidentiality of juvenile proceedings (Snyder & Sickmund, 2006). Additionally, an increasing number of states are requiring registration and community notification of juveniles adjudicated of sexual offenses, in order to comply with the Adam Walsh Act. In some states, juveniles are placed on a lifetime public registry for many sexual offenses even when adjudicated in juvenile court (e.g., South Carolina, S.C. Code §23-3-430, 23-3-490).

These changes have not only increased the number of youth tried in criminal court (Snyder & Sickmund, 2006) but have also increased the jeopardy faced by defendants who remain under juvenile court jurisdiction. Furthermore, these changes have altered the complexity of the decisions juveniles may have to make. A 14 year old defendant in juvenile court accused of rape could face a choice between pleading guilty to another serious charge and being subject to the jurisdiction of the juvenile court until age 21 (in a state that has extended jurisdiction) or going to trial and risking the possibility he be required to register as a sex offender for the rest of his life.

Immaturity as a Basis for Incompetence

As awareness of juveniles' right to be competent has increased, questions regarding whether immaturity should be recognized as a basis for findings of incompetence in criminal and/or juvenile court have been raised. While the *Dusky* standard is purely functional, many states have included language in their statutes requiring that incompetence be the result of mental disease or defect (e.g., A.R.S. §13-4501). Many states have extended this requirement to juvenile defendants as well (Redding & Frost, 2001). By delineating these specific causes of incompetence, states exclude the possibility that a normal child may not be competent simply due to immaturity (for an exception, see *In re Charles B.*, 1992). Concerns regarding the fairness of excluding normal immaturity from the potential causes of incompetence have been repeatedly raised (e.g., Goldstein, Thomson, Osman, & Oberlander, 2002; Oberlander, Goldstein, & Ho, 2001; Scott & Grisso, 2005). A number of studies have found that younger juveniles score significantly lower than older adolescents and/or

adults on tests of competence to stand trial (Burnett, Noblin, & Prosser, 2004; Cooper, 1997; Ficke, Hart, & Deardorff, 2006; Grisso et al., 2003; Pierce & Brodsky, 2002; Savitsky & Karras, 1984; Viljoen & Roesch, 2005; Warren, Aaron, Ryan, Chauhan, & DuVal, 2003; for a contradictory finding see Redlich, Silverman, & Steiner, 2003). Younger juveniles are also more likely to be found incompetent by the courts (Baeger, Griffin, Lyons, & Simmons, 2003; Kruh, Sullivan, Ellis, Lexcen, & McClellan, 2006) or to be considered likely incompetent by an evaluator (Cowden & McKee, 1995; McKee, 1998; McKee & Shea, 1999). Some of these authors have suggested that based on their results, immaturity should be recognized as a basis for incompetence in criminal proceedings, either explicitly (e.g., Grisso et al., 2003) or implicitly (e.g., Kruh et al., 2006; Pierce & Brodsky, 2002). Others have drawn from the developmental literature to argue that immaturity should be recognized as a basis of incompetence even in juvenile court (Oberlander et al., 2001).

In the most extensive analysis of immaturity and incompetence to date, Scott and Grisso (2005) highlighted several areas of development that could justify the recognition of immaturity as a basis for incompetence: neurological development, intellectual development, emotional development, and psychosocial development. These authors drew some connections between these broad areas of development and the *Dusky* standard for competence, highlighting the importance of intellectual development for factual understanding, and intellectual, emotional, and psychosocial development for rational understanding as well as the ability to consult with an attorney. Scott and Grisso (2005) argued that immaturity must be allowed as a basis for findings of incompetence in

criminal court based on this developmental literature combined with the results of studies cited above demonstrating poorer performance of young juveniles on competence assessment instruments.

Despite these two lines of research, one demonstrating continued development in a variety of potentially relevant areas over the course of adolescence and one demonstrating younger defendants are at greater risk of being incompetent, many legal professionals and policy makers are unconvinced that immaturity should be recognized as a basis for incompetence. A recent survey of judges in 4 states found that 24.5% felt that immaturity should be recognized as a basis for incompetence in juvenile court and 32.6% felt that it should be recognized as a basis for incompetence in criminal court (Viljoen & Wingrove, 2007). Additionally, few states currently formally recognize immaturity as a basis for incompetence (e.g., Arizona, *In re Charles B.*, 1998). Therefore, despite research evidence to date suggesting younger adolescents are more likely to lack trial-related abilities, the majority of the legal community does not feel that juveniles should be found incompetent on the basis of immaturity alone.

Perhaps the legal community is unconvinced because a critical piece of empirical evidence is still missing. The connection between immature performance on relevant skills and impairment in trial-related abilities needs to be directly demonstrated. Age is only a proxy for maturity. Age itself does not cause incompetence; there are some abilities that younger juveniles tend to lack that make them more likely than older juveniles and adults to be incompetent. Descriptions of best practices for competency evaluations (e.g., Grisso, 2005; Skeem & Golding, 1998) emphasize the need to connect

the specific condition of the defendant (e.g., mental disorder) to the specific deficits in trial related abilities observed by the evaluator (e.g., delusional beliefs about attorney prevent full cooperation). It has not yet been empirically demonstrated how immaturity results in specific deficits in trial related abilities. Therefore, it is first necessary to identify skills that continue to develop over the course of adolescence, as these represent specific ways in which defendants may be functioning in an immature manner (i.e., not performing at a level consistent with the average performance of young adults).

Secondly, immature functioning on that skill must be demonstrated to interfere with trial-related abilities. The majority of research to date does not connect immature functioning in particular skills to incompetence (but see Viljoen & Roesch, 2005 for an exception).

There are a number of different cognitive or psychosocial skills that could potentially be incompletely developed in adolescents that may directly result in deficits in trial-related abilities. One such possibly relevant skill is judgment.

Development of Judgment

Juveniles have long been considered to have immature judgment, an assumption underlying a variety of policies including the establishment of the juvenile court, exceptions to contract law for juveniles, and restrictions on the ability of juveniles to make decisions about medical treatment (Scott, Reppucci, & Woolard, 1995). Research using an informed consent framework to determine if youth could make knowing, intelligent, and voluntary decisions has often concluded that adolescents do have the ability to provide informed consent (e.g., Ambuel & Rappaport, 1992; Weithorn & Campbell, 1982). Concerns have been raised, however, that a narrow focus on basic

cognitive skills underlying competence may neglect important differences in the manner in which adolescents and adults approach the decisions they must make in legal situations (e.g., Scott et al., 1995).

The basic steps involved in making a decision, according to traditional decision making models, include the following: identifying the possible options, identifying the possible consequences that may follow from each of those options, evaluating the desirability of each of those consequences, assessing the likelihood of those consequences, and combining the preceding according to a decision rule in order to identify the “best” option (Furby & Beyth-Marom, 1992). Judgment refers to psychosocial skills that impact the decision-making process, such as consideration of long-term consequences or resistance to peer influence. Cauffman and Steinberg (1995) suggested that a comprehensive approach to understanding decision-making competence “addresses not only the cognitive abilities required for competent decision-making, but also the psychosocial traits that determine whether an individual makes good use of the cognitive tools at his or her disposal” (p. 1764). Individuals that demonstrate those traits and therefore make good use of their cognitive abilities are considered to have more mature judgment. Another way of conceptualizing maturity of judgment is the “degree of complexity and sophistication” of the “underlying cognitive, emotional, and social processes involved in making these choices” (Cauffman, Woolard, & Reppucci, 1999, p. 406). Thus, judgment refers to the process of decision making rather than any specific decisional outcome. Aspects of judgment that have been identified as being potentially relevant include conformity to peers/adults, risk perception and temporal perspective

(Scott, Reppucci, & Woolard, 1995), or responsibility, temperance, and perspective (Steinberg & Cauffman, 1996).

Resistance to Other's Influence

It is popularly believed that adolescents are more easily influenced by others than adults, which in legal contexts may lead to disadvantageous decision making.

Developmental changes in conformity have been examined using the famous Asch paradigm, in which participants hear a group of peers provide a clearly wrong answer about unambiguous stimuli (lines of varying lengths; Costanzo & Shaw, 1966), with the results demonstrating peak conformity at ages 11-13, with a decline in conformity seen in older adolescents and young adults. Research similarly suggests that peer influence over decision-making in response to a vignette peaks in middle adolescence and declines thereafter (e.g., Berndt, 1979; Steinberg & Silverberg, 1986). Additionally, parental influence appears to decline steadily over the course of adolescence (e.g., Berndt, 1979; Steinberg & Silverberg, 1986). In addition to peers and parents, it is intuitively expected that younger individuals are more likely to comply with authority figures than older adolescents or adults. Grisso and colleagues (2003) examined age differences in compliance with authority using the MacArthur Judgment Evaluation (MacJEN) instrument, in which participants respond to questions about vignettes about three legal situations: police interrogation, consultation with an attorney, and consideration of a plea bargain. In each vignette, one choice can be construed as indicative of authority compliance and contributed one point to an authority compliance variable: confessing to police, telling the attorney everything, and taking the plea bargain. In this study, 11-13

year olds and 14-15 year olds scored significantly higher on authority compliance than participants ages 16-17 and 18-24 (Grisso et al., 2003). Resistance to peer influence was measured as well, by presenting participants with another vignette in which the advice they receive from friends is directly contrary to the choice the participant has already made earlier in the assessment. Surprisingly, there were no direct age effects, and one significant interaction indicated that younger participants who recommended confessing to the police were more resistant to peer influence than older participants. In contrast, among those who recommended remaining silent, older participants were more likely to resist peer influence than younger participants (Grisso et al., 2003). This could, in fact, be taken as further evidence of a tendency toward authority compliance, as younger participants who originally make the recommendation to comply with the police by confessing are more likely to resist peer advice to remain silent than older participants while younger participants who initially recommend remaining silent are more readily influenced comply with authority based on friends' advice than older participants.

Responsibility

Responsibility, as conceptualized by Steinberg and Cauffman (1996), is comprised of several skills including susceptibility to influence, clarity of identity, and self-reliance. There is evidence that older adolescents are more likely to have reached "identity achievement," indicating they have considered a number of possibilities and made a commitment to the choice that best reflects their current self and future goals, regarding at least one of the following areas: vocational choices, religious belief systems, political philosophies and sex-role preferences (e.g., Archer, 1982). Age differences in

responsibility have been studied using the Psychosocial Maturity Inventory (PSMI FormD; Greenberger, Josselson, Knerr, & Knerr, 1974), which measures self-reliance, self-esteem/clarity of self, and work orientation. This instrument has been found to have a significant positive relationship with age (Cauffman & Steinberg, 2000; Colwell et al., 2005). One study found that 8th and 10th grade students scored significantly lower (indicating more immature performance) than 12th grade students and young adults (Cauffman & Steinberg, 2000). More relevant to the current study is the fact that scores on the PSMI have been found to predict decision-making. Higher scores, reflecting greater responsibility, were found to be associated with less antisocial decision making in response to vignettes (Cauffman & Steinberg, 2000). Responsibility as assessed by the PSMI was also found to be a significant predictor of scores on several scales of Grisso's (1998) Instruments for Assessing Understanding and Appreciation of *Miranda* Rights, including the Function of Rights in Interrogation (FRI) scale. Responsibility added to the prediction of scores on this scale beyond the proportion of variance explained by age and intelligence (Colwell et al., 2005). The FRI scale requires defendants to apply knowledge to decisions in response to vignettes. There is growing evidence that individuals demonstrate increasing responsibility over the course of adolescence and that level of responsibility influences decision-making.

Risk Perception

Another important aspect of judgment is risk perception, which includes the ability to recognize the risks associated with a decision, to judge the likelihood that negative consequences will occur, and to have an appreciation of the impact of potential

negative consequences (Grisso et al., 2003). Despite the intuitive appeal of the idea that adolescents take risks because they believe they are invincible (Elkind, 1967), there is evidence that both adolescents and adults tend to believe that they are at less risk than acquaintances (but not at zero risk) for negative consequences, and adolescents may actually be less likely than adults to believe themselves to be at lower risk than others (Cohn, Macfarlane, Yanez, & Imai, 1995; Millstein & Halpern-Felsher, 2002; Quadrel, Fishchhoff, & Davis, 1993). Similarly, when presented with risky choices, teens were able to identify as many consequences as adults on average for four out of six scenarios presented (Beyth-Marom, Austin, Fischhoff, Palmgren, & Jacobs-Quadrel, 1993).

Furthermore, while there is evidence that adolescents engage in risky behavior, there is also evidence that they are aware of the risks involved (e.g., Benthin, Slovic, & Severson, 1993; Cohn et al., 1995). Despite their knowledge of the risks, adolescents reported less fear of the risks, rated the effects as less serious, and felt the benefits outweighed the risks (Benthin et al., 1993). Thus even when adolescents recognize a potential negative outcome they may perceive that outcome quite differently. Additionally, there is evidence that older adolescents and adults are more likely than younger adolescents to spontaneously consider risks when presented with non-legal dilemmas (Halpern-Felsher & Cauffman, 2001; Lewis, 1981). Furthermore, in responding to vignettes about possible plea options, younger individuals were found to consider fewer consequences when explaining their plea decision (Peterson-Badali & Abramovitch, 1993), suggesting perhaps they did not consider all the risks involved in the choice they made. Grisso and colleagues (2003) found that age had a significant impact on risk recognition (the number

of risks identified), ratings of risk likelihood, and assessment of risk impact (unpleasantness of the negative consequences). Participants 15 years of age and younger scored significantly lower than young adults on all three measures (Grisso et al., 2003). Overall, despite evidence that adolescents do not perceive themselves at much lower risk for negative consequences than adults as was once thought, there is evidence that younger juveniles may fail to spontaneously consider risks while making decisions and tend to perceive risks quite differently than adults.

Temperance

Temperance, in Steinberg and Cauffman's (1996) model, includes recognition of risks as well as sensation seeking, a construct that reflects seeking adventure and new experiences. Sensation seeking appears to increase in early adolescence through age 15 before decreasing through age 30 (Steinberg et al., 2008). Additionally, impulsivity appears to decline steadily over the course of adolescence (e.g., Steinberg et al., 2008). Cauffman and Steinberg (2000) used subscales assessing impulse control and suppression of aggression from the Weinberger Adjustment Inventory (Weinberger & Schwartz, 1990) to capture temperance. Age was significantly associated with scores on this instrument, with 8th, 10th, and 12th graders each performing significantly worse than young adults and adults (Cauffman & Steinberg, 2000). Furthermore, higher scores were associated with less antisocial decision making in response to vignettes. Thus, there is burgeoning evidence suggesting sensation seeking and impulse control continue to develop over adolescence and may impact decision-making.

Perspective

Temporal perspective, which includes the ability to consider long term consequences, is another critical aspect of judgment. Some research has addressed temporal perspective by presenting non-legal dilemmas to participants and asking them to give advice to a same-age peer facing the dilemma. Both studies using this methodology have found that older adolescents and young adults were significantly more likely to spontaneously mention potential future consequences in response to at least one dilemma, despite the fact that the dilemmas themselves did not refer to the future or future consequences (Halpern-Felsher & Cauffman, 2001; Lewis, 1981). Research on temporal perspective in legal contexts has produced mixed results. One study presented participants with a vignette in which a defendant is meeting with his attorney for the first time (Schmidt, Reppucci, & Woolard; 2003). When asked about the potential consequences of 3 possible choices the character in the story could make, older (ages 16-17) and younger (ages 12-15) adolescents produced significantly more short-term consequences than adults. Furthermore, younger juveniles mentioned certain consequences more frequently than adults, including whether questioning would be continued and the possibility of temporary detention or immediate release (Schmidt et al., 2003). Another vignette-based study found that older participants were more likely to consider the potential consequences of a plea decision either spontaneously or in response to prompts (Peterson-Badali & Abramovitch, 1993). In contrast, using the MacJEN, Grisso and colleagues (2003) found that young adults (ages 18-24) did not differ from any younger age group on an index of future orientation.

A broader conceptualization of perspective has been studied by Cauffman and Steinberg (2000), including consideration of future consequences, as assessed by the Consideration of Future Consequences Scale (Strathman, Gleicher, Boninger, & Edwards, 1994) but also consideration of other people, as assessed by the Consideration of Others subscale of the Weinberger Adjustment Inventory (Weinberger & Schwartz, 1990). Scores on these two instruments were standardized and then averaged. Age was significantly associated with the resulting scores, with 8th, 10th, and 12th graders each performing significantly worse than young adults and adults (Cauffman & Steinberg, 2000). Furthermore, higher scores were associated with less antisocial decision making in response to vignettes.

While the evidence to date is not entirely uniform in demonstrating the continued development of judgment over the course of adolescence, there is substantial evidence that the various psychosocial skills that comprise judgment continue to develop during this time period. Furthermore, there is evidence that immature performance on these skills predicts decision-making, at least in response to vignettes.

Potential Impact of Judgment on Competence

As noted above, to investigate the relevance of immaturity to incompetence, demonstrating that a set of skills continues to develop over the course of adolescence is only one of several necessary steps. Additionally, there must be evidence that immature performance interferes with trial related abilities. Research suggests there is reason to be concerned about juveniles' choices in legal contexts. A variety of research studies using different methodologies have found that juveniles are unlikely to assert their right to

remain silent, including studies using mock interviews (Ferguson & Douglas, 1970), reviews of arrest records (Grisso & Pomicter, 1977), and interviews about juveniles' own recent experiences (Viljoen, Klaver, & Roesch, 2005). Such tendencies raise concerns, but do not alone prove that juveniles are immature in ways that interfere with decisional competence. As noted above, the process that leads to an individual's choice is more important than the decision outcome.

There is more direct evidence that juveniles' decisional competence may be impaired. One possible requirement of decisional competence is the ability to appreciate the significance of relevant information in one's own case (Bonnie, 1992), and research suggests younger juveniles have difficulty appreciating the significance of the strength of the evidence against them. In one study, over 40% of participants in grade 5 considered the strength of the evidence in making plea decisions in response to vignettes; however, older participants were significantly more likely to do so (Peterson-Badali & Abramovitch, 1993). Viljoen and colleagues (2005) studied juveniles' decisions about their own cases rather than recommendations based on vignettes. In this study, juveniles reported whether they confessed to police, planned to plead guilty, planned to disclose all information to their attorney, and if they would consider a plea bargain, as well as how strong they believed the evidence against them to be. Perceived strength of evidence predicted decisions to confess to police, to plead guilty, to fully disclose to defense counsel, and to consider a plea bargain among 15-17 year olds but not among 11-14 year olds.

In summary, there is evidence that juveniles' decisional competence may be impaired and evidence that juveniles' psychosocial skills related to judgment continue to develop over the course of adolescence. The current study addresses the connection between the two.

The Current Study

The current study is designed to examine the impact of judgment on decisions juveniles make regarding their own cases. First, the relationship between age and judgment, as measured by the Judgment in Legal Contexts instrument (JILC; Woolard, Reppucci, Steinberg, Grisso, & Scott, 2003) will be examined to determine if age predicts recommendations to the vignette character, risk perception, future orientation, authority compliance, and resistance to peer influence. The JILC was selected, rather than some other measures of judgment, because of its specific relevance to legal situations. It is hypothesized that age will significantly predict all measures of judgment. Secondly, the study attempts to replicate the findings of Viljoen and colleagues (2005) regarding the relationship between age and decision-making regarding one's own case. The relationship between age and the consideration of evidence in making choices regarding confessing to police, disclosing information to one's attorney, pleading to the charges, and consideration of a plea bargain is of particular interest. It is hypothesized, as in prior research, perceived strength of evidence will not predict the decisions made by younger juveniles but will predict decisions made by older juveniles. Finally, if the results replicate findings that younger participants are less likely to consider the strength of the evidence against them in making these decisions, analyses will address whether judgment

mediates the relationship between age and decision-making. Such a finding would demonstrate that immature functioning on a particular skill interferes with legal decision making.

Method

Participants

Participants included 28 juvenile offenders (24 males, 4 females) in a county detention center in a Southwestern state. Participants ranged in age from 12 years, 8 months to 17 years, 10 months, with an average age of 15.9 years ($SD = 1.33$ years). Participants' self-identified ethnic backgrounds were as follows: 35.7% non-Hispanic Caucasian, 46.4% Hispanic/Latino, 3.6% African American, and 10.7% other. This information, as well as most other variables, was missing for one participant who dropped out of the study after completing one measure (the JILC). This individual was excluded from the remaining descriptive statistics and analyses. Participants self-reported that they had been previously arrested an average of 12 times ($SD = 12.7$) with a range from 0 to 60. For the 19 individuals who provided consent for the research team to access their court files and whose files were able to be located and coded, records indicated they had been arrested an average of 9.8 times ($SD = 4.8$) with a range from 0-19. The average FSIQ using the 4 subtest version of the WASI ($n = 19$) was 91.7 ($SD = 9.1$) with a range from 72 to 109.

Measures

The Judgment in Legal Contexts Instrument

The Judgment in Legal Contexts Instrument (JILC; Woolard et al., 2003) was originally titled the MacArthur Judgment Evaluation (MacJEN) and was developed for use in the largest study of juvenile competence to stand trial conducted to date (Grisso et al., 2003). The instrument presents three vignettes to participants, all about the same character (Joe), in which he must make a choice. The vignettes center around three relevant legal situations: interrogation by police, consulting with a defense attorney, and considering a plea bargain. Participants make recommendations regarding Joe's decisions and answer structured interview questions regarding the potential consequences of different choices, the likelihood of negative consequences, and the impact of negative consequences. After completing all three vignettes, participants are presented with short descriptions of hypothetical situations in which they must make decisions that parallel the decisions Joe faced (interrogation, consulting with an attorney, and considering a plea bargain). The descriptions include advice from friends that is directly contrary to the choice the participant selected when completing the questions regarding Joe's situation. The JILC provides scoring criteria for several aspects of judgment, described in Table 2.1.

Intelligence

The Wechsler Abbreviated Scale of Intelligence (WASI; Psychological Corporation, 1999) is an easy to administer, well-normed, reliable, and valid brief intelligence assessment designed for use with individuals ages 6 through 89 (Keith, 2001). The WASI has demonstrated both test-retest and inter-rater reliability (Psychological Corporation, 1999). The WASI provides an estimate of intelligence, and

this estimate is highly correlated with scores on the Wechsler Adult Intelligence Scale-III and the Wechsler Intelligence Scale for Children-III (Psychological Corporation, 1999). The WASI was administered in a manner consistent with the manual; however testing conditions were not always ideal. Participants may have been distracted at times by activity outside the interview rooms. While this may result in underestimates of intellectual functioning for some participants, no bias in results is anticipated, as individuals distracted by activity should be randomly distributed among the sample. The analyses utilize the full scale IQ estimate based on all four subtests of the WASI (FSIQ-4).

Interview

An interview was developed for the purpose of this study, drawing largely from the work of Viljoen and colleagues (2005). Participants were asked to report how many times they had been arrested in the past, how many times they had met with their attorney, and if they had ever confessed to a crime they didn't commit. Participants were asked to rate the strength of the evidence against them on a scale from 0 to 10. Then participants were asked about their most recent arrest. They were asked about their mental state at the time (Were you anxious? Were you on any drugs or alcohol?), whether they asked to speak to their parents or their lawyer, and whether their parents, friends, or lawyer were present when they were questioned. Participants were also asked what their parents, friends, or lawyer wanted them to say. Participants were asked if they made a statement to the police and if so, if they confessed or said they didn't commit the crime. Participants were asked how they intended to plead as well as how their parents, friends,

and lawyer wanted them to plead. A plea bargain was defined and an example provided. Participants were then asked if they would agree to a plea bargain if one were offered and why (or why not). Finally, participants were asked if they trusted their lawyer and if they had told their lawyer everything or planned to do so.

Procedure

Participants were recruited by providing information to family members visiting children in detention. Initially, a sign was posted at the check-in for visitation with minimal information and a statement that anyone interested in learning more should ask for a flyer from the detention officer. When someone picked up the flyer, they would then be approached by research staff to discuss the nature of the study. Observation of the families checking in and discussion with those families who did express interest made it clear that many people did not look at the sign or made assumptions about what the study involved that resulted in few individuals expressing interest. Subsequently, we began handing out flyers with information to all individuals checking in for a visit, and a statement on the flyer encouraged them to speak to the research team member who handed them the flyer or to call the phone number provided to learn more. When a parent or guardian expressed interest, the study was explained to them according to a script. If parents/guardians were still interested, the consent process was completed. Parents who seemed unsure after the study was explained were encouraged to keep a copy of the consent form and call the phone number provided if they had further questions or decided they wanted to provide consent. After parental consent was obtained, juveniles were seen

in interview rooms near their living units in the detention center. The study was explained and an assent form was reviewed with each child.

During the consent and assent process, the voluntary nature of the project was heavily emphasized and participants were informed that participation had no impact on their court cases in order to minimize the potential for coercion. Additionally, a Certificate of Confidentiality was obtained, and the protection this provided was explained to all participants. On the consent and assent forms, participants had to initial to indicate whether they granted permission for the research team to review their court file. This allowed families that had privacy concerns regarding the juvenile's charges to participate. Additionally, all consent and assent forms were available in English and Spanish, and research staff included a fluent Spanish speaker to ensure that primarily Spanish-speaking families would be able to participate.

Participants completed the above instruments as well as the Competence Assessment for Standing Trial for Defendants with Mental Retardation (CAST-MR, Everington & Luckasson, 1992), the Massachusetts Youth Screening Instrument- Second Version (MAYSI-2; Grisso & Barnum, 2000), and the Wide Range Achievement Test, 4th edition (WRAT-4; Wilkinson & Robertson, 2006). Results regarding the CAST-MR, MAYSI-2 and WRAT-4 are reported elsewhere. Participants completed the instruments in different orders, although a specific randomization of presentation scheme was not developed. The CAST-MR, JILC, and interview (in varying orders) were usually completed as the first three measures. Not all participants completed the full protocol for several reasons including fatigue and interruptions related to the detention schedule.

Instruments were administered by the first author or advanced undergraduates trained in the use of each measure. Scoring of the WASI and WRAT-4 was always completed by the first author.

File reviews were conducted, when permission was granted by the participant and his or her parent/guardian, to determine the number prior arrests and prior convictions and to score the Understanding Case Events scale of the CAST-MR.

Participants were compensated for their time with a \$10 gift certificate and an entry into a raffle for an iPod Shuffle. All procedures were approved by the facility where data were collected and the University of Arizona IRB.

Data Analysis

To replicate prior research on the JILC, the relationship between age and a number of variables coded from the instrument will be examined. First, a logistic regression will be utilized to determine if age or intelligence predict the recommendations participants make in each vignette. Initially, the interaction between age and intelligence was also going to be investigated; however, despite the lack of a significant correlation between the two ($r = .30, p = .21$), examination of the data suggested it may be difficult to interpret any interactions between age and intelligence. All participants who scored above the median on the WASI FSIQ-4 were over 15 years of age, and a number of the younger participants did not complete enough of the WASI to score the FSIQ-4. Therefore, the interaction was not investigated. As in prior research, recommendations will be dichotomized to reflect confession or other response to the interrogation vignette, and full disclosure to defense counsel or other response to the consultation with attorney

vignette (Grisso et al., 2003). The current study cannot examine the impact of gender, given the small number of female participants, nor can it address the impact of SES as relevant information was not collected. The possibility of a moderating effect of minority status was examined using ANCOVA, and minority status did not have a main effect nor did it moderate the effect of age or intelligence on any of the 3 recommendations made on the JILC.

The impact of age and intelligence on all variables coded from the JILC will be investigated by conducting linear regression analyses, with each of the JILC variables analyzed separately as a dependent variable. As noted above, the interaction between age and intelligence will not be investigated. Additionally, the current study will examine whether age, intelligence, original choice, or their interaction predicts resistance to peer influence as discussed by Grisso and colleagues (2003).

Next, analyses will be conducted to examine whether age and the perceived strength of evidence predicted participants' decisions regarding their own legal situation: to confess, to disclose all information to defense counsel, and to accept a plea bargain if one were to be offered. While Viljoen and colleagues (2005) compared three categories of responses to interrogation (remained silent, confessed, denied offense), only 2 participants in the current study asserted their right to remain silent, thus a comparison is made between those who confessed and those who denied the offense. Furthermore, only 1 participant intended to plead not guilty, therefore no analyses regarding the intention to plead guilty or not guilty could be conducted. Finally, 83% of the sample indicated they would take a plea bargain if it could be arranged by their attorney, with 4% saying they

would not and 13% indicating they might take a plea bargain but needed more information. Thus, the latter two groups will be combined and compared to those who indicated they would take a plea bargain. Logistic regression is utilized to determine whether age, perceived strength of the evidence, or their interaction were significant predictors of the choices outlined above.

To determine if the relationship between age and choices made about one's case are mediated by judgment, age will first be regressed on each variable from the JILC, then age will be regressed on each choice (confess, take plea bargain), then a hierarchical regression with the judgment variable entered first and age entered second will be conducted (Baron & Kenny, 1986). If the relationship between age and choice is less in the third equation than the second, judgment at least partially mediates the relationship between the two.

Finally, given that vignettes are used to assess juveniles' abilities in a number of forensic assessment instruments (e.g., the MacArthur Competence Assessment Tool-Criminal Adjudication, Poythress et al., 1999; Grisso's (1998) instruments to assess understanding and appreciation of *Miranda* rights), a series of Chi-squares will be conducted to determine if individuals' choices on the JILC have any relationship to choices they have made or intend to make regarding their own case.

Results

Prior to reviewing the main analyses of interest, some descriptive information regarding the interrogation experiences of the participants is offered. The following are not utilized in the analyses, but provide background information regarding the choices

made by participants. In the current study, 83% of the sample reported they recalled being questioned by the police, with 39% reporting feeling anxious at the time and 55% indicating they were under the influence of a substance. Less than 10% of participants asked for their parents to be present when they were interrogated and none asked for a lawyer. Slightly under a quarter of participants indicated that their parents were present and a quarter of participants reported their friends were present. Most participants did not know how their parents or friends wanted them to respond to the questions. No participants reported the presence of an attorney. Almost one-third of the sample reported they had falsely confessed to a crime at some point in the past. Participants most commonly reported that they either did not know how their parents wanted them to plead or that their parents wanted them to plead guilty (43% each). Participants were typically uncertain how their friends wanted them to plead (71%). A slight majority indicated their attorney wanted them to plead guilty (54%).

Performance on the JILC

Choices Recommended

When asked to identify the best choice Joe could make while being interrogated by the police, very few participants recommended confessing to the crime (18.5%), with a similar number recommending denying the offense (14.8%; see Table 2.2). In contrast, two-thirds of participants recommended that Joe remain silent. Age and intelligence failed to significantly predict who recommended confessing (see Table 2.3). Given the low base rate of this recommendation, it is difficult to improve prediction beyond the assumption that all participants would not recommend confessing (accuracy of 83.3%). In

examining the data, no participants above the median age in this sample recommended confessing to police, although an ANOVA comparing those who recommended confessing to those who did not found no significant age differences, $F(1, 24) = 2.14, p = .16$. In addition, no differences in FSIQ-4 scores were found between those who recommended confession and those who did not, $F(1, 16) = 1.17, p = .30$.

The vast majority of participants also recommended that Joe tell his lawyer everything that happened (73.1%), with few recommending denying the offense to the lawyer (15.4%) or telling the attorney only some of what happened (11.5%). While the overall model predicting the recommendation to disclose everything was significant, age and intelligence failed to significantly predict the recommendation to tell the lawyer everything about the offense (see Table 2.3). Again, it is difficult to improve upon simply relying on the base rate, given that by predicting all participants would recommend full disclosure 77.8% of the sample were accurately classified. Those who recommended full disclosure were not significantly different in age from those who did not, $F(1, 25) = .22, p = .65$; however they were significantly different in intelligence, $F(1, 17) = 8.16, p = .01$. This difference was in the expected direction, with those who recommended disclosure scoring higher on the WASI FSIQ-4 ($M = 94.71, SD = 7.70$) than those who made another recommendation ($M = 83.20, SD = 7.86$).

Regarding the plea bargain vignette, participants were more evenly split in their recommendations that Joe either accept (44.4%) or reject (55.6%) the plea bargain offer. Age and intelligence again failed to significantly predict the recommendation to reject the plea offer (see Table 2.3). Again, ANOVAs were conducted, indicating that those who

recommended taking the plea bargain were not significantly different from those who recommended rejecting it in age, $F(1, 16) = .03, p = .88$, or intelligence, $F(1, 16) = 3.50, p = .08$. Individuals who recommended accepting the plea bargain had marginally significantly higher intelligence estimates ($M = 96.00, SD = 9.01$) than those who recommended rejecting it ($M = 88.20, SD = 8.61$).

Predictors of Performance on Judgment Variables

Linear regression was utilized to determine whether age or intelligence were significant predictors of variables coded from the JILC (see Table 2.4). Intelligence was predictive of Authority Compliance, with higher intelligence associated with higher scores on Authority Compliance. Additionally, age and intelligence were both marginally significant as predictors of scores on Risk Recognition-2.

In examining the data regarding resistance to peer influence for each scenario, resistance to peer influence regarding confession was not analyzed using logistic regression, as only 2 participants' answers to this vignette reflected a change in response to peer advice. A Chi-square comparing original choice and choice after being given hypothetical advice from friends was significant, $X^2 = 7.48, df = 1, N = 22, p < .05$. All participants who did not originally recommend confession retained their original choice despite hearing advice from peers to confess. Those who originally selected confession, on the other hand, sometimes agreed with advice from peers to remain silent (3 out of 5 changed their response). Regarding the consultation with an attorney vignette, the logistic regression including age, intelligence, original recommendation, and their interactions was not significant, $X^2 = 6.78, df = 6, N = 14, p > .05$. Again, a Chi-square indicated that

original choice was associated with resistance to peer influence, $X^2 = 7.29$, $df = 1$, $N = 21$, $p = .01$. Among those who initially recommended full disclosure to an attorney, most stated that they would fully disclose despite advice from peers to the contrary (12 out of 15). In contrast, among those who originally recommended less than full disclosure, most stated that they would fully disclose to an attorney when presented with the second vignette in which their peers advise them to do so (5 out of 6). Finally, the logistic regression regarding resistance to peer influence in response to vignettes related to a plea bargain was not significant, $X^2 = 8.96$, $df = 6$, $N = 14$, $p > .05$, nor was the Chi-square to determine differences in resistance to peer influence based solely on original recommendation, $X^2 = .92$, $df = 1$, $N = 22$, $p > .05$.

Decisions Regarding One's Own Legal Situation

When age and the perceived strength of evidence were entered as predictors of the decision to confess or deny the offense to the police, the overall model was not significant (see Table 2.5) nor was the model that included the interaction term, $X^2 = 1.17$, $df = 3$, $N = 17$, $p > .05$. Once again, the high base rate of confession makes prediction difficult. One-way ANOVAs comparing those who confessed to those who denied the offense, however, also found no differences in age, $F(1, 15) = .01$, $p = .92$ or perceived strength of the evidence, $F(1, 15) = .25$, $p = .63$. Similarly, age and the perceived strength of evidence did not predict the decision to tell one's own attorney everything about one's case (see Table 2.5), and the model that included the interaction term was also nonsignificant, $X^2 = 1.89$, $df = 3$, $N = 22$, $p > .05$. Again, direct comparisons between those who made full disclosures and those who did not were not

significant for age, $F(1, 22) = .02, p = .88$, or perceived strength of evidence, $F(1, 20) = .05, p = .82$. The same pattern was found when predicting who would accept a plea bargain if it were offered (see Table 2.5), and again the model including the interaction term was nonsignificant, $X^2 = 3.67, df = 3, N = 22, p > .05$. Furthermore, those who would accept a plea bargain did not differ from those who would not or who were unsure in age, $F(1, 22) = 2.13, p = .16$, or perceived strength of evidence, $F(1, 21) = .04, p = .85$.

Given the lack of relationship between age and choices regarding one's own case, mediation analyses are not conducted; however, ANOVAs were conducted to determine if those who confessed to police (see Table 2.6), fully disclosed to their attorney (see Table 2.7), or would accept a plea bargain (see Table 2.8) differed on any variables from the JILC. Those who confessed scored significantly higher on Future Recognition-3 ($M = 1.17, SD = .72$) than those who denied the offense ($M = .40, SD = .55$). Participants who stated they had told their attorney everything about their case or that they planned to do so scored significantly lower on authority compliance ($M = 1.06, SD = .94$) than those who did not plan to fully disclose to their attorney ($M = 2.00, SD = .89$). Additionally, those who would agree to a plea bargain scored significantly higher on Risk Recognition-2 ($M = 54.23, SD = 6.83$) compared to those who were unsure or would not take a plea bargain ($M = 49.39, SD = 11.71$). Similarly, those who would agree to a plea bargain scored higher on Risk Appreciation-2 ($M = 14.83, SD = 1.17$) than those who were unsure or would not take a plea bargain ($M = 14, SD = 1.08$).

Finally, the choices individuals recommended on the JILC did not correspond to their decision to confess or not ($X^2 = .31, df = 1, N = 19, p > .05$), to disclose everything

to defense counsel ($X^2 = 2.87, df = 1, N = 23, p > .05$), or their willingness to accept a plea bargain ($X^2 = .84, df = 1, N = 24, p > .05$), although these results should be interpreted cautiously given small cell sizes.

Discussion

A growing body of literature suggests that juveniles' psychosocial skills related to judgment continue to develop over the course of adolescence (e.g., Cauffman & Steinberg, 2000; Grisso et al., 2003). The current study sought to add to this literature by replicating and extending prior findings, specifically by examining the relationship between judgment as measured by the JILC and real-life legal decision making. Age and intelligence were not significantly predictive of any of the 3 recommendations made in response to the vignettes of the JILC. Despite the lack of a significant relationship, no participants over the median age recommended the vignette character confess to the police. Those who recommended fully disclosing information to defense counsel did have significantly higher intelligence estimates than those who recommended anything less than full disclosure. Additionally, age and intelligence were not significant predictors of the majority of JILC variables, although intelligence was significantly associated with Authority Compliance and Risk Recognition-2 was marginally significantly predicted by age and intelligence. Individuals' decisions regarding their own cases were not predicted by age, perceived strength of evidence, or the interaction between the two. In addition, their decisions bore little resemblance to the recommendations they made on the JILC. In the interest of exploring the potential relationship between judgment and decisions about one's own case, ANOVAs were completed comparing groups based on the decisions they

made. Those who confessed to the police scored higher on Future Recognition-3 than those who denied the offense. Additionally, those who fully disclosed to defense counsel scored significantly lower on Authority Compliance than those who did not intend to fully disclose relevant information to their attorney. Those who would accept a plea bargain if offered scored higher on Risk Recognition-2 and Risk Appraisal-2 than those who would not immediately accept such an offer.

Prior research has found that younger juveniles are more likely to recommend confessing to police and accepting the plea bargain as the best choices in response to the JILC vignettes, with no age effect on recommendations to fully disclose to an attorney (Grisso et al., 2003). These past results were not surprising, especially given that younger juveniles are known to be less likely to assert the right to remain silent (e.g., Ferguson & Douglas, 1970; Grisso & Pomicter, 1977). While the current study did not find age to be a significant predictor of the recommendation to confess, no participant over the median age made this recommendation. The current study's youngest participant was almost 13 years of age, and the median age of the sample was 16 years, 2 months. The prior study included a large sample of juveniles ages 11-17 and adults 18-24 years of age, and 11-13 year olds appeared particularly likely to make these recommendations (Grisso et al., 2003). It is therefore possible that the combination of a small sample and a restricted age range prevented the current study from detecting a true effect of age on recommendations regarding confession or accepting a plea bargain. The use of logistic regression in particular requires a fairly large sample to produce reliable results. The current study also found that those who recommended fully disclosing information regarding the crime to a

defense attorney scored higher on the WASI FSIQ-4. It is possible that the difference in intelligence identified in the current study was a Type I error. Alternatively, individuals with lower intelligence may not as easily grasp the role of defense counsel or the nature of attorney-client privilege and therefore may be less likely to recommend disclosing all information to an attorney.

The current study also did not find age and intelligence to be related to most variables coded from the JILC. The current study did not replicate the finding of Grisso and colleagues (2003) that younger participants scored higher on Authority Compliance than older participants. Again, the small sample and restricted age range may have resulted in failure to detect a true effect. In contrast to the results of Grisso and colleagues (2003), the current study did find intelligence to be a significant predictor of Authority Compliance. In some ways, this may be a counterintuitive finding, given that there is little reason to expect intelligence to be related to the construct of authority compliance. It is not clear, however, that the Authority Compliance score as coded on the JILC has construct validity. This measure is scored by providing one point for each of the following recommendations: confess to police, disclose everything to defense counsel, and accept the plea bargain. The reason for making the choice is not included in determining the Authority Compliance score, and therefore participants who may recommend these choices for reasons that have nothing to do with compliance would also score high on this measure. For example, an individual who recommends accepting the plea bargain because they consider going to trial too risky given the severity of the potential consequences if convicted (4-6 years incarcerated) receives the same score as

someone who recommends accepting the plea bargain because of a belief that pleading guilty is a way to please the judge and possibly get a more lenient sentence. Thus, these recommendations could be made for rational, strategic reasons that have nothing to do with compliance. In fact, the JILC manual (Woolard et al., 2003) also includes a Strategic Defense Orientation score, in which participants receive a point for making 2 of the same recommendations as in Authority Compliance (disclose everything to defense counsel and accept the plea bargain) in addition to the recommendation to remain silent.

Therefore, if intelligence is truly related to the Authority Compliance score as currently defined by the JILC, it may be that these choices are being recommended for strategic reasons rather than reasons driven by compliance. Alternatively, if younger age truly is related to the Authority Compliance score, as found by Grisso and colleagues (2003), perhaps this variable does capture the intended construct. Regardless, the Authority Compliance score could be improved by developing a coding system for the individual's reasons for the recommendations rather than basing the score on the recommendations themselves.

The current study also failed to find the expected effect of age and intelligence on risk recognition and appreciation. Based on their descriptions of the variables, it appears that Grisso and colleagues (2003) included Risk Recognition-1 (which is referred to in that paper simply as risk recognition), Risk Appraisal-1 (which is referred to as risk likelihood), and RiskAppraisal-2 (which is referred to as risk impact). Risk Recognition-1 was significantly associated with age and intelligence in the prior study (Grisso et al., 2003). The current study did not find this relationship, but did find age and intelligence to

be marginally significant in predicting Risk Recognition-2, which is the average proportion of consequences identified that were risks. Both Risk Recognition scores are designed to capture the ability of defendants to recognize the potential risks of legal decisions. Older adolescents and adults are more likely to spontaneously consider the risks associated with decisions than younger juveniles (Peterson-Badali & Abramovitch, 1993; Halpern-Felsher & Cauffman, 2001; Lewis, 1981), therefore age is expected to be related to risk recognition. Additionally, intelligence may be related to the ability to imagine a variety of potential consequences of a decision. Perhaps with a larger sample and therefore more power to detect real effects, age and intelligence would be significant predictors of Risk-Recognition-2. Regarding risk appraisal, Grisso and colleagues (2003) reported that young adults scored significantly higher on Risk Appraisal-1 than all younger age groups, who did not significantly differ from each other. As the current study did not include young adults, it is perhaps not surprising that no effect of age was detected. There was also no effect of intelligence in either the current study or prior research (Grisso et al., 2003). It is somewhat surprising that intelligence is negatively related to Risk Appraisal-1 in the current study, but given that the coefficient is not significantly different from zero, this is not interpreted to suggest that lower intelligence is associated with higher levels risk appraisal. Finally, Grisso and colleagues (2003) reported that younger juveniles (particularly those ages 11-13 and 14-15) scored significantly lower on Risk Appraisal-2 than older participants. Once again, the truncated age range of participants in the current study may have prevented the detection of a true effect of age on ratings of the impact of negative consequences. Neither the current study

nor that of Grisso and colleagues (2003) found an effect of intelligence on Risk Appraisal-2.

Age and intelligence also were not related to any measures of future orientation in the current study. This may not be unprecedented, as despite detecting an overall main effect of age on Future Recognition-1, Grisso and colleagues (2003) found that young adults and juveniles ages 14-15 did not significantly differ from any other age group. The prior study did find a main effect of intelligence on Future Recognition-1, which the current study did not replicate. Again, age was negatively related to two measures of future orientation in the current study, but these coefficients are not significantly different from zero and are small in magnitude, suggesting the direction of the effect seen here is not meaningful.

Resistance to peer influence is measured by the JILC by presenting new vignettes in which the participant imagines him or herself in situations parallel to those they have already discussed regarding Joe (interrogation by police, consultation with attorney, and consideration of plea bargain) with the addition of advice from friends that is contrary to the individual's original choice. Those who retain their original choice are considered to have resisted peer influence. While age was not related to total resistance to peer influence scores nor to the decision to ignore advice from friends in any particular vignette, original choice was significantly associated with resistance to peer influence. Individuals who initially chose confession were more likely to be influenced by hypothetical advice from peers than those who did not recommend confession. Grisso and colleagues (2003) found an interaction between original choice and age such that

older participants who initially chose remaining silent were more likely to retain their original choice than those who made a different recommendation. Given that the current study only included one participant under age 13, the association between the initial choice of confession and being influenced by peers is consistent with this pattern. The result regarding the attorney consultation vignette was consistent with that of Grisso and colleagues (2003), in that those who originally chose less than full disclosure were more likely to change their mind in response to peer advice. Finally, Grisso and colleagues (2003) also found that those who originally chose accepting the plea bargain as the best option were more resistant to peer influence than those who would reject the plea bargain, but this result was not replicated in the current study. It is unclear whether “resisting peer influence” in response to a hypothetical vignette translates into being able to resist peer influence when facing one’s own legal situation. This question could not be addressed by the current study, as most participants were unsure of what their friends (and parents) wanted them to do in various situations (e.g., interrogation, entering a plea).

Age, the perceived strength of evidence, and the interaction between them did not significantly predict individuals’ decisions to confess, to disclose all information to their attorneys, nor to accept a plea bargain if offered. This is in contrast to prior research indicating that younger participants are less likely to assert their right to silence (Ferguson & Douglas, 1970; Grisso & Pomicter, 1977; Viljoen et al., 2005) and less likely to be influenced by the strength of the evidence against them in making choices regarding their own case (Viljoen et al., 2005) or in response to a vignette (Peterson-Badali & Abramovitch, 1993). Despite the fact that age was not a significant predictor of

decisions to confess, it is nonetheless interesting to note that the only two participants who remained silent when they were questioned by the police were 16.5 and 17 years of age. The small sample and restricted age range may again have prevented detecting a real effect of age and an interaction between age and perceived strength of evidence in predicting individuals' decisions regarding their own cases. If further research replicates Viljoen and colleagues (2005) findings that younger participants' decisions are not related to the perceived strength of the evidence against them, their decisional competence could be questioned on the grounds that they do not appreciate the significance of this information.

Despite the lack of an effect of age, individuals' personal legal decisions were associated with differences in performance on the JILC. Individuals who confessed scored significantly higher on Future Recognition-3, a variable based on the short or long term focus of participants' self-identified main reason for their recommendation in each vignette. It is possible that even among juveniles who are focused on long-term consequences, their beliefs regarding how the justice system works lead them to make a choice that a future oriented adult may not. Participants sometimes expressed the belief that confession is associated with better long-term outcomes because the police and the judge appreciate the defendant's honesty. Additionally, participants who fully disclosed information to their attorneys scored lower on Authority Compliance. It is difficult to identify a potential explanation of this finding even given the problems with this measure outlined above, therefore it is likely a Type I error. In contrast, the results indicating that participants who would accept a plea bargain scored higher on Risk Recognition-2 and

Risk Appreciation-2 are consistent with expectations. Those who are able to identify more potential risks of their choices and who perceive those risks as more aversive are likely to try to avoid the potential negative consequences associated with trial when faced with the option of taking a plea bargain. Future research should continue to examine the relationship between psychosocial skills and actual decisions made by participants to determine if these skills are sometimes deployed in counterintuitive ways given younger participants' beliefs regarding the system.

Responses on the JILC may not be strongly associated with the decisions participants make regarding their own cases. The choices participants recommended on the JILC were not associated with the choices participants had made or planned to make regarding their own cases. Additionally, relatively few JILC variables were associated individuals' personal legal choices. There are several possible explanations of this weak relationship. First, the current study's small sample size and the limited variability in choices made by participants (e.g., 83.3% would accept a plea bargain) may have precluded detection of the relationship between psychosocial variables coded from the JILC and individuals' real life choices. Second, the JILC may need further refinement and construct validation. Variables such as Authority Compliance could be modified to improve their construct validity. Additionally, a rationale for selecting Risk Recognition-1 or -2 and Future Recognition-1 or -2 would improve interpretation of these measures and of differences in relations between these and other relevant variables (e.g., is one more heavily determined by intelligence than the other?). Other measures of psychosocial maturity have been shown to be predictive of individuals' decisions made in response to

vignettes (e.g., Cauffman & Steinberg, 2000; Colwell et al., 2005), and perhaps these measures will prove to be stronger predictors of individuals' choices regarding their cases. Third, it is possible that performance on an assessment instrument, no matter how good the measure, will not be a strong predictor of real-life decision making because of the lack of emotion involved in participating in such an assessment (in contrast to the presumably high levels of emotion involved in real life legal situations). Refinement of the current measure, inclusion of broader measures of psychosocial maturity, and research with larger samples will help clarify the nature of the relationship between psychosocial maturity and real-life decision making.

There are a number of limitations of the current study. As already noted, the small sample size limits the confidence in the results. Not only is there a high probability of Type II errors, but conducting a large number of analysis also increases the likelihood of Type I errors. Furthermore, the odds ratios produced by logistic regression using a small sample cannot be considered reliable. The restricted age range is also a significant limitation of the current study. Research on trial-related abilities often finds that juveniles begin performing similarly to adults around age 14 or 15 (e.g., Ficke et al., 2006; Grisso et al., 2003), thus the small number of participants under this age is particularly problematic. Due to this restricted age range, the current study was not able to directly replicate the results of Viljoen and colleagues (2005) because it was not possible to split the sample at age 15. Additionally, the current study included only youth in detention. These youth likely differ from the broader population of juvenile offenders, limiting the generalizability of the current results. Furthermore, by asking participants to self-report

their own decisions, results are subject to memory inaccuracies and memory loss, as noted by Viljoen and colleagues (2005). Also, some juveniles were recently arrested and therefore were guessing at their plea intentions, which may not correspond to the actual decisions they make later in the process (Viljoen et al., 2005).

A brief comment on the descriptive information provided regarding interrogation experiences is necessary. A surprising number of participants reported being under the influence of a substance while being questioned. It is possible that participants were over-reporting substance use, but police and probation officers should be provided specific guidelines regarding interrogation of juveniles who they suspect are under the influence. Additionally, no participants were accompanied by a lawyer, only 25% were accompanied by a parent, and almost all juveniles waived the right to silence. There is considerable reason to be concerned about juveniles' waiver of their *Miranda* rights. A review of cases in which defendants were exonerated found that about 10% of their sample were juveniles at the time of their conviction and 44% of these juveniles had falsely confessed to the crime (Gross, Jacoby, Matheson, Montgomery, & Patil, 2005). A recent review highlighted the developmental factors that put youth at increased risk for providing false confessions (Owen-Kostelnik, Reppucci, & Meyer, 2006). A notable proportion of juveniles in the current study and prior research self-report falsely confessing (about 10% in Viljoen et al., 2005). Given concerns regarding juveniles' waiver of *Miranda* rights, perhaps a greater effort to have an interested adult (preferably a lawyer, e.g., Woolard, Cleary, Harvell, & Chen, 2008) present should be made.

The current study represents one step forward in connecting research on skills that continue to develop over the course of adolescence and on functioning within the legal system. Empirical evidence already exists that younger participants are more likely to confess (e.g., Grisso & Pomicter, 1977; Viljoen et al., 2005) and that immature judgment is associated with some types of decision making (e.g., Cauffman & Steinberg, 2000). Similarly, it is well accepted that younger juveniles do not perform as well on competence assessment instruments as older juveniles and adults (e.g., Grisso et al., 2003; Viljoen & Roesch, 2005), and that adolescence is a time of continued development in variety of domains (e.g., Scott & Grisso, 2005). Research has yet to demonstrate that immature development on particular skills interferes with trial-related abilities. This connection would be a more convincing argument for the recognition of immaturity as a basis for incompetence than simply documenting age effects and development of skills separately. While the results are modest, it is nonetheless important that some aspects of judgment were significantly related to choices that individuals made regarding their legal situation. While the decisions assessed in the current study are not directly related to one's ability to function at trial, they provide information relevant to decisional competence. If younger individuals as a group consistently fail to consider the strength of the evidence against them in making choices, make disadvantageous decisions based on short term interests, or are easily influenced by others, their ability to make rational autonomous decisions should be in doubt. Specifically, if immature judgment interferes with decisional competence, this begins to provide empirical evidence that immaturity should be considered as a potential basis for incompetence. Future research should

continue to explore not only the relationship between judgment and competence, but should consider other potentially relevant skills such as working memory, attention, and emotion regulation.

APPENDIX A: ANALYSES REGARDING THE CAST-MR

Table 1.1: Descriptive Information Regarding Relevant Correlates

	<i>n</i>	<i>M</i>	<i>SD</i>	Range
Age	27	15.92	1.35	12 y 8 mo – 17 y, 10 mo
WASI FSIQ-4	19	91.68	9.15	72-109
WASI VIQ	19	90.95	11.15	71-109
WASI PIQ	19	94.53	9.94	79-117
WRAT-4 Reading Composite	10	94.50	13.72	73-117
MAYSI-2 Alcohol/Drug	26	3.62	2.40	0-8
MAYSI-2 Angry-Irritable	26	4.19	2.51	0-9
MAYSI-2 Depressed/Anxious	26	2.46	2.08	0-9
MAYSI-2 Somatic Complaints	26	2.96	1.73	0-6
MAYSI-2 Suicidal Ideation	26	.46	.86	0-3
MAYSI-2 Thought Disturbance	26	.29	.55	0-2
MAYSI-2 Traumatic Experiences	26	2.35	1.62	0-5
Self-reported prior arrests	27	12	12.65	0-60
File based prior arrests	21	9.81	4.81	0-19
Times met with attorney	27	1.85	1.83	0-9

Table 1.2: Properties of the CAST-MR

Item/Scale	Corrected Item-total correlation	α if item deleted	% answered correctly	Scale α	Scale $M (SD)$
1	.00	.68	100		
2	.53	.65	96		
3	.00	.68	100		
4	.44	.65	73		
5	.53	.65	96		
6	.00	.68	100		
7	.05	.69	96		
8	.41	.65	89		
9	.00	.68	100		
10	.28	.67	96		
11	.00	.68	100		
12	.34	.66	92		
13	-.06	.70	96		
14	.17	.68	96		
15	.33	.66	89		
16	.00	.68	100		
17	.53	.65	96		

18	.00	.68	100		
19	.00	.68	100		
20	.17	.68	96		
21	.52	.63	42		
22	.00	.68	100		
23	.00	.68	100		
24	.28	.67	96		
25	.17	.68	92		
SCALE 1				.68	23.42 (1.84)
26	.57	.53	92		
27	.32	.57	81		
28	-.06	.62	96		
29	-.18	.64	92		
30	.53	.53	89		
31	.39	.55	65		
32	-.12	.67	77		
33	.00	.61	100		
34	.70	.54	96		
35	.70	.54	96		
36	.00	.61	100		

37	.70	.54	96		
38	.11	.62	73		
39	-.07	.62	96		
40	.25	.59	80		
SCALE 2				.61	13.30 (1.82)
41	.67	.33			
42	-.07	.58			
43	.10	.52			
44	-.47	.61			
45	-.17	.60			
46	.80	.27			
47	.40	.42			
48	-.04	.54			
49	.59	.36			
50	.31	.46			
SCALE 3				.52	7.75 (1.70)

Note: Analyses regarding Scale 3 were limited to those youth who were able to be scored on all questions (n = 6)

Table 1.3: Correlations between CAST-MR and relevant variables

	Scale 1	Scale 2
Age	.56**	.35
WASI FSIQ-4	.68**	.59**
WASI VIQ	.61**	.44
WASI PIQ	.40	.47*
WRAT-4, Reading Comprehension	.11	.32
MAYSI-2 AD	-.13	-.43*
MAYSI-2 AI	.06	-.13
MAYSI-2 DA	.12	.16
MAYSI-2 SC	.14	-.04
MAYSI-2 SI	.20	.05
MAYSI-2 TD	-.51*	-.28
MAYSI-2 TE	-.27	.12
Self-reported arrests	-.19	-.26
File-review arrests	-.23	-.08
File-review convictions	-.34	-.05
Times met with attorney	-.04	.04

Note: * $p < .05$, ** $p < .01$

Table 1.4: Hierarchical Multiple Regression Analysis for Age, Intelligence, and their Interaction, Predicting CAST-MR Scale Scores

	<i>B</i>	<i>SEB</i>	β	<i>R</i> ²
Scale 1				.67
z(Age)	1.06	.50	.51	
z(FSIQ-4)	1.09	.34	.53**	
z(Age) x z(FSIQ-4)	-.05	.37	-.03	
Scale 2				.63
z(Age)	.01	.49	.01	
z(FSIQ-4)	.65	.34	.34	
z(Age) x z(FSIQ-4)	-.88	.36	.55*	

Note: * $p < .05$, ** $p < .01$

Table 1.5: Hierarchical Multiple Regression Analysis for Intelligence, Meetings with an Attorney, and their Interaction, Predicting CAST-MR Scale Scores

	<i>B</i>	<i>SEB</i>	β	<i>R</i> ²
Scale 1				.52
z(FSIQ-4)	2.44	1.28	1.04	
z(attorney meetings)	.23	1.84	.10	
z(FSIQ-4) x z(attorney meetings)	-.22	2.63	.08	
Scale 2				.90
z(FSIQ-4)	2.43	.61	.99**	
z(attorney meetings)	-2.91	.87	-1.19*	
z(FSIQ-4) x z(attorney meetings)	-4.40	1.25	-1.58*	

Note: * $p < .05$, ** $p < .01$

APPENDIX B: ANALYSIS REGARDING LEGAL DECISIONS AND JUDGMENT

Table 2.1: Variables coded from the Judgment in Legal Contexts Instrument

Variable	Description	Range of scores	Mean (SD)
Authority Compliance	Participants receive one point for each compliant choice: confess to police, tell defense attorney everything, accept plea bargain	0 - 3	1.33 (1.04)
Risk Recognition-1	The average number of potential negative consequences of best choice and worst choice identified across vignettes	3 - 10	5.26 (1.83)
Risk Recognition-2	The percentage of total potential consequences identified (of best and worst choice) that were negative consequences (i.e., risks)	2.89 - 66.67	51.46 (12.28)
Risk Appraisal-1	Respondents rate whether a positive or negative outcome is more likely using a Likert-type scale (ranging from endorsing the belief that a negative outcome will definitely happen to the belief that a positive outcome will definitely happen).	8 - 17	12.56 (2.18)

	Higher scores indicate higher likelihood of negative outcomes. Totals are averaged across vignettes.		
Risk Appraisal-2	Respondents rate how “bad” each of the negative outcomes would be (with choices ranging from “no big deal” to “extremely bad”). Higher scores indicate negative outcomes are perceived as more aversive. Totals are averaged across vignettes.	11.5 - 18	14.5 (1.43)
Future Recognition-1	The total number of long-term consequences, both good and bad, identified for each vignette (for best and worse choice), averaged across vignettes.	2.5 - 10.5	5.58 (2.06)
Future Recognition-2	Percentage of total consequences (both good and bad) identified for each vignette (for best and worst choice) that were long-term consequences, averaged across vignettes.	33.33 - 83.33	56.48 (13.35)
Future Recognition-3	Participants are asked to identify the main reason the option they identify as the “best choice” is better than that they identify as	0 - 2	.93 (.72)

	the “worst choice.” This reason is coded as reflecting short-term of long-term consequences. This variable represents the number of main reasons that reflect long-term consequences.		
Resistance to Peer Influence	Participants receive a point for each response that is consistent with their prior preferred choice (and inconsistent with hypothetical advice from friends). Higher scores represent greater resistance to peers.	0 - 3	2.23 (.94)

Table 2.2: Descriptive Information Regarding Performance on the JILC and Actions Taken or Planned Regarding Own Case

	Recommendations on the JILC	Actions Taken or Planned
Statement to police		
Confess	18.5%	63.2%
Deny	14.8%	26.3%
Remain silent	66.7%	10.5%
Consultation with attorney		
Disclose everything	73.1%	75%
Do not disclose everything	-	25%
Disclose part of the information	11.5%	-
Remain silent	0%	-
Deny	15.4%	-
Plea intention		
Guilty	-	91.7%
Not Guilty	-	8.3%
Response to plea bargain		
Accept	44.4%	83.3%
Reject	55.6%	4.2%
Need more information	-	12.5%

Table 2.3: Logistic Regression of Age and Intelligence as Predictors of JILC Choices

	<i>B</i>	<i>SE</i>	Odds Ratio	<i>p</i>
Recommend Confession $X^2 = 1.74, df = 2, N = 18, p > .05$				
Age	-.04	.06	.96	.49
FSIQ-4	.09	.07	1.09	.22
Constant	-2.53	10.62	.08	.81
Recommend Full Disclosure to Attorney $X^2 = 12.35, df = 2, N = 18, p < .05$				
Age	-.141	.14	.87	.31
FSIQ-4	.75	.54	2.11	.17
Constant	-35.73	27.39	.00	.19
Recommend Accepting Plea Bargain $X^2 = 4.13, df = 2, N = 18, p > .05$				
Age	.03	.04	1.03	.44
FSIQ-4	-.13	.07	.88	.08
Constant	5.82	8.26	337.91	.48

Table 2.4: Linear Regression Predicting Variables Coded from the JILC from Age and Intelligence

Variable	Age			FSIQ-4		
	<i>B</i>	<i>SEB</i>	β	<i>B</i>	<i>SEB</i>	β
Authority Compliance $R^2 = .35$	-.01	.02	-.18	.07	.02	.62**
Risk Recognition-1 $R^2 = .07$	.02	.03	.18	.03	.05	.15
Risk Recognition-2 $R^2 = .39$	.37	.20	.39†	.58	.32	.39†
Risk Appreciation-1 $R^2 = .17$	.05	.03	.43	-.04	.05	-.22
Risk Appreciation-2 $R^2 = .22$	.02	.02	.28	.04	.03	.30
Future Recognition-1 $R^2 = .02$	.02	.04	.13	-.01	.05	-.03
Future Recognition-2 $R^2 = .01$	.11	.30	.10	.10	.40	.07
Future Recognition-3 $R^2 = .04$	.01	.01	.22	-.01	.02	-.10
Resistance to Peer Influence	-.004	.02	-.05	-.04	.03	-.34

$R^2 = .13$		
-------------	--	--

Note: ** $p \leq .01$, † $p < .10$

Table 2.5: Logistic Regression Predicting Choices Regarding One's Own Case from Age and Perceived Strength of the Evidence

	<i>B</i>	<i>SE</i>	Odds Ratio	<i>p</i>
Confessed vs. Denied offense to police $X^2 = .30, df = 2, N = 17, p > .05$				
Age	-.01	.03	1.00	.88
Evidence	-.12	.22	.89	.59
Constant	.98	6.79	2.66	.89
Full disclosure to attorney vs. less than full disclosure $X^2 = .08, df = 2, N = 22, p > .05$				
Age	-.01	.04	.99	.87
Evidence	-.05	.18	.96	.80
Constant	2.51	7.72	12.34	.75
Would accept a plea bargain vs. Would reject plea bargain/unsure $X^2 = 1.83, df = 2, N = 22, p > .05$				
Age	.05	.04	1.05	.20
Evidence	-.03	.24	.97	.91
Constant	-7.58	7.38	.001	.31

Table 2.6: One-Way ANOVAs of Decision to Confess or Deny the Offense to Police
 Predicted by JILC Variables

		<i>df</i>	<i>MS</i>	<i>F</i>
Authority Compliance	Between	1	.25	.21
	Within	15	1.19	
Risk Recognition-1	Between	1	.57	.26
	Within	15	2.18	
Risk Recognition-2	Between	1	5.03	.10
	Within	15	50.82	
Risk Appreciation-1	Between	1	.61	.09
	Within	15	6.63	
Risk Appreciation-2	Between	1	.00	.00
	Within	15	1.94	
Future Recognition-1	Between	1	1.77	.46
	Within	15	3.82	
Future Recognition-2	Between	1	81.09	.43
	Within	15	188.03	
Future Recognition-3	Between	1	2.08	4.53*
	Within	15	.46	
Resistance to Peer Influence	Between	1	.58	.60
	Within	11	.96	

Table 2.7: One-Way ANOVAs of Decision to Disclose Fully to Defense Counsel
 Predicted by JILC Variables

		<i>df</i>	<i>MS</i>	<i>F</i>
Authority Compliance	Between	1	4.01	4.66*
	Within	22	.86	
Risk Recognition-1	Between	1	5.84	1.73
	Within	22	3.37	
Risk Recognition-2	Between	1	22.24	.35
	Within	22	62.84	
Risk Appreciation-1	Between	1	2.72	.64
	Within	22	4.26	
Risk Appreciation-2	Between	1	.06	.04
	Within	22	1.33	
Future Recognition-1	Between	1	.09	.02
	Within	22	3.88	
Future Recognition-2	Between	1	286.60	1.93
	Within	22	148.20	
Future Recognition-3	Between	1	1.39	2.93
	Within	22	.48	
Resistance to Peer Influence	Between	1	2.68	3.45
	Within	16	.78	

Table 2.8: One-Way ANOVAs of Willingness to Accept Plea Bargain Predicted by JILC

Variables

		<i>df</i>	<i>MS</i>	<i>F</i>
Authority Compliance	Between	1	.34	.31
	Within	25	1.11	
Risk Recognition-1	Between	1	.64	.19
	Within	25	3.44	
Risk Recognition-2	Between	1	594.64	4.47*
	Within	25	133.16	
Risk Appreciation-1	Between	1	9.15	2.01
	Within	25	4.56	
Risk Appreciation-2	Between	1	8.15	4.54*
	Within	25	1.79	
Future Recognition-1	Between	1	.90	.20
	Within	24	4.37	
Future Recognition-2	Between	1	361.27	2.12
	Within	24	170.71	
Future Recognition-3	Between	1	1.03	2.09
	Within	26	.49	

Note: * $p \leq .05$

REFERENCES

- Ambuel, B. & Rappaport, J. (1992). Developmental trends in adolescents' psychological and legal competence to consent to abortion. *Law and Human Behavior, 16*, 129-154.
- Archer, R.P., Stredny, R.V., Mason, J.A., & Arnau, R.C. (2004). An examination and replication of the psychometric properties of the Massachusetts Youth Screening Instrument – Second Edition (MAYSI-2) among adolescents in detention settings. *Assessment, 11*, 290-302.
- Archer, S.L. (1982). The lower age boundaries of identity development. *Child Development, 53*, 1551-1556.
- A.R.S. §13-4501
- Baerger, D.R., Griffin, E.F., Lyons, J.S., & Simmons, R. (2003). Competency to stand trial in preadjudicated and petitioned juvenile defendants. *Journal of the American Academy of Psychiatry and the Law, 31*, 314-320.
- Barnum, R. (2000). Clinical and forensic evaluation of competence to stand trial in juvenile defendants. In: T. Grisso & R.G. Schwartz (Eds.), *Youth on trial: A developmental perspective on juvenile justice* (pp. 193-223). Chicago, IL: The University of Chicago Press.
- Baron, R.M. & Kenny, D.A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173-1182.

- Benthin, A., Slovic, P., & Severson, H. (1993). A psychometric study of adolescent risk perception. *Journal of Adolescence, 16*, 153-168.
- Berndt, T.J. (1979). Developmental changes in conformity to peers and parents. *Developmental Psychology, 15*, 608-616.
- Beyth-Marom, R., Austin, L., Fischhoff, B., Palmgren, C., & Quadrel, M.J. (1993). Perceived consequences of risky behaviors: Adults and adolescents. *Developmental Psychology, 29*, 549-563.
- Bonnie, R.J. (1992). The competence of criminal defendants: A theoretical reformulation. *Behavioral Sciences and the Law, 10*, 291-316.
- Bonnie, R.J. & Grisso, T. (2000). Adjudicative competence and youthful offenders. In T. Grisso and R.G. Schwartz (Eds.), *Youth on trial: A developmental perspective on juvenile justice* (pp. 73-103). Chicago IL: University of Chicago Press.
- Borum, R. & Grisso, T. (2007). Developmental considerations for forensic assessment in delinquency cases. In: A.M. Goldstein (Ed.), *Forensic psychology: Emerging topics & expanding roles* (pp. 553-570). Hoboken, NJ: John Wiley & Sons, Inc.
- Burnett, D.M.R., Noblin, C.D., & Prosser, V. (2004). Adjudicative competency in a juvenile population. *Criminal Justice and Behavior, 31*, 438-462.
- Cauffman, E. & Steinberg, L. (1995). The cognitive and affective influences on adolescent decision-making. *Temple Law Review, 68*, 1763-1789.
- Cauffman, E. & Steinberg, L. (2000). (Im)maturity of judgment in adolescence: Why adolescents may be less culpable than adults. *Behavioral Sciences and the Law, 18*, 741-760.

- Cauffman, E., Woolard, J., & Reppucci, N.D. (1999). Justice for juveniles: New perspectives on adolescents' competence and culpability. *Quinnipiac Law Review*, *18*, 403-419.
- Christy, A., Douglas, K.S., Otto, R.K., & Petrila, J. (2004). Juveniles evaluated incompetent to proceed: Characteristics and quality of mental health professionals' evaluations. *Professional Psychology: Research and Practice*, *35*, 380-388.
- Cohen, J. & Cohen, P. (1983). *Applied multiple regression/correlation analysis for the behavioral sciences, Second edition*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Cohn, L.D., Macfarlane, S., Yanez, C., & Imai, W.K. (1995). Risk perception: Differences between adolescents and adults. *Health Psychology*, *14*, 217-222.
- Colwell, L.H., Cruise, K.R., Guy, L.S., McCoy, W.K., Fernandez, K., & Ross, H.H. (2005). The influence of psychosocial maturity on male juvenile offenders' comprehension and understanding of the Miranda warning. *The Journal of the American Academy of Psychiatry and the Law*, *33*, 444-454.
- Cooper, D.K. (1997). Juveniles' understanding of trial-related information: Are they competent defendants? *Behavioral Sciences and the Law*, *15*, 167-180.
- Costanzo, P.R. & Shaw, M.E. (1966). Conformity as a function of age level. *Child Development*, *37*, 967-975.
- Cowden, V.L. & McKee, G.R. (1995). Competency to stand trial in juvenile delinquency proceedings—Cognitive maturity and the attorney-client relationship. *University of Louisville Journal of Family Law*, *33*, 629-651.

- Cooper, D.K. (1997). Juveniles' understanding of trial-related information: Are they competent defendants? *Behavioral Sciences and the Law*, 15, 167-180.
- Dusky v. United States* (1960). 362 U.S. 402.
- Drope v. Missouri* (1975). 420 U.S. 162.
- Elkind, D. (1967). Egocentrism in adolescence. *Child Development*, 38, 1025-1034.
- Everington, C.T. (1990). The Competence Assessment for Standing Trial for Defendants with Mental Retardation (CAST-MR): A validation study. *Criminal Justice and Behavior*, 17, 147-168.
- Everington, C.T. & Dunn, C. (1995). A second validation of the Competence Assessment for Standing Trial for Defendants with Mental Retardation (CAST-MR). *Criminal Justice and Behavior*, 22, 44-59.
- Everington, C.T. & Luckasson, R. (1992). *Competence Assessment for Standing Trial for Defendants with Mental Retardation (CAST*MR): Test Manual*. Worthington, OH: IDS Publishing.
- Ferguson, A.B. & Douglas, A.C. (1970). A study of juvenile waiver. *San Diego Law Review*, 7, 39-54.
- Ficke, S.L., Hart, K.J., & Deardorff, P.A. (2006). The performance of incarcerated juveniles on the MacArthur Competence Assessment Tool – Criminal Adjudication (MacCAT-CA). *Journal of the American Academy of Psychiatry and the Law*, 34, 360-373.
- Furby, L. & Beyth-Marom, R. (1992). Risk taking in adolescence: A decision-making perspective. *Developmental Review*, 12, 1-44.

- Godinez v. Moran*, (1993). 509 U.S. 389.
- Goldstein, N.E., Thomson, M.R., Osman, D., & Oberlander, L. (2002). Advocating a functional approach to determining adjudicative competency in juveniles. *Journal of Forensic Psychology Practice*, 2, 89-97.
- Greenberger, E., Josselson, R., Knerr, C., & Knerr, B. (1974). The measurement and structure of psychosocial maturity. *Journal of Youth and Adolescence*, 4, 127-143.
- Grisso, T. (1997). The competence of adolescents as trial defendants. *Psychology, Public Policy, and Law*, 3, 3-32.
- Grisso, T. (1998). *Instruments for assessing understanding and appreciation of Miranda rights*. Sarasota FL: Professional Resource Press.
- Grisso, T. (2003). *Evaluating competencies: Forensic assessments and instruments*, 2nd edition. New York, NY: Kluwer Academic Publishers.
- Grisso, T. (2005). *Evaluating juveniles' adjudicative competence: A guide for clinical practice*. Sarasota, FL: Professional Resource Press.
- Grisso, T. & Barnum, R. (2000). *Massachusetts Youth Screening Instrument – Second Version: Users Manual and Technical Report*. Worcester: University of Massachusetts Medical School.
- Grisso, T., Barnum, R., Fletcher, K.E., Cauffman, E., & Peuschold, D. (2001). Massachusetts Youth Screening Instrument for Mental Health Needs of Juvenile Justice Youths. *Journal of the American Academy of Child and Adolescent Psychiatry*, 40, 541-548.

- Grisso, T., Miller, M.O., & Sales, B.D. (1987). Competency to stand trial in juvenile court. *International Journal of Law and Psychiatry*, *10*, 1-20.
- Grisso, T. & Pomicter, C. (1977). Interrogation of juveniles: An empirical study of procedures, safeguards, and rights waiver. *Law and Human Behavior*, *1*, 321-342.
- Grisso, T., Steinberg, L., Woolard, J., Cauffman, E., Scott, E., Graham, S., Lexcen, F., Reppucci, N.D., & Schwartz, R. (2003). Juveniles' competence to stand trial: A comparison of adolescents' and adults' capacities as trial defendants. *Law and Human Behavior*, *27*, 333-363.
- Gross, S.R., Jacoby, K., Matheson, D.J., Montgomery, N., & Patil, S. (2005). Exonerations in the United States 1989 through 2003. *Journal of Criminal Law and Criminology*, *95*, 523-560.
- Halpern-Felsher, B.L. & Cauffman, E. (2001). Costs and benefits of a decision: Decision-making competence in adolescents and adults. *Applied Developmental Psychology*, *22*, 257-273.
- Hughes, C.W., Rintelmann, J., Emslie, G.J., Lopez, M., & MacCabe, N. (2001). A revised anchored version of the BPRS-C for childhood psychiatric disorders. *Journal of Child and Adolescent Psychopharmacology*, *11*, 77-93.
- In re Charles B.* (1998). 194 Ariz. 174.
- In re Gault* (1967). 387 U.S. 1.
- In re K.G., D.G., D.C.B., and J.J.S.* (2004). 808 N.E.2d 631.
- In re Petition of Ferrier* (1882). 103 Ill. 367.

- Keith, T.Z. (2001). Review of the Wechsler Abbreviated Scale of Intelligence. *Mental Measurements Yearbook, 14*.
- Kruh, I.P., Sullivan, L., Ellis, M., Lexcen, F., & McClellan, J. (2006). Juvenile competence to stand trial: A historical and empirical analysis of a juvenile forensic evaluation service. *International Journal of Forensic Mental Health, 5*, 109-123.
- Lewis, C.C. (1981). How adolescents approach decisions: changes over grades seven to twelve and policy implications. *Child Development, 52*, 538-544.
- McKee, G. (1998). Competency to stand trial in preadjudicatory juveniles and adults. *Journal of the American Academy of Psychiatry and the Law, 26*, 89-99.
- McKee, G. & Shea, S.J. (1999). Competency to stand trial in family court: Characteristics of competent and incompetent juveniles. *Journal of the American Academy of Psychiatry and the Law, 27*, 65-73.
- Melton, G.B., Petrila, J., Poythress, N.G., & Slobogin, C. (2007). *Psychological evaluations or the courts: A handbook for mental health professionals*, 3rd edition. New York, NY: Guilford Press.
- Millstein, S.G. & Halpern-Felsher, B.L. (2002). Judgments about risk and perceived invulnerability in adolescents and young adults. *Journal of Research on Adolescence, 12*, 399-422.
- Nicholson, R.A. & Kugler, K.E. (1991). Competent and incompetent criminal defendants: A quantitative review of comparative research. *Psychological Bulletin, 109*, 355-370.

- Nicholson, R.A., Robertson, H.C., Johnson, W.G., & Jensen, G. (1988). A comparison of instruments for assessing competency to stand trial. *Law and Human Behavior, 12*, 313-321.
- Oberlander, L.B., Goldstein, N.E., & Ho, C.N. (2001). Preadolescent adjudicative competence: Methodological considerations and recommendations for practice standards. *Behavioral Sciences and the Law, 19*, 545-563.
- Otto, R.K., Poythress, N.G., Nicholson, R.A., Edens, J.F., Monahan, J., Bonnie, R.J., et al., (1998). Psychometric properties of the MacArthur Competence Assessment Tool – Criminal Adjudication. *Psychological Assessment, 10*, 435-443.
- Owen-Kostelnik, J., Reppucci, N.D., & Meyer, J.R. (2006). Testimony and interrogation of minors: Assumptions about maturity and morality. *American Psychologist, 61*, 286-304.
- Pate v. Robinson* (1966). 383 U.S. 375.
- Peterson-Badali, M. & Abramovitch, R. (1993). Grade-related changes in young people's reasoning about plea decisions. *Law and Human Behavior, 17*, 537-552.
- Pierce, C.S. & Brodsky, S.L. (2002). Trust and understanding in the attorney-juvenile relationship. *Behavioral Sciences and the Law, 20*, 89-107.
- Poythress, N.G., Bonnie, R.J., Monahan, J., Otto, R., & Hoge, S.K. (2002). *Adjudicative competence: The MacArthur studies*. New York, NY: Kluwer Academic/Plenum Publishers.

- Poythress, N.G., Nicholson, R., Otto, R., Edens, J., Bonnie, R., Monahan, J., & Hoge, S. (1999). *The MacArthur Competence Assessment Tool – Criminal Adjudication: Professional manual*. Odessa, FL: Psychological Assessment Resources.
- Psychological Corporation. (1999). *Wechsler Abbreviated Scale of Intelligence*. San Antonio, TX: Author.
- Quadrel, M.J., Fischhoff, B., & Davis, W. (1993). Adolescent (in)vulnerability. *American Psychologist*, 48, 102-116.
- Redding, R.E. & Frost, L.E. (2001). Adjudicative competence in the modern juvenile court. *The Virginia Journal of Social Policy and the Law*, 9, 353-409.
- Redlich, A.D., Silverman, M., & Steiner, H. (2003). Pre-adjudicative and adjudicative competence in juveniles and young adults. *Behavioral Sciences and the Law*, 21, 393-410.
- Roesch, R., Hart, S.D., & Zapf, P.A. (1996). Conceptualizing and assessing competency to stand trial: Implications and applications of the MacArthur Treatment Competence Model. *Psychology, Public Policy, and Law*, 2, 96-113.
- Roesch, R., Zapf, P.A., Eaves, D., & Webster, C.D. (1998). *Fitness Interview Test* (Rev. ed.). Burnaby, British Columbia, Canada: Mental Health, Law and Policy Institute, Simon Fraser University.
- Ryba, N.L., Cooper, V.G., & Zapf, P.A. (2003). Juvenile competence to stand trial evaluations: A survey of current practices and test usage among psychologists. *Professional Psychology: Research and Practice*, 34, 499-507.

- Savitsky, J.C. & Karras, D. (1984). Competency to stand trial among adolescents. *Adolescence, 19*, 349-358.
- S.C. Code §23-3-430, 23-3-490
- Schmidt, M.G., Reppucci, N.D., & Woolard, J.L. (2003). Effectiveness of participation as a defendant: The attorney-juvenile client relationship. *Behavioral Sciences and the Law, 21*, 175-198.
- Scott, E.S. & Grisso, T. (2005). Developmental incompetence, due process, and juvenile justice policy. *North Carolina Law Review, 83*, 793-845.
- Scott, E.S., Reppucci, N.D., & Woolard, J.L. (1995). Evaluating adolescent decision making in legal contexts. *Law and Human Behavior, 19*, 221-244.
- Skeem, J.L. & Golding, S.L. (1998). Community examiners' evaluations of competence to stand trial: Common problems and suggestions for improvement. *Professional Psychology: Research and Practice, 29*, 357-367.
- Skeem, J.L., Golding, S.L., Cohn, N.B., & Berge, G. (1998). Logic and reliability of evaluations of competence to stand trial. *Law and Human Behavior, 22*, 519-547.
- Skeem, J., Golding, S.L. & Emke-Francis, P. (2004). Assessing adjudicative competency: Using legal and empirical principles to inform practice. In: W. O'Donohue & E.R. Levensky (Eds.), *Handbook of forensic psychology: Resource for mental health and legal professionals* (pp. 175-211). Boston, MA: Academic Press.
- Snyder, H.N. & Sickmund, M. (2006). Juvenile justice system structure and process. In: *Juvenile Offenders and Victims: 2006 National Report* (pp. 93-120). Pittsburg, PA: National Center for Juvenile Justice.

- Steinberg, L., Albert, D., Cauffman, E., Banich, M., Graham, S., Woolard, J. (2008). Age differences in sensation seeking and impulsivity as indexed by behavior and self-report: Evidence for a dual systems model. *Developmental Psychology, 44*, 1764-1778.
- Steinberg, L. & Cauffman, E. (1996). Maturity of judgment in adolescence: Psychosocial factors in adolescent decision making. *Law and Human Behavior, 20*, 249-272.
- Steinberg, L. & Silverberg, S.B. (1986). The vicissitudes of autonomy in early adolescence. *Child Development, 57*, 841-851.
- Strathman, A., Gleicher, F., Boninger, D., & Edwards, C.S. (1994). The consideration of future consequences: Weighing immediate and distant outcomes of behavior. *Journal of Personality and Social Psychology, 66*, 742-752.
- Viljoen, J.L., Klaver, J., & Roesch, R. (2005). Legal decisions of preadolescent and adolescent defendants: Predictors of confessions, pleas, communication with attorneys, and appeals. *Law and Human Behavior, 29*, 253-277.
- Viljoen, J.L. & Roesch, R. (2005). Competence to waive interrogation rights and adjudicative competence in adolescent defendants: Cognitive development, attorney contact, and psychological symptoms. *Law and Human Behavior, 29*, 723-742.
- Viljoen, J.L., Roesch, R., & Zapf, P.A. (2002). Interrater reliability of the Fitness Interview Test across 4 professional groups. *Canadian Journal of Psychiatry, 47*, 945-952.

- Viljoen, J.L., Slaney, K.L., Grisso, T. (in press). The use of the MacCAT-CA with adolescents: An item response theory investigation of age-related measurement bias. *Law and Human Behavior*.
- Viljoen, J.L., Vincent, G.M., & Roesch, R. (2006). Assessing adolescent defendants' adjudicative competence: Interrater reliability and factor structure of the Fitness Interview Test – Revised. *Criminal Justice and Behavior*, 33, 467-487.
- Viljoen, J.L. & Wingrove, T. (2007). Adjudicative competence in adolescent defendants. *Psychology, Public Policy, and Law*, 13, 204-229.
- Ward, A.W. (1995). Review of the Wide Range Achievement Test 3. *Mental Measurements Yearbook*, 12.
- Warren, J.I., Aaron, J., Ryan, E., Chauhan, P., & DuVal, J. (2003). Correlates of adjudicative competence among psychiatrically impaired juveniles. *Journal of the American Academy of Psychiatry and Law*, 31, 299-309.
- Wasserman, G.A., McReynolds, L.S., Ko, S.J., Katz, L.M., Cauffman, E., Haxton, W., et al. (2004). Screening for emergent risk and service needs among incarcerated youth: Comparing MAYSI-2 and Voice DISC-IV. *Journal of the American Academy of Child and Adolescent Psychiatry*, 43, 629-639.
- Weinberger, D.A. & Schwartz, G.E. (1990). Distress and restraint as superordinate dimensions of self-reported adjustment: A typological perspective. *Journal of Personality*, 58, 381-417.
- Weithorn, L.A. & Campbell, S.B. (1982). The competency of children and adolescents to make informed treatment decisions. *Child Development*, 53, 1589-1598.

- Wilkinson, G.S. & Robertson, G.J. (2006). *Wide Range Achievement Test: Fourth Edition*. Lutz, FL: Psychological Assessment Resources.
- Woodcock, R., McGrew, K., & Mather, N. (2001). *The Woodcock-Johnson III Cognitive Assessment Battery*. Itasca, IL: Riverside.
- Woolard, J.L., Cleary, H.M.D., Harvell, S.A.S., & Chen, R. (2008). Examining adolescents' and their parents' conceptual and practical knowledge of police interrogation: A family dyad approach. *Journal of Youth and Adolescence*, 37, 685-698.
- Woolard, J.L., Reppucci, N.D., Steinberg, L., Grisso, T., & Scott, E.S. (2003). *Judgment in Legal Contexts instrument manual*.
- Zapf, P.A., Roesch, R., & Viljoen, J.L. (2001). Assessing fitness to stand trial: The utility of the Fitness Interview Test (Revised Edition). *The Canadian Journal of Psychiatry*, 46, 426-432.