

# Correlates of Adjudicative Competence Among Psychiatrically Impaired Juveniles

Janet I. Warren, DSW, Jeff Aaron, PhD, Eileen Ryan, DO, Preeti Chauhan, BS, BA, and Jeanette DuVal, LCSW

This study examines the competence-related abilities of 120 psychiatrically hospitalized male juveniles age 10 to 17 years, using the MacArthur Competence Assessment Tool—Criminal Adjudication (MacCAT-CA), the Brief Psychiatric Rating Scale—Anchored (BPRS-A), the Massachusetts Youth Screening Instrument (MAYSI), the Kaufman Brief Intelligence Test (K-BIT), and discharge diagnoses derived from file review. The findings indicate significant age-related differences across adolescence with a relatively strong performance for most of the youths on the competence measure. While intellectual and psychiatric factors were found to contribute substantially to deficits in legal decisional ability, they were modulated by age and the developmental factors associated with it. These findings, replete with caveats concerning both the dimensional structure of competence as measured by the MacCAT-CA and the interplay with the mental status and developmental factors affecting it, underscore the multifarious nature of legal decisional capacity in youths of varying ages. The relevance of these findings to the structuring of restoration services and the application of legal theory to the competence standard in juvenile court are discussed.

**J Am Acad Psychiatry Law 31:299–309, 2003**

Although juvenile court emerged around a cohesive philosophy of concern for the rehabilitation and treatment of troubled youths, it increasingly encompasses alternative goals that focus on the safety of society, the rights of victims of juvenile crime, and the need to hold juveniles accountable. Expanded statutory definitions of the mission are being com-

bined with determinate sentences for serious juvenile offenders. Juvenile adjudications are being recognized as prior offenses in sentencing for adult repeat offenders, and statutes requiring registration of violent sexual predators frequently include youths 14 years of age and older. Transfer to criminal court is also becoming more common, as the age and offense categories that permit certification proliferate, and the procedures that can be used to transfer jurisdiction become more diversified. While far-reaching in their impact, these changes are occurring in a philosophical vacuum devoid of any pertinent redefinition of our understanding of the relationship between age and culpability. Rather, a hybrid system appears to be emerging—a *parens patriae* philosophy in instances of relatively minor crime and an instrumental, offense-based interpretation of responsibility in instances of greater societal harm. This amalgam of function, philosophy, and belief has significant repercussions on how we discern the applicable due process rights of juveniles who remain in juvenile

Dr. Warren is Professor of Clinical Psychiatric Medicine, Dr. Ryan is Associate Professor of Psychiatric Medicine, and Ms. Chauhan is Research Associate, Institute of Law, Psychiatry, and Public Policy, University of Virginia, Charlottesville, VA. Dr. Aaron is Clinical Director, Adolescent Unit, Commonwealth Center for Children and Adolescents, and Assistant Professor of Clinical Psychiatric Medicine, University of Virginia. Ms. DuVal is Director of Juvenile Competence Services, Virginia Department of Mental Health, Mental Retardation, and Substance Abuse Services, Richmond, VA. This research was funded by Grant 97-JN-FX-0018 awarded by the Office of Juvenile Justice and Delinquency, Office of Justice Programs, U.S. Department of Justice, to the University of Virginia. Points of view expressed in this document are those of the authors and do not necessarily represent the official position or policy of the U.S. Department of Justice or the Virginia Department of Mental Health, Mental Retardation and Substance Abuse Services. Address correspondence to: Janet Warren, DSW, University of Virginia, Institute of Law, Psychiatry, and Public Policy, UVA Health System, PO Box 800660, Charlottesville, VA 22908-0660. E-mail: jiw@virginia.edu

court and the precision with which we adhere to the constitutional protections afforded youths being transferred to criminal court.

One issue that has emerged in response to these structural and philosophical changes involves the decisional capacity of juveniles, especially as it relates to the multidimensional construct of adjudicative competence. Given the residual protective function of the juvenile court, some argue that it is not necessary to offer these constitutional safeguards to youths, as age-related considerations are intrinsic to the structure of juvenile court and the recognition of a standard for competency inadvertently delimits the rehabilitative prerogative of the juvenile court. Others argue that a competency requirement is a corollary of the youth's right to an attorney in juvenile court, as delineated by the Supreme Court in 1967,<sup>1</sup> particularly given the advent of sentencing enhancement laws in criminal court that include juvenile adjudications for felony offenses. Embedded in these debates are questions concerning which juvenile defendants should be afforded this protection and the most relevant clinical parameters for assessing competence. Specific issues include whether a threshold condition of mental illness or mental retardation is required and/or whether a finding of incompetence may be based predominately on developmental immaturity.

Empirical research and legal debate have focused on factors that influence decisional capacity in children and adolescents, as well as the proper contextual interpretation of these abilities in different legal circumstances. Thus far, the empirical studies of competence to stand trial in juveniles have found age to be consistently related to clinical and instrument-based assessment of adjudicative competence among youths aged 9 through 18 years.<sup>2-5</sup> Cumulatively, these studies suggest that youths 12 years of age and younger are more likely to be incompetent than older youths, and that cognitive deficits rather than psychopathology *per se* seem to exert the determinative impact on those who clinically meet the legal standard and those who do not. McKee<sup>5</sup> compared the competence of 108 juveniles aged 7 to 16 with that of 145 adults aged 17 years and older and found, not unexpectedly, that adults were superior on both global and specific competence abilities. Most youths under the age of 13 demonstrated deficits in their ability to identify or explain the charge for which they were being adjudicated, to describe the adversarial nature of the court process, to understand the

protected relationship with their attorney, to disclose the relevant facts of the case, and to explain the dynamics of plea bargaining. Older youths aged 13 and 14 years were able to demonstrate most of these competence-related abilities although, even among this older group, 43 percent of the youths could not explain plea bargaining and 32 percent were unable to define the current charge. In these studies, the role of psychopathology has been of limited significance, a finding that has been attributed to the emergence of most psychotic disorders in the late teens or early 20s. Age-related capacities have also been explored theoretically from a developmental perspective focusing on judgment and maturity. These models suggest that factors such as peer influence, attachment to parents, risk perceptions, and time perspective may influence the way in which adolescents perceive and respond to the demands of legal decision-making.<sup>6-8</sup>

Legal debate has focused on developmentally based efforts to apply relevant legal theory to the juvenile context. Bonnie<sup>9,10</sup> has argued that adjudicative competence is a two-dimensional principle comprising the foundational ability to assist counsel and the contextualized concept of decisional competence. The former is defined by the informational and consultative functions that derive from the defendant's relationship with the attorney and the defendant's encounter with criminal proceedings. The latter involves the autonomous decision-making functions that constitutionally and ethically accrue to a defendant. These different functions, while relatively easy to identify and assess in the adult context, become more complex when they are applied to juveniles who, by definition, are afforded titrated degrees of legal decisional autonomy in other legal spheres. Bonnie and Grisso<sup>11</sup> highlight the ambiguity intrinsic to diagnosing major mental illness in adolescence and reference the developmental issues relevant to judgment that could, in their opinion, argue for a more malleable standard for adjudicative competence in juvenile court. They suggest that if the jeopardy faced by a juvenile equals that of a criminal adjudication, both dimensions of the competence construct would apply. Alternatively, if the dispositions expired at the age of maturity, the requisite abilities would be limited to baseline cognitive abilities necessary for understanding the proceedings and communicating with counsel.

These legal and clinical debates are currently based on a limited body of research that has routinely iden-

tified a number of proxy measures related to cognitive functioning (e.g., remedial education) and psychiatric status (e.g., mental health evaluation) and that determine the level of adjudicative competence based on paper-and-pencil assessments or clinical evaluation only. The developmentally determined interplay of age, cognitive ability, psychiatric illness, and symptomatology is addressed only implicitly in the descriptive variables that are routinely summarized. In the current study, we sought to address these limitations conceptually and methodologically. First, we explored the interactional effects of different dimensions of intelligence, psychiatric symptomatology, and diagnoses as they affect competence-related abilities of both younger and older adolescents, as measured by a well validated measure of adjudicative competence and diverse measures of psychopathology. Second, we examined these functional abilities in the context of the adult norms on the MacCAT-CA reported by Otto *et al.*<sup>12</sup> based on a multistate study of 729 psychiatrically hospitalized or jailed adults, who were presumed to be competent or incompetent based on their legal and/or treatment status.

## Methodology

### Participants and Procedures

The sample comprised 120 male juveniles age 10 to 17 years and was obtained from an inpatient psychiatric facility for children and adolescents maintained by the Department of Mental Health in the Commonwealth of Virginia. The youths had been hospitalized for psychiatric treatment with 67 of them also reporting previous contact with the juvenile justice system. Starting in June 1998, the parents and/or guardians of consecutively admitted male adolescents were contacted regarding consent for participation in the study. Only males were included in the current study, because they represented 85 to 90 percent of the juveniles adjudicated delinquent in Virginia at the time that the study was initiated.<sup>13</sup> After parental consent was obtained, the youths were approached by the researchers for their assent. Participants were given a voucher for \$10 at the hospital canteen for their participation, whether they completed the protocol or not. The younger youths generally completed the protocol in two interviews, while the older youths usually completed it in a single meeting. The study was approved by the Institu-

tional Review Board at the University of Virginia prior to data collection.

### Measure of Adjudicative Competence

The MacArthur Competence Assessment Tool—Criminal Adjudication (MacCAT-CA) was used to measure the competence-related abilities of the youths in the current study. The MacCAT-CA is a shorter version of the MacArthur Structured Assessment of Competencies of Criminal Defendants (MacSAC-CD), a competence instrument developed by the MacArthur Foundation Research Network on Mental Health and the Law. The development and validation of the MacSAC-CD is described in detail by Hoge *et al.*<sup>14</sup>

The MacCAT-CA evaluates three discrete competence-related abilities according to 22 items on three scales: Understanding (i.e., the ability to understand information related to the law and the adjudicative process); Reasoning (i.e., the ability to discern the potential legal relevance of information and the capacity to apply reason to specific choices that affect the defendant in the course of a criminal adjudication); and Appreciation (i.e., the defendant's rational awareness of the meaning and consequences of the proceedings in his case). The first two dimensions involve a hypothetical situation regarding a defendant charged with aggravated assault, and the third is an assessment of a defendant's actual situation in the criminal justice system. Each of the 22 items is scored on a scale of 0 to 2, resulting in three subscale scores of 0 to 16, 0 to 16, and 0 to 12. The multistate norming study by Otto *et al.*<sup>12</sup> has demonstrated that the MacCAT-CA has good inter-rater reliability (i.e., intraclass correlations [ICCs] ranging from  $R = 0.75$  to  $R = 0.90$ ), strong internal consistency (i.e.,  $\alpha > .80$ ), and mean inter-item range from  $R = 0.36$  to  $R = 0.54$ .<sup>14</sup> Scores on the Appreciation subscale of the MacCAT-CA were obtained only for youths ( $n = 67$ ) who reported previous contact with the juvenile justice system.

Coders on the projects completed the same 20 reliability protocols before beginning data collection. The  $\kappa$  statistics were determined for these reliability ratings and revealed adequate levels of inter-rater reliability prior to the collection of data. As reported in the MacCAT-CA manual, the  $\kappa$  statistics and ICCs were higher for the Understanding and Reasoning subscales and lower for the Appreciation subscale.

### Measure of Intelligence

The Kaufman Brief Intelligence Test (K-BIT) was used to estimate intelligence among the juvenile sample. The K-BIT<sup>15</sup> is a brief, individually administered inventory used to test intelligence in both children and adults. The K-BIT includes a Verbal subtest designed to measure knowledge and verbal concept formation and a Matrices or nonverbal subtest designed to measure problem-solving and perceptual relationship ability. Similar to the Wechsler Intelligence Scale for Children III (WISC-III), the score yields a composite score as well as a verbal subscore and a matrices subscore. These two scores can be subtracted to obtain a verbal/performance split estimate. Kaufman *et al.*<sup>16</sup> report on the psychometric properties of the K-BIT including split-half reliability (ranging from .89 to .98 for the Verbal subtest and .74 to .95 for the Matrices subtest), test-retest reliability (ranging from .86 to .97 for the Verbal subtest and .80 to .92 for the Matrices subtest) and construct and concurrent validity based on 20 studies with a combined sample size of 982 children, adolescents, and adults. Ten (8%) of the youths in the current sample had an IQ that was scored below 60, the cutoff score for inclusion in the adult norming study of Otto *et al.*<sup>12</sup> The decision was made to retain these individuals in the juvenile sample. Experience is demonstrating that mild mental retardation constitutes a common functional basis for juveniles' being found incompetent by the juvenile courts and ordered into restoration services.

### Measures of Psychopathology

Three measures of psychopathology were used in the current study.

#### Psychiatric Diagnoses

DSM-IV psychiatric discharge diagnoses were recorded from the hospital record for each juvenile. These were coded both in terms of the presence or absence of psychotic, affective, substance abuse, behavioral, and/or learning disorders and total number of DSM-IV diagnoses.

#### Brief Psychiatric Rating Scale—Anchored (BPRS-A)

The Brief Psychiatric Rating Scale—Anchored (BPRS-A),<sup>17</sup> was used to measure different aspects of psychiatric disturbance in the youths sample. The BPRS-A is a 24-item measure that rates the severity of psychiatric symptoms on seven-point Likert scales. The ratings are then summed to provide a total mea-

sure of the severity of the psychiatric symptomatology. Twelve of the items were used to produce four subscale scores: Psychoticism (Hallucinations, Unusual Thought Content, and Conceptual Disorganization); Depression (Anxiety, Guilt, and Depression); Withdrawal (Motor Retardation, Blunt Affect, and Emotional Withdrawal); and Hostility (Hostility, Suspiciousness, and Uncooperativeness). The 24 items are summed to determine the total score. The anchored version has been demonstrated to be a reliable estimate of psychiatric symptomatology.<sup>18</sup>

#### Massachusetts Youth Screening Instrument

The Massachusetts Youth Screening Instrument (MAYSI)<sup>19</sup> is a 52-item self-report questionnaire developed to aid nonclinicians in screening for serious mental or emotional disorder among youths within the juvenile justice system. Administration results in seven subscale scores including Anger/Irritability, Thought Disorder, Somatic Complaints, Drug-Alcohol Use, Suicidal Ideation, Traumatic Experiences, and Depression. Research has demonstrated good internal consistency, test-retest reliability, and concurrent validity with the MMPI-II across both male and female samples.<sup>20</sup>

### Data Analyses

The data were analyzed with both multiple and logistic regression analyses. For the multiple regression, the standard subtest scores of the K-BIT, BPRS-A, MAYSI, and age (measured as a continuous variable) were assessed to determine which of these correlated with the continuous scores of the Understanding, Reasoning, and Appreciation subscales of the MacCAT-CA. These variables were entered as the independent variables in a block design format, with the intellectual variables being entered first, the psychiatric variables second, and age third. These analyses were designed to determine the amount of variance explained by age over and above the effects of the cognitive and mental status variables, factors usually associated with a finding of incompetence among adults. The logistic regression analyses used a similar block design. The dependent variable was made up of two categories: Impairment (I) and No Impairment (NI). These were derived from the adult norms for the MacCAT-CA reported by Poythress *et al.*<sup>21</sup> with the Mild Impairment category designated in the adult norms being included in the Impairment category for the current analyses.

**Table 1** Intelligence-, Psychiatric-, and Competence-Related Characteristics of a Psychiatrically Hospitalized Sample of 120 Male Youths

Variable	Overall Mean (N = 120)	Under 14 (n = 40)	14 and Over (n = 80)
Age	14.67 (2.19)	11.53 (1.24)***	15.49 (1.07)***
IQ Subtest Scores			
Verbal	93.96 (16.94)	99.54 (14.61)*	91.07 (17.42)*
Matrices	93.16 (20.38)	99.15 (17.44)*	90.40 (21.19)*
BPRS-A			
Psychoticism	1.33 (2.29)	1.18 (1.90)	1.42 (2.48)
Depression	3.64 (3.53)	2.69 (3.18)*	4.15 (3.62)*
Withdrawal	3.70 (3.72)	3.15 (3.54)	4.00 (3.80)
Hostility	3.77 (3.02)	3.69 (2.89)	3.82 (3.11)
Total	20.01 (11.83)	18.03 (10.11)	21.08 (12.60)
MAYSI			
Alcohol/drugs	2.04 (2.65)	0.33 (0.81)***	2.92 (2.84)***
Anger/irritability	5.11 (2.75)	5.21 (2.43)	5.07 (2.92)
Depression	3.29 (2.34)	2.95 (2.43)	3.46 (2.29)
Somatization	1.97 (1.54)	1.82 (1.64)	2.04 (1.50)
Suicide	2.18 (2.06)	1.38 (1.82)**	2.59 (2.07)**
Thought disorder	1.02 (1.36)	0.87 (1.03)	1.09 (1.50)
Trauma	2.51 (1.56)	2.03 (1.51)*	2.76 (1.53)*
Total	21.09 (11.05)	17.36 (9.70)**	23.00 (11.27)**
Diagnoses			
Mean no. of diagnoses	4.16 (1.90)	3.80 (1.70)	4.34 (1.98)
MacCAT Subscale			
Understanding	10.38 (3.57)	9.70 (1.24)	10.73 (3.33)
Reasoning	11.90 (3.17)	11.48 (3.23)	12.11 (3.14)
Appreciation	10.01 (2.46)	9.80 (2.98)	10.07 (3.14)

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$

Cutoff scores for impairment based on the MacCAT-CA norming data<sup>21</sup>:

No Impairment (NI)	Understanding (10–16)	Reasoning (11–16)	Appreciation (11–12)
Mild Impairment (MI)	Understanding (8–9)	Reasoning (9–10)	Appreciation (9–10)
Cl. Sig. Impairment (CSI)	Understanding (0–7)	Reasoning (0–8)	Appreciation (0–8)

## Results

Table 1 summarizes the sample's performance on the K-BIT, BPRS-A, and MAYSI and the mean number of DSM-IV diagnoses for the entire sample, and a comparison of group differences between youths aged under 14 years and those aged 14 years or older. Differences between these two age groups were explored because the age of 14 years constitutes the age of transfer to criminal court in the Commonwealth of Virginia. As summarized, there were significant age-related differences on both the intellectual and psychiatric measures. The younger youths performed better than the older ones on both the Verbal and Matrices subtests of the K-BIT. However, on the Depression subscale of the BPRS-A and the Alcohol/Drugs, Suicide, Trauma, and Total Score of the MAYSI, the younger youths displayed less symptomatology. There were no significant differences between the two age group means on all three MacCAT-CA subscales (i.e., Understanding, Reasoning, and Appreciation). The performance mean score on

the Understanding and Reasoning subscales was in the No Impairment (NI) range for both age groups according to the adult MacCAT-CA norms.<sup>12</sup> In contrast, the mean scores on the Appreciation subscale were in the Mild Impairment (MI) range for youths aged under 14 years and in the No Impairment (NI) range for youths aged 14 years or more.

Table 2 summarizes correlations for the three MacCAT-CA subscales and the various intellectual and psychiatric measures. The K-BIT Verbal and Matrices subtest scores were correlated with performance on all three MacCAT-CA subscales: Understanding, Reasoning, and Appreciation. Age, BPRS-A Psychoticism, Withdrawal, Hostility, and Total Score; MAYSI Suicide; and a diagnosis of a Learning Disorder or Mental Retardation correlated with the continuous mean score on the Understanding subscale of the MacCAT-CA. Age, BPRS-A Hostility, MAYSI Suicide, and diagnoses of a Learning Disorder, Behavioral Disorders, and Mental Retardation, and Total Number of Diagnoses correlated

## Adjudicative Competence in Psychiatrically Impaired Juveniles

**Table 2** Correlations of MacCAT Continuous Subscale Scores with Age, IQ Subtests, BPRS-A, MAYSI, and Diagnoses for Multiple Regressions

Variable	Understanding	Reasoning	Appreciation
Age	.23*	.19*	.11
IQ Subtest Scores			
Verbal	.42***	.48***	.27*
Matrices	.42***	.44***	.36**
BPRS-A			
Psychoticism	-.20*	-.08	-.31*
Depression	.06	.10	-.08
Withdrawal	-.19*	-.12	-.03
Hostility	-.23*	-.26**	.11
Total	-.21*	-.15	-.22
MAYSI			
Alcohol/drugs	-.01	.07	.01
Anger/irritability	-.11	-.13	-.06
Depression	-.01	-.04	-.03
Somatization	.09	-.10	.01
Suicide	.26**	.17	-.06
Thought disorder	-.03	-.03	-.11
Trauma	.13	.07	.11
Total	.05	.01	-.03
Diagnoses			
Affective	.09	.11	.12
Behavioral	-.11	-.30***	-.19
Learning disorder	-.25**	-.20*	-.21
Psychotic	-.03	.05	-.07
Substance abuse	.09	.00	-.01
Mental retardation	-.20*	-.23*	-.25*
Mean no. of diagnoses	-.16	-.20*	-.13

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$

with continuous scores on the Reasoning subscale of the MacCAT-CA. BPRS-A Psychoticism and a diagnosis of Mental Retardation correlated with the continuous score on the Appreciation subscale of the MacCAT-CA.

Table 3 summarizes three multiple regression analyses run using simultaneous entry to predict the continuous scores of the youths on the Understanding, Reasoning, and Appreciation subscales of the MacCAT-CA. Cognitive variables were entered as a first block, the psychiatric variables as a second block, and age as the final variable. The various cognitive and psychiatric variables summarized were entered into each of the three multiple regression analyses if they correlated significantly with the continuous scores on the Understanding, Reasoning, and Appreciation subscales of the MacCAT-CA subscales and did not exceed a condition index value of 30 on collinearity diagnostics. In instances in which there was multicollinearity between the independent variables, subscale scores were given precedence over the total scale scores on the various instruments. If further collinearity was detected between the independent

variables, variables explaining the greatest amount of variance were retained.

As summarized in Table 3, the model explaining variance on the Understanding subscale of the MacCAT-CA was significant ( $F_{(8,108)} = 6.98, p = .000$ ) and explained 31 percent of the variance. The cognitive variables together explained 17 percent of the variance; the psychiatric, 15 percent; and age, 4 percent. The model explaining variance on the Reasoning subscale of the MacCAT-CA was significant ( $F_{(7,108)} = 8.74, p = .000$ ) and explained 33 percent of the variance. In this model, the cognitive variables explained 25 percent of the variance; the psychiatric, 7 percent; and age, 7 percent. The model explaining variance on the Appreciation subscale of the MacCAT-CA was significant ( $F_{(4,59)} = 4.49, p = .003$ ) but explained only 19 percent of the variance. Age did not improve the fit of the model, with the cognitive variables explaining 14 percent of the variance and the psychiatric, 11 percent.

Table 4 summarizes correlations for impairment level on the three MacCAT-CA subscales, using the adult norms with the various intellectual, psychiatric, and diagnostic variables. The three levels of impairment (i.e., No Impairment (NI), Mild Impairment (MI) and Clinically Significant Impairment (CSI)) were combined into two categories of impairment (i.e., No Impairment (NI) and Impairment (I)). Because the MacCAT-CA was being used to estimate competence-related abilities of these hospitalized youths and did not reflect a full clinical evaluation, the Mild Impairment (MI) category was combined with the Clinically Significant Impairment (CSI) category, based on the adult MacCAT-CA norms.<sup>12</sup> The K-BIT Verbal and Matrices subtest scores correlated with Impairment (I) and No Impairment (NI) on the Understanding and Reasoning subscales of the MacCAT-CA but not the Appreciation subscale. Age, BPRS-A Psychoticism, and Hostility; MAYSI Suicide; and the diagnosis of a Learning Disorder correlated with Impairment (I) and No Impairment (NI) on the Understanding subscale of the MacCAT-CA.

Age, BPRS-A Hostility; MAYSI Suicide; the diagnosis of a Learning Disorder, Behavioral Disorder, Mental Retardation, and Total Number of Diagnoses correlated with Impairment (I) and No Impairment (NI) on the Reasoning subscale of the MacCAT-CA. Only the Verbal and Matrices subtest of the K-BIT correlated with Impairment (I) and No

**Table 3** Summary of Multiple Regression Predicting Subscale Performance for All Ages

Variable	$\beta$	SE	$F$	$t$	Adjusted $R^2$	Partial $R^2$	$p$
Understanding ( $N = 120$ )			6.98		.31		.000
1st Block						.17	
<b>Performance IQ</b>	<b>0.05</b>	<b>0.02</b>		<b>3.21</b>			<b>.002</b>
2nd Block						.15	
BPRS, hostility	-0.14	0.11		-1.29			.199
<b>BPRS, psychoticism</b>	<b>-0.28</b>	<b>0.14</b>		<b>-2.01</b>			<b>.048</b>
BPRS, withdrawal	-0.12	0.08		-1.38			.171
Learning disorder	-0.96	0.64		-1.50			.136
Mental retardation	-1.44	1.44		-1.02			.309
<b>MAYSI, suicide</b>	<b>0.34</b>	<b>0.15</b>		<b>2.23</b>			<b>.028</b>
3rd Block						.04	
<b>Age</b>	<b>0.35</b>	<b>0.14</b>		<b>2.51</b>			<b>.014</b>
Reasoning ( $N = 120$ )			8.74		.33		.000
1st Block						.25	
Performance IQ	0.02	0.02		1.04			.299
<b>Verbal IQ</b>	<b>0.07</b>	<b>0.02</b>		<b>3.09</b>			<b>.003</b>
2nd Block						.07	
Behavioral disorder	-0.89	0.54		-1.65			.103
<b>BPRS, hostility</b>	<b>-0.21</b>	<b>0.09</b>		<b>-2.31</b>			<b>.023</b>
Learning disorder	0.62	0.56		0.11			.911
Mental retardation	-1.59	1.24		-1.28			.202
3rd Block						.06	
<b>Age</b>	<b>0.38</b>	<b>0.12</b>		<b>3.16</b>			<b>.002</b>
Appreciation ( $n = 67$ )			4.49		.19		.003
1st Block						.14	
Performance IQ	0.03	0.02		1.67			.100
Verbal IQ	-0.01	0.03		-0.43			.663
2nd Block						.11	
<b>BPRS, psychoticism</b>	<b>-0.37</b>	<b>0.15</b>		<b>-2.57</b>			<b>.013</b>
Mental retardation	-1.98	1.22		-1.63			.109

Partial  $R^2$  derived from  $R^2$ , not adjusted  $R^2$ . Significant differences and  $p$  values are in boldface type.

Impairment (NI) on the Appreciation subscale of the MacCAT-CA.

Table 5 summarizes three logistic regression analyses that were conducted to explore the factors that best predicted No Impairment (NI) and Impairment (I) on the Understanding, Reasoning, and Appreciation subscales of the MacCAT-CA as determined by the adult norms.<sup>12</sup> Variables were entered into the logistic regression in the block design, as used with the multiple regression analyses of the same inclusion criteria (i.e., a significant correlation between the demographic, cognitive, and psychiatric variables and the Impairment/No Impairment dichotomy and the removal of certain highly correlated independent variables to eliminate multicollinearity). As summarized in Table 5, age represented a more important variable in these models, with odds ratios of 0.71 to 0.70, respectively, in the model predicting whether the respondent would fall into the unimpaired range on the Understanding and the Reasoning subscales of the MacCAT-CA. A diagnosis of Mental Retardation was the most powerful predictor in the model

predicting impairment on the Reasoning subscale, with an odds ratio of 15.41. Of note, the MAYSI suicide scale was significant in both the models predicting impairment on the Understanding and Reasoning subscales of the MacCAT-CA, a finding that suggests that the cognitive slowing and motivational inhibition associated with severe levels of depression may affect performance on competence-related instruments.

## Discussion

The current study offers preliminary insight into the performance of different aged youths on a standardized and normed measure of adjudicative competence and provides a beginning foundation for understanding the interplay of cognitive, psychiatric, and developmental factors in determining legal decisional capacity throughout adolescence. The findings are complex and combine significant age-related differences across adolescence with a relatively strong performance of the youths on the competence mea-

## Adjudicative Competence in Psychiatrically Impaired Juveniles

**Table 4** Correlations of Impairment Levels (No Impairment vs. Impairment) on MacCAT Subscale Scores with Age, IQ Subtests, BPRS-A, MAYSI, and Diagnoses for Logistic Regressions

	Understanding	Reasoning	Appreciation
Age	-.26**	-.30***	-.03
IQ subtest scores			
Verbal	-.25**	-.28**	-.29*
Matrices	-.28**	-.22*	-.42***
BPRS-A			
Psychoticism	.19*	.18	.14
Depression	-.12	-.18	-.13
Withdrawal	.09	-.03	-.12
Hostility	.21*	.21*	-.03
Total	.16	.10	.04
MAYSI			
Alcohol/drugs	-.06	-.14	-.02
Anger/irritability	.08	.14	.00
Depression	.02	.00	.01
Somatization	-.06	.04	-.08
Suicide	-.27**	-.26**	.01
Thought disorder	-.01	.06	.08
Trauma	-.10	-.09	-.12
Total	-.07	-.09	-.02
Diagnoses			
Affective	-.03	-.13	-.20
Behavioral	.06	.22*	.17
Learning disorder	.21*	.22*	.13
Psychotic	-.01	.00	.04
Substance abuse	-.10	-.13	.04
Mental retardation	.15	.23*	.22
Mean no. of diagnoses	.11	.21*	.11

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$

sure. Similarly, while intellectual and psychiatric factors are found to contribute substantially to deficits in legal decisional ability, they do not tell the entire story and are modulated again by age and the developmental factors associated with it. These findings, replete with caveats concerning both the dimensional structure of the competence as measured by the MacCAT-CA and the interplay with the mental status and developmental factors affecting it, underscore the multifarious nature of legal decisional capacity in youths of various ages.

On all subscales of the MacCAT-CA, the mean scores for all three age groups fell within the No Impairment (NI) or Mild Impairment (MI) range, according to the adult norms reported by Otto *et al.*<sup>12</sup> These findings suggest that some youths as young as 10 years demonstrate a level of performance on the MacCAT-CA that is comparable in some ways to that of competent adults. The significant proportion of the younger youths whose performance fell within the Mild Impairment (MI) range on the three MacCAT-CA subscales further suggests that the problems that they were experiencing may have been relatively minor and either may not have been significant enough to translate into a clinical

**Table 5** Logistic Regression Summary for Predicting Impairment on MacCAT-CA Subscale

Variable	$\beta$	SE	$p$	Odds Ratio	CI
Understanding ( $N = 120$ )					
1st Block					
<b>Performance IQ</b>	<b>-0.03</b>	<b>0.01</b>	<b>.008</b>	<b>0.97</b>	<b>0.94-0.99</b>
2nd Block					
BPRS, psychoticism	0.16	0.11	.147	1.18	0.94-1.47
BPRS, hostility	0.15	0.09	.091	1.16	0.98-1.39
Learning disorder	0.67	0.50	.180	1.95	0.74-5.18
<b>MAYSI, suicide</b>	<b>-0.30</b>	<b>0.13</b>	<b>.018</b>	<b>0.74</b>	<b>0.58-0.95</b>
3rd Block					
<b>Age</b>	<b>-0.35</b>	<b>0.12</b>	<b>.003</b>	<b>0.71</b>	<b>0.56-0.89</b>
Reasoning ( $N = 120$ )					
1st Block					
Performance IQ	-0.02	0.01	.212	0.98	0.96-1.01
2nd Block					
Behavioral disorder	0.66	0.54	.218	1.94	0.68-5.54
<b>BPRS, hostility</b>	<b>0.23</b>	<b>0.09</b>	<b>.017</b>	<b>1.25</b>	<b>1.04-1.51</b>
Learning disorder	-0.07	0.56	.904	0.94	0.31-2.80
<b>MAYSI, suicide</b>	<b>-0.33</b>	<b>0.14</b>	<b>.021</b>	<b>0.72</b>	<b>0.54-0.95</b>
<b>Mental retardation</b>	<b>2.74</b>	<b>1.35</b>	<b>.043</b>	<b>15.41</b>	<b>1.08-219.09</b>
Total number of disorders	0.19	0.15	.207	1.21	0.90-1.62
3rd Block					
<b>Age</b>	<b>-0.35</b>	<b>0.13</b>	<b>.006</b>	<b>0.70</b>	<b>0.55-0.90</b>
Appreciation ( $n = 67$ )					
1st Block					
<b>Performance IQ</b>	<b>-0.05</b>	<b>0.02</b>	<b>.013</b>	<b>0.95</b>	<b>0.91-0.99</b>
Verbal IQ	.00	0.03	.981	1.00	0.95-1.05

Significant differences and  $p$  values are in boldface type.

determination of incompetence or may have been accessible to remediation through restoration efforts.

However, the relatively robust mean scores on the three subscales of the MacCAT-CA camouflaged significant individual differences across the three age categories on the three subscales of the MacCAT-CA. For example, in the youngest group (10 to 13 years), only 45, 53, and 60 percent of the youths, respectively, performed at a level that would be considered to demonstrate no impairment on the Understanding, Reasoning, and Appreciation based on adult norms. The performance of a significantly larger percentage of the younger youths also fell within the Mild Impairment (MI) range on the Understanding and Reasoning subscales as contrasted to that of youths over the age of 13 years. These findings suggest that almost half of the youngest youths experienced some degree of difficulty on the MacCAT-CA—difficulty that the teaching option contained in the Understanding subscale and the applied vignette format of both the Understanding and Reasoning subscales did not remedy adequately.

Further, as seen in Table 1, youths aged 14 to 17 years continued to struggle with the Appreciation subscale of the MacCAT-CA, and demonstrated a group mean that fell in the Mild Impairment range. To understand this finding more fully, *post hoc* item analyses were conducted for all responses that did not reflect an optimal score on any of the six questions, as suggested by Steinberg<sup>22</sup> for analyses on the MacArthur Project. Analyses indicated that of the 39 individuals who scored less than 12 on the subscale, 17 (44%) responded with “I don’t know” on one or more of the questions. These answers did not seem to reflect, in most instances, the type of distorted thinking that may derive from a psychiatric condition, but rather the difficulty these youths had in extrapolating their experiences to the larger, more abstract criminal justice process. This conceptual movement back and forth between their own particular situation and that of others in the criminal justice system required the cognitive ability to manipulate hypothetical constructs, while simultaneously experientially positioning themselves in the procedures and decisions of a major societal institution, the criminal justice system. These dual demands appeared to have superseded the ability, experience, and perhaps even interest of more than half of the juveniles in the current study. The limited range of the Appreciation subscale may have further contributed to the more im-

paired functioning demonstrated on this subscale by youths of all ages.

The multivariate analyses further illustrate the interaction of age with the mental status factors that are commonly associated with diminished legal decisional capacity among adults. As with adults, cognitive impairment combined with psychiatric symptomatology explained the largest amount of variance in the three models predicting scores on the Understanding, Reasoning, and Appreciation subscales. However, even here, cognitive abilities (i.e., the measure of an individual’s ability with respect to his or her peers [deviation IQ]), did not assume the entire variance but was also combined with the effects of cognition (i.e., the developmental process that undergoes a mean increase over age). Similarly, while psychiatric disorders and symptoms were of statistical significance in all three models, age retained a small amount of the shared variance in two of the three models, suggesting that less and more diversified types of psychiatric impairment may create a higher degree of impairment when combined with the developmental tasks of the younger youth. These findings underscore the fact that children are not simply miniature adults and that specific variables, cognitive abilities, and symptoms of emotional disturbance in this context, may have different meaning and consequence for children and adults.

These findings highlight the importance of assessing older juveniles with intellectual limitations regarding their adjudicative competence, especially when these intellectual impairments are combined with some degree of psychiatric symptomatology. Research has consistently demonstrated that most youths in the juvenile justice system are below age level in their basic educational achievements, a finding that may be related to intellectual impairment and/or cultural influences. Emergent research is also beginning to highlight the significance of psychiatric disturbance among incarcerated juveniles.<sup>23</sup>

The centrality of the findings regarding the relevance of IQ to adjudicative competence in juveniles also illuminates the importance of developing restoration programs that will optimally address these types of deficits in those youths found incompetent to stand trial. Clearly, while adults experienced impairment in their adjudicative competence due to psychotic illness on all dimensions of the MacCAT-CA, the juveniles experienced impairment primarily because of the interaction of age with cognitive abil-

ity and, to a lesser degree, because of psychotic forms of illness. This suggests that educational efforts that are community based will be more effective and less intrusive than the hospitalization used with most psychiatrically impaired incompetent adults. Efforts to develop this type of community-based programmatic response have been undertaken in Virginia and currently include a mock courtroom video, CD-ROM computer games, workbooks, and board games designed by educational specialists to inform and teach youths of various ages and intellectual capabilities.

These findings, however, also alert us to the question of disposition for the larger percentage of youths with severe cognitive deficits who can be expected to be found unrestorably incompetent. While most incompetent adults can be restored to competence through the use of psychotropic medication, youths who are unrestorably incompetent due to mental retardation but who repeatedly offend will undoubtedly pose management and level-of-care dilemmas for the communities in which they reside. One method of addressing this population that was implemented in Virginia involved adding a fourth option to the traditional three options used with unrestorable incompetent adults: certification, commitment, or release. This option involves adjudicating the youths as a child in need of services (CHINS), thereby allowing the juvenile court to retain its therapeutic jurisdiction over the youths for an extended period.

The current study offers some preliminary support to the legal discourse offered by Bonnie and Grisso<sup>11</sup> in terms of contextualizing the standard of competence based on the possible jeopardy faced by a juvenile. Item analyses indicated that the youngest juveniles (aged 10 to 13), those routinely retained in juvenile court, have difficulty understanding the elements of a more or less serious offense, the process of a plea bargain, and the rights waived by pleading guilty. These elements are reflective of or embody the decisional competence defined and articulated by Bonnie and Grisso.<sup>11</sup> Should these decisional abilities or requirements be routinely applied to all young offenders, even when they are facing minor charges and nonintrusive dispositions, they could hamper the processing of a large number of younger offenders by the juvenile court, because of the defendants' inability to demonstrate a level of decisional ability that is in fact not required of them. The argument

made by Bonnie and Grisso<sup>11</sup> to identify a more malleable standard that contextualizes the actual situation of each youth and requires only baseline cognitive abilities in a situation of limited jeopardy allows evaluators to assess the situation of each youth realistically, along with the contributory input of other adults, such as guardians *ad litem*, within the juvenile court process. The scope of the current study does not allow us to comment more fully on the thorny issue of delegation of decision-making authority to parents and the adaptability and nonadaptability, and perhaps competence and incompetence, of this choice, given the unique contexts of each youth and his family.

The current study suggests that the MacCAT-CA shows promise methodologically for use with juveniles of all ages. The use of a vignette format combined with educational efforts on queries that elicited less than complete answers appears to have captured adequately the differences in abilities that are attributable to psychopathology, cognitive limitations, and developmental factors. The clear-cut differences in performance on the three subscales of the MacCAT-CA suggest that the subscales are conceptually unique and theoretically distinct, even when used with youths of very young ages. Measurement problems were encountered primarily with the Appreciation subscale, with an answer of "I don't know" placing most participants into the Impaired range.

The strengths and weaknesses of the current study are embedded in the same methodological considerations. The MacArthur Competence Assessment Tool—Criminal Adjudication measure represents a well validated, recently normed, multidimensional assessment of adjudicative competence that enhances the empirical standardization of the assessments while allowing for a comparison of the performance of juveniles with the adults determined to be incompetent, clinically and empirically. However, as noted, this represents one of the first studies in which an adult measure was used in this juvenile population. Similarly, the use of the Brief Psychiatric Rating Scale allows for a sophisticated assessment of psychopathology by trained clinicians and comparison with adults samples, but the BPRS-A has also not been normed for use in children under the age of 12 years and therefore may not adequately capture the psychiatric symptomatology that is characteristic of significant disturbance in a younger population. As observed, the younger youths scored higher on the

Anger/Irritability subscale of the MAYSI, suggesting that alternate behavioral symptoms may be experientially dominant in the emotional disturbance of younger juveniles. Finally, while this psychiatrically hospitalized sample of youths allowed for the exploration of the mental status factors commonly associated with incompetence in adulthood (i.e., psychiatric disturbance and cognitive deficits), it is not clear to what extent these results are generalizable to youths in the juvenile justice system. These youths have been found in Virginia more often to have minority status with lower mean IQ scores.

### Acknowledgments

The authors express their appreciation to the staff of the Commonwealth Center for Children and Adolescents for their sustained support of the research and their assistance in all aspects of data collection and to Richard Bonnie, Laurence Steinberg, and Norman Poythress for their helpful comments on an earlier version of the manuscript.

### References

1. *In re Gault*, 387 U.S. 1 (1967)
2. Savitsky JC, Karras D: Competency to stand trial among adolescents. *Adolescence* 19:349–59, 1984
3. Cowden VL, McKee GR: Competency to stand trial in juvenile delinquency proceedings: cognitive maturity and the attorney-client relationship. *J Fam Law* 33:629–60, 1995
4. Cooper DK: Juveniles' understanding of trial-related information: are they competent defendants? *Behav Sci Law* 15:167–80, 1997
5. McKee GR: Competency to stand trial in preadjudicatory juveniles and adults. *J Am Acad Psychiatry Law* 26:89–99, 1998
6. Scott ES, Reppucci ND, Woolard J: Evaluating adolescent decision making in legal contexts. *Law Hum Behav* 19:221–44, 1995
7. Steinberg L, Cauffman E: Maturity of judgment in adolescence: psychosocial factors in adolescent decision-making. *Law Hum Behav* 20:249–72, 1996
8. Fried CS, Reppucci ND: Criminal decision making: the development of adolescent judgment, criminal responsibility, and culpability. *Law Hum Behav* 25:45–61, 2001
9. Bonnie RJ: The competence of criminal defendants: a theoretical reformulation. *Behav Sci Law* 10:291–316, 1992
10. Bonnie RJ: The competence of criminal defendants: beyond Dusky and Drope. *U Miami Law Rev* 47: 539–601, 1993
11. Bonnie RJ, Grisso T: Adjudicative competence and juvenile offenders, in *Youth on Trial*. Edited by Schwartz R, Grisso T. Chicago: University of Chicago Press, 2000, pp 70–103
12. Otto RK, Poythress NG, Nicholson RA, et al: Psychometric properties of the MacArthur Competence Assessment Tool—Criminal Adjudication. *Psychol Assess* 10:435–43, 1998
13. Virginia Commission on Youth. *The Study of Serious Juvenile Offenders*. House Document no. 3. Richmond, VA: Author, 1993
14. Hoge SK, Bonnie RJ, Poythress N, et al: The MacArthur adjudicative competence study: development and validation of a research instrument. *Law Hum Behav* 21:141–79, 1997
15. Kaufman AS, Kaufman NL: *Interpretative Manual for the Kaufman Brief Intelligence Test*. Circle Pine, MN: American Guidance Service, 1990
16. Kaufman AS, Ishikuma T, Kaufman-Packer NL: Amazingly short forms of the WAIS-R. *J Psychoeduc Assess* 9:4–15, 1991
17. Overall JE, Gorham DR: The Brief Psychiatric Rating Scale. *Psychol Rep* 10:799–812, 1962
18. Woerner MG, Mannuzza S, Kane JM. Anchoring the BPRS: an aid to improved reliability. *Psychopharmacol Bull* 24:112–18, 1998
19. Grisso T: MAYSI, available at <http://www.umassmed.edu/nysap> (accessed June 2002)
20. Grisso T: The competence of adolescents as trial defendants. *Psychol Public Policy Law* 3:3–32, 1997
21. Poythress N, Nicholson R, Otto R, et al: *The MacArthur Competence Assessment Tool—Criminal Adjudication*. Lutz, FL: Psychological Assessment Resources, Inc., 1999
22. Steinberg L: Adolescent development and legal decisional capacity: a new legal horizon. Presented at the 36th Semiannual Forensic Symposium, Kids Are Different, in Richmond, VA, March 22, 2002
23. McGarvey EL, Waite D: Mental health needs among adolescents committed to the Virginia Department of Juvenile Justice. *Dev Ment Health Law* 20:1–12, 2000