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Juveniles' Competence to Stand Trial: A Comparison of Adolescents' and Adults' Capacities as Trial Defendants

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Abilities associated with adjudicative competence were assessed among 927 adolescents in juvenile detention facilities and community settings. Adolescents' abilities were compared to those of 466 young adults in jails and in the community. Participants at 4 locations across the United States completed a standardized measure of abilities relevant for competence to stand trial (the MacArthur Competence Assessment Tool—Criminal Adjudication*) as well as a new procedure for assessing psychosocial influences on legal decisions often required of defendants (*MacArthur Judgment Evaluation*). Youths aged 15 and younger performed more poorly than young adults, with a greater proportion manifesting a level of impairment consistent with that of persons found incompetent to stand trial. Adolescents also tended more often than young adults to make choices (e.g., about plea agreements) that reflected compliance with authority, as well as influences of psychosocial immaturity. Implications of these results for policy and practice are discussed, with an emphasis on the development of legal standards that recognize immaturity as a potential predicate of incompetence to stand trial.*

KEY WORDS: adolescence; legal competence; delinquency; juvenile justice.

During the 1990s, nationwide legal reforms lowered the age at which youths could be tried in adult criminal court and expanded the range of young offenders subject to adult adjudication and punishment (Snyder & Sickmund, 1999); at the same time, the severity of penalties available to the juvenile court increased (Torbet et al., 1996).

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These legal developments raise an important issue that has received surprisingly little attention: whether youths charged with crimes have the developmental capacities needed to participate effectively in their trials.

It is well established that a criminal proceeding meets the constitutional requirements of due process only when the defendant is competent to stand trial, which includes capacities to assist counsel and to understand the nature of the proceeding sufficiently to participate in it and make decisions about rights afforded all defendants (*Dusky v. U.S.*, 1960; *Godinez v. Moran*, 1993). Although courts and legislatures in some states have determined that youths adjudicated in juvenile and criminal courts must be competent to stand trial, the conventional standard that has been applied focuses on mental illness and disability. In general, there has been little recognition that youths in criminal court may be incompetent because of developmental immaturity (Bonnie & Grisso, 2000; Redding & Frost, 2002).

Until now, little meaningful data have been available regarding the capacities of adolescents relevant for adjudicative competence. A few studies have examined youths' understanding of the nature of trials and trial procedures (for reviews, see Grisso, 1997, 2000; Mumley, Tillbrook, & Grisso, in press), but typically they have included small sample sizes, measures that are seriously limited in content or known reliability, or no comparison between the capacities of adolescents and adults. Similarly, exploratory studies have found significant age-related increases in youths' performance on tasks that parallel decisions that defendants are expected to make (Abramovitch, Peterson-Badali, & Rohan, 1995; Peterson-Badali & Abramovitch, 1993; Peterson-Badali, Abramovitch, & Duda, 1997), but without comparison to adults.

Information about youths' competence to stand trial (CST) is needed for several reasons. First, states need guidance for the development of meaningful laws in this area. The doctrine regulating CST has focused on adult criminal defendants impaired by mental illness and mental retardation. Yet basic research on cognitive and psychosocial development suggests that some youths will manifest deficits in legally relevant abilities similar to deficits seen in adults with mental disabilities, but for reasons of immaturity rather than mental disorder (see generally Grisso & Schwartz, 2000). If there were empirical evidence for this, it would suggest that the criminal law should take immaturity into consideration when evaluating the adjudicative competence of youths in criminal court.

Second, practitioners need information about youths' capacities as trial defendants, including their CST. Prosecutors and defense attorneys must make case-by-case decisions about whether to raise this issue. Mental health professionals who are asked to perform evaluations of youths' CST need guidance regarding the potential implications of youths' developmental status for assessing deficits in the legally relevant abilities. This may require attention to different constructs (immaturity, not only disorder) and a different logic (e.g., the "achievement" rather than "restoration" of competence among those found incompetent) than in adult CST evaluations prompted by putative mental illnesses. Finally, judges need guidance in interpreting the law to protect young defendants who may be incompetent, especially in their abilities to make decisions to waive important rights in the context of their potentially immature perspectives regarding the implications of their choices.

Past analyses of the legal concept of adjudicative competence have outlined the specific functional abilities about which the law is concerned in competence cases (Grisso, 2002), as well as their classification into broader psycholegal constructs (e.g., Understanding, Reasoning, Appreciation; see Grisso & Appelbaum, 1998; Hoge et al., 1997; Otto et al., 1998; Poythress et al., 1999). These abilities focus on the fundamental aspects of adjudicative competence, or what Bonnie (1992, 1993) called "competence to proceed": a basic comprehension of the purpose and nature of the trial process (Understanding), the capacity to provide relevant information to counsel and to process information (Reasoning), and the ability to apply information to one's own situation in a manner that is neither distorted nor irrational (Appreciation).

Some studies have suggested that preadolescents have less knowledge of trials and legal concepts than do older adolescents (e.g., Peterson-Badali et al., 1997) or adults (Grisso, 1981). General developmental research on adolescents' cognitive abilities (see Keating, 1990), however, would not lead us to expect substantial differences between "average" adolescents and adults in their ability to grasp everyday factual or conceptual information that is provided to them, or their ability to cognitively process it to make decisions. In addition, results of basic developmental research on youths' cognitive abilities do not necessarily generalize to abilities to deal specifically with trial-related tasks of comprehension and information processing, and to the abilities of the population of juveniles facing adjudication for alleged offenses, many of whom are of below-average intelligence. A few studies have employed brief, specialized "competency screening" measures (e.g., Cooper, 1997) to assess the abilities of youths in this relevant population, but these measures typically focus on "understanding," failing to assess the wider range of abilities associated with trial competence.

Bonnie (1992, 1993) suggested that, in addition to defendants' basic understanding and reasoning abilities, their "decisional competence" may be significant in cases in which defendants must make important decisions about the waiver of constitutional rights. A potentially important difference between adolescents and adults in this regard involves maturity of judgment. Differences between adolescents and adults not only are cognitive, but also involve aspects of psychosocial maturation that include progress toward greater future orientation, better risk perception, and less susceptibility to peer influence. Several authors have hypothesized that these developmental factors could result in differences between adolescents' and adults' decision making about important rights in the adjudicative process (Cauffman & Steinberg, 2000; Scott, 1992; Scott, Reppucci, & Woolard, 1995; Steinberg & Cauffman, 1996).

Current law does not include these developmental factors as relevant when considering a defendant's adjudicative competence. For example, when making a decision about waiver of important rights, defendants are free to place a primary value on their immediate gratification at the expense of their future welfare, or to opt to please their friends rather than act in their best interests, as long as they adequately understand and grasp the consequences of their choices. But if adolescents place a relatively higher value on immediate gratification than do adults as a consequence of their developmental immaturity, they may make different legal decisions than they themselves would make in their adult years. Although psychosocial immaturity is not addressed in the formal legal construct of competence to stand trial, it needs to

be investigated in this context to provide a comprehensive account of adolescents' capacities to participate in the trial process.

In this study, we used two tools to examine the two types of capacities outlined previously. The *MacArthur Competence Assessment Tool–Criminal Adjudication* (MacCAT-CA) focuses primarily on the formal functional abilities typically associated with the legal construct of CST (Bonnie's "competence to proceed"). In a large-scale study, the instrument manifested meaningful differences among adult defendants with and without findings of incompetence to stand trial (Otto et al., 1998), and a MacCAT-CA manual subsequently was published with adult norms (Poythress et al., 1999). Although the instrument is now widely known among forensic mental health professionals, the extent of its use is not known, and its recent publication has not yet produced additional research findings. There are no reports of its use with youths.

In contrast to the MacCAT-CA, the *MacArthur Judgment Evaluation* (MacJEN) was designed for this study as a research tool to examine the question of immaturity of judgment, especially the potential relation between immaturity and choices that defendants make in the course of adjudication. As described later, the MacJEN uses three vignettes and structured interview questions with objective categories of responses. It allows for examination of differences in choices across ages, as well as the relation between choices and three psychosocial factors (risk appraisal, future orientation, and resistance to peer influence) with theoretical developmental significance (i.e., are theoretically expected to change from childhood to adulthood). The MacJEN measures these factors as features of respondents' reasons for their choices. We anticipated that adolescents and adults might differ on these developmental dimensions in the reasons for their choices, and thus in the maturity of their judgment.

Research to address the major policy and practical questions about juveniles' adjudicative competence requires data from youths representing the relevant adolescent age range, as well as from adults to whom their performance can be compared. In this study, we selected 11–17 as the adolescent age range, because very few youths are arrested on delinquencies below 11 and because juvenile justice jurisdiction in most states does not exceed 17. Our comparison group included young adults aged 18–24 because this represents the age range most commonly seen by the criminal courts and permits a legally relevant, although conservative, test of the differences between adolescents and adults in abilities related to adjudicative competence.

Two groups of youths and two groups of young adults were studied: those currently detained within the juvenile detention centers or adult jails, and those in the community with no current (and little past) juvenile or criminal court involvement. We reasoned that any age differences in competence-relevant abilities could be more reliably interpreted if they were found in both justice system and community samples.

In summary, this study was designed to address three basic questions:

- Do adolescents differ from young adults in abilities to participate in their trials?
- If so, what types of youths manifest significant differences from young adults?
- What kinds of deficits in abilities are salient for law, policy, and practice in this area?

METHOD

Greater detail regarding the study's sample, instruments, and procedures is available in an archival report of the study's method, available at www.mac-adoldev-juvjustice.org.

Participants and Sites

The study used a four-group design of adolescents and young adults, drawn from the justice system and the general community. Participants included 927 "youths" aged 11–17 and 466 "young adults" ages 18–24. (Youths' ages were further grouped 11–13, 14–15, and 16–17 during data analysis.) "Detained" participants (detained youths = 453; detained adults = 233) resided in juvenile detention facilities or adult jails. "Community" participants (community youths = 474; community adults = 233) were individuals residing in the same or similar communities as the Detained participants, and who reported during recruitment that they had never been held overnight in a justice system facility and were not currently charged with any offenses. (Recruitment of these participants is described under "Procedure.")

These 1,393 participants were among 1,429 individuals originally enrolled in the study; 10 participants were dropped from the analyses because of excessive missing data, 2 because they were 25 years of age, and 24 because they obtained IQ scores below 60 (for which one of the study's dependent measures had not been normed).

Tables 1 and 2 show the demographic composition of the study groups. Males composed 66.3% of the Detained sample and 56.8% of the Community sample. The ethnic composition of the sample was about 40% African American, 23% Hispanic, 35% non-Hispanic White, 1% Asian, and 1% from other ethnic identities; these proportions were similar across age and Detained/Community groups. Most participants in both the Detained samples (75 and 77%) and Community samples (62 and 73%) were classified in the two lowest socioeconomic classes by using the Hollingshead

Table 1. Sample Demographics

	Detained					Community				
	Youth age groups			Youth adults		Youth age groups			Youth adults	
	11–13	14–15	16–17	11–17	18–24	11–13	14–15	16–17	11–17	18–24
Participants (*n*)	74	186	193	453	233	116	159	199	474	233
Male (% of age group)	74	62	62	64	71	52	60	57	57	57
Ethnicity (% of age group)										
African American	56	32	38	39	43	41	52	33	41	37
Hispanic	21	28	25	26	25	20	20	21	20	24
Non-Hispanic White	21	35	35	32	32	36	28	44	37	37
Asian and Other	2	5	2	3	0	3	0	2	2	2
Socioeconomic Status (% of age group)										
I–II	8	7	11	9	7	15	13	15	14	9
III	12	16	18	16	16	23	26	24	24	18
IV–V	80	77	71	75	77	62	61	61	62	73

Table 2. Number of Participants in Gender/Ethnicity by Age Groups (% of Age Group in Parentheses)

	Detained				Community			
	11–13	14–15	16–17	18–24	11–13	14–15	16–17	18–24
Males								
African American	27 (37)	40 (22)	47 (24)	70 (30)	24 (21)	49 (31)	32 (16)	47 (20)
Hispanic	12 (16)	30 (16)	25 (13)	47 (20)	15 (13)	16 (10)	22 (11)	32 (14)
Non-Hispanic White	13 (18)	41 (22)	46 (24)	48 (21)	20 (17)	30 (19)	55 (28)	50 (21)
Asian and other	2 (3)	4 (2)	2 (1)	0	1 (1)	1 (1)	4 (2)	3 (1)
Females								
African American	14 (19)	20 (11)	27 (14)	29 (12)	23 (20)	33 (21)	33 (17)	39 (17)
Hispanic	3 (4)	23 (12)	23 (12)	12 (5)	8 (7)	15 (9)	19 (10)	24 (10)
Non-Hispanic White	2 (3)	24 (13)	21 (11)	27 (12)	22 (19)	15 (9)	33 (17)	37 (16)
Asian and other	0	4 (2)	1 (1)	0	3 (2)	0	0	1 (1)

(1975) system. Current charges for the Detained youths were primarily (about 80%) offenses against persons and offenses against property, in about equal proportions. Charges for the Detained adults were primarily (about 80%) drug-related, against persons, or against property, in about equal proportions. The distribution of charges did not differ between the youth and young adult groups, except that drug-related charges were more frequent in the Detained adult sample (32%) than in the Detained youth sample (10%).

To enhance ethnic diversity and minimize bias due to geographic location, the study employed four data collection sites. (A project coordinating team at a fifth site was responsible for cross-site training, consultation, monitoring data collection procedures, and managing the data base.) Data were collected in Los Angeles ($n = 404$; 29% of total sample), Philadelphia ($n = 390$; 28%), northern Florida ($n = 223$; 16%) and northern, central, and western Virginia ($n = 376$; 27%) at 11 juvenile detention centers, 8 adult jails, and their surrounding communities. Each site contributed an approximately equal number of Detained and Community participants. Each site contributed participants to every age/gender/ethnicity cell, although site contributions to ethnic groups were disproportionate, reflecting the ethnic composition of each site.

It was not possible to compare the demographic characteristics of the Detained participants to the characteristics of the total detained population of each detainment facility, because total admissions data were unavailable. The age proportions in our Detained youth samples, however, appeared to be representative of juvenile detention centers generally, and the proportions of different ethnic groups in the Detained youth sample were nearly identical to those reported in a national survey of juvenile detention centers (Snyder & Sickmund, 1995).

Independent Variables

Demographic and Justice System Experience Variables

We obtained data regarding age, gender, ethnicity, offense charged (for Detained participants), and socioeconomic status by self-report. SES was determined using education and occupation according to the Hollingshead system (1975), which

provides five classifications ranging from I (*highest class*) to V (*lowest class*). In analyses in which the interaction between SES and a second variable (e.g., age) was of interest, SES was treated as either a five-level or a three-level (Hollingshead classes I–II, III, and IV–V) categorical variable. In analyses in which SES was covaried, SES was treated as a continuous variable, with scores ranging from 1 to 5. For the Detained samples, experience in the justice system was coded from answers to two questions: whether the participant had (a) ever before been "found guilty" of a delinquency or crime and (b) ever before been "locked up" in a detention center or jail (coding "no" to both questions as "0," "yes" to only one of the questions as "1," and "yes" to both questions as "2").

Intelligence

The *Wechsler Abbreviated Scale of Intelligence*(WASI; Psychological Corporation, 1999) produces an estimate of general intellectual ability on the basis of two subtests (Vocabulary and Matrix Reasoning) that can be administered in approximately 15 min. The WASI is linked to the Wechsler Intelligence Scale for Children (WISC-III) and the Wechsler Adult Intelligence Scale (WAIS-III), and has been normed for individuals aged 6–89 years.

Mental Health Problems

The *Massachusetts Youth Screening Instrument-Second Version* (MAYSI-2; Grisso & Barnum, 2000; Grisso, Barnum, Fletcher, Cauffman, & Peuschold, 2001) is a 52-item, six-scale *yes/no* self-report mental health screening inventory that provides indexes of degree of disturbance on six clinical scales (Alcohol/Drug Use, Angry-Irritable, Depressed-Anxious, Somatic Complaints, Suicide Ideation, Thought Disturbance). Two items were modified for use with young adults in this study; in both, the word "school" was replaced with the word "work." Alpha coefficients for Detained and Community youth and young adult samples were comparable to acceptable coefficients published in earlier MAYSI-2 reports (Grisso et al., 2001; Grisso & Barnum, 2000), with the exception of one scale (Thought Disturbance), which did not achieve acceptable alpha coefficients for any of the subgroups.

Dependent Variables

Functional Abilities Related to Competence to Stand Trial

The primary dependent variable was the MacCAT-CA, designed to assess criminal defendants' abilities to participate in their defense ("competence to stand trial"; Otto et al., 1998; Poythress et al., 1999). The instrument's scoring criteria, as well as norms based on large, national samples of pretrial adult defendants, are provided in the MacCAT-CA manual. At the time of the present study, there were no publications reporting use of the MacCAT-CA with adolescents. The standard administration and content of the MacCAT-CA were unaltered for this study.

The 22 MacCAT-CA items are grouped into three subscales: *Understanding*, *Reasoning*, and *Appreciation*. *Understanding* assesses comprehension of courtroom

procedures and personnel and the defendant's rights at trial. *Reasoning* assesses the recognition of information relevant to a legal defense and the ability to process information for legal decision making. The *Appreciation* subscale, referring to a person's ability to recognize the relevance of information for one's own situation, assesses whether a defendant's legal decision making is influenced by symptoms of mental illness, such as delusional thinking.

This study employed mean subscale scores on the three MacCAT-CA scales, as well as a system of classifying MacCAT-CA subscale scores into three hierarchical categories using cutoff scores provided in the MacCAT-CA manual indicating "minimal or no impairment," "mild impairment," or "clinically significant impairment." The cutoff score for "clinically significant impairment" is set at the score equaling 1.5 standard deviations below the mean of the "presumed competent" samples in the original MacCAT-CA norming study (Poythress et al., 1999). Performance above 1.0 standard deviation below the mean for those samples is considered to represent "minimal or no impairment." Scores between those two cutoffs were labeled "mild impairment."

Inter-rater reliability for the MacCAT-CA was assessed twice using all scorers (25 research assistants) at all four of the study sites. For *Understanding* and *Reasoning*, intra-class correlations for youth data were marginally adequate early in the data collection process (.63 and .60, respectively), and better at a later point in the study (.91 and .80; for young adults, .88 and .70). Intra-class correlations for *Appreciation* were much more variable, ranging from .86 for youths early in the study to .17 for young adults later in the study. The latter result apparently was due to highly truncated scores on Appreciation items, with almost no young adult participants producing 0-credit responses.

Decisions and Judgment in the Adjudicative Process

The MacJEN, developed for this study and based on an earlier instrument (Woolard, 1998), was designed to provide data regarding age-related differences in choices and the psychosocial factors that might influence those choices. The MacJEN uses vignettes to pose three legal decisions common in the delinquency/criminal process: (a) responding to police interrogation, (b) disclosing information during consultation with a defense attorney (one half of the participants were administered a vignette about a public defender and one half a vignette about a privately retained attorney); and (c) responding to a plea agreement for reduced consequences in exchange for a guilty plea and testimony against other defendants.

Respondents are given several response choices and asked to recommend a "best choice" and "worst choice" for the vignette character. Choices for the police interrogation vignette include confessing to the offense, denying the offense, and refusing to speak. Choices for the attorney consultation vignette include full disclosure, partial disclosure, denying the offense, and refusing to cooperate. Choices for the plea agreement vignette include accepting or rejecting the offer for reduced charges in exchange for testimony against other defendants. Participants' "best choice" recommendations for the vignette character were used to create a variable indicating readiness to comply with authority figures.

MacJEN responses were also scored according to criteria designed to identify three variables representing aspects of psychosocial maturity: *risk appraisal* (represented by three indexes), *future orientation*, and *resistance to peer influence*.

To assess *risk appraisal,* participants were asked to identify all positive and negative consequences, or risks, of each best and worst choice recommendation, the likelihood of a given set of risks, and the unpleasantness of those risks. These responses contributed to three separate indexes conceptualized as different aspects of *risk appraisal*: (a) "risk recognition," which summed the total number of risks identified across the best and worst choices in each vignette and then averaged across vignettes; (b) "risk likelihood," which summed participants' Likert-type responses to questions that asked about the likelihood that possible negative consequences would occur; and (c) "risk impact," which summed participants' Likert-type responses to questions regarding how unpleasant the negative consequences would be if they did occur.

The second psychosocial maturity variable, *future orientation*, was assessed by coding all of the risks identified by each participant as reflecting the short- or long-range nature of their consequences (employing a standardized classification system). Long-range risks were averaged across vignettes to produce an index of future orientation.

The third psychosocial maturity variable, *resistance to peer influence,* was assessed with questions asked after participants had made their original choices, posing new information to them about peers' recommendations that were contrary to the participants' choices. For each decision-making vignette, peer resistance was measured as a dichotomous variable (retained original choice versus switched to peers' choice).

Procedure

Prior to data collection, all site project directors and research assistants met at one location for several days of training by the project coordinating team. The project coordinators then supervised research teams on site during practice protocol administrations at cooperating facilities.

Research assistants visited the participating juvenile detention centers and adult jails once or twice a week for about 11 months. They were assisted by staff to identify new detainees who had arrived since the previous visit, and to determine whether any detainees had been "screened out" by staff or participant advocates regarding potential research participation. Special protections for human subjects in research were required because Detained participants were identified as belonging to "vulnerable" populations. Independent participant advocates monitored the solicitation of Detained youths, assuring conditions of voluntary youth assent and vetoing specific youths' participation if it might pose unnecessary stress. In addition, parents in some sites were notified by mail prior to approaching Detained youths, and youths whose parents responded indicating that they objected were not included. All human participants procedures were approved by the IRB of the university at which the coordinating site was located as well as the IRB of the university associated with each data collection site.

Any detainees who had not been screened out were approached by research assistants with an explanation of the study, the procedure, and a request for assent to participate. As the study period progressed, Detained youths and adults were approached more selectively to augment contributions to age, gender, and/or ethnicity subsamples that accrued in smaller proportions in detained settings. Females and very young adolescents especially were oversampled in proportion to their actual representation in detention and jail facilities.

Community youths and young adults were solicited in neighborhoods served by the relevant youth detention or adult jail facilities. Community youths were solicited in schools, youth programs, and Girls' and Boys' Clubs, whereas community adults were solicited in community clubs, agencies and shelters, and at community colleges, using posters, leaflets, and/or direct contact by research assistants. Human participants considerations required parental consent for Community youths. As data collection proceeded, the Age × Gender × Ethnic proportions that were accruing in the Detained samples were examined periodically to guide a more selective approach to the recruitment of potential Community participants, aiming at final Community samples that were demographically similar to their respective Detained samples.

It was not possible to determine participation rates for either the detained or community samples because of the way in which participants were recruited in each group. In the case of detained participants, detainees in each facility were periodically informed of the study by facility staff persons and asked if they were interested in speaking with a research staff member about the project; this was done on a regular basis because the population of detainees changed daily. Facility staff did not approach detainees who they believed were especially vulnerable or otherwise unqualified to participate in the study (e.g., due to mental illness, recent trauma, etc.). It was not possible to monitor how many detainees were approached by facility staff and what proportion refused to speak with the research staff. Generally speaking, however, very few detainees with whom we were permitted to speak refused to participate. The recruitment of the community participants was done by posting advertisements about the study in community centers, schools, and recreation centers. Individuals who were interested in the study were asked to call our research office.

All participation was voluntary. Detained youths and adults received $10 for their participation (or snacks in some facilities that did not allow monetary awards); community youths and adults received $25. Informed and signed consent (assent for youths) was required for all participants. Confidentiality was assured with the exception of the researchers' obligation to report to others in cases in which information was obtained that suggested imminent risk of harm to self or others, or danger of harm from others. Participants endorsing two out of three critical "Suicide Ideation" items on the MAYSI-2 were screened further by research assistants using a structured process to obtain data on seriousness and recency of suicidal intent. Responses were evaluated in consultation with the site project director or a site clinician, as well as the project coordinator, to determine the need to breach confidentiality. (For details on frequency with which breaching confidentiality was required, see an archival report of the study's method at www.mac-adoldev-juvjustice.org.)

Table 3. Means (*SD*) for MacCAT-CA Understanding, Reasoning, and Appreciation Subscales

Age groups (*N*)	Understanding	Reasoning	Appreciation
11–13 (190)	10.45 (3.31)^{a}	11.30 (2.82)^{a}	9.68 (2.34)^{a}
14–15 (345)	11.27 (2.97)^{b}	12.10 (2.55)^{b}	10.33 (1.79)^{b}
16–17 (392)	12.00 (2.82)^{c}	12.76 (2.34)^{c}	10.65 (1.66)^{b,c}
18–24 (466)	12.13 (2.92)^{c}	12.57 (2.51)^{b,c}	10.77 (1.57)^{c}

Note. Superscripts refer to age group comparisons for each subscale considered separately. Age groups with different superscripts differed significantly on that subscale, at $p < .05$.

When a participant had consented/assented, the research assistant administered the study protocol, obtaining demographic and justice experience data first, followed by the MacCAT-CA, the WASI, the MAYSI-2, and the MacJEN. The protocol typically required between 90 and 180 min to administer. The project coordination team continuously monitored the data collection process and compliance with ethical procedures at the four data collection sites. Research assistants at each site scored their own protocols, and scored copies were sent to the coordinating site for quality checks, data entry, and database management.

RESULTS

MacCAT-CA: Age Differences in Performance[10]

Preliminary analyses indicated that the four age groups did not differ significantly with respect to gender or ethnicity, but did differ significantly, albeit slightly, with respect to social class and intelligence. As a consequence, all comparisons between age groups controlled for these latter two variables.

To examine age differences in MacCAT-CA performance, a multiple analysis of covariance (MANCOVA) was conducted with the three MacCAT-CA subscale scores (Understanding, Reasoning, and Appreciation) as the dependent variables, age group as the independent variable, and the continuous measure of SES and IQ as covariates. The analysis indicated a significant multivariate effect for age, multivariate $F(9, 3263) = 11.32$, $p < .001$, with significant univariate effects for age on all three subscales, for Understanding, $F(3, 1343) = 16.24$, $p < .001$; for Reasoning, $F(3, 1343) = 19.33$, $p < .001$; for Appreciation, $F(3, 1343) = 18.06$, $p < .001$. As shown in Table 3, post hoc contrasts indicated that, on the Understanding subscale, the 11- to 13-year-olds performed significantly worse than the 14- to 15-year-olds, who performed significantly worse than the two older groups; 16- to 17-year-olds and young adults did not differ. On Reasoning, 11- to 13-year-olds performed significantly worse than 14- to 15-year-olds, who performed significantly worse than the 16- to 17-year-olds; 14- to 15-year-olds and 16- to 17-year-olds did not differ from young adults. On the Appreciation subscale, 11- to 13-year-olds performed significantly worse than 14- to 15-year-olds, who scored lower than young adults, but did not

[10]Various stages of the following analyses examined youths' and young adults' performance on the MacCAT-CA by study site across the demographic variables. Very few site differences were found, no more than would be expected by chance.

differ from 16- to 17-year-olds; as with the other two subscales, 16- to 17-year-olds and young adults did not differ. In general, the magnitude of the difference (i.e., the effect size) between the scores of the 11- to 13-year-olds versus adults was moderate by conventional statistical standards (e.g., *d*s between .5 and .6) whereas the differences between the scores of the 14- to 15-year-olds and adults were small (e.g., *d*s between .2 and .3).

These patterns of age differences were also seen when chi-square analyses were used to compare age groups (both with and without controlling for IQ and SES) with respect to the proportions of individuals showing various levels of impairment—"no impairment," "mild impairment," or "significant impairment" (Poythress et al., 1999)—in Understanding, $\chi^2(6) = 49.60$, $p < .001$, and Reasoning, $\chi^2(6) = 37.56$, $p < .001$; see Fig. 1).[11] For example, whereas 20% of 11- to 13-year-olds, and 13% of 14- to 15-year-olds, showed significantly impaired Understanding, only 7% of the 16- to 17-year-olds and this same proportion of adults scored in this range. Similarly, proportions of individuals showing significantly impaired Reasoning declined from 16% among 11- to 13-year-olds to 9% among 14- to 15-year-olds, to less than 7% among 16- to 17-year-olds and young adults.

It is important to examine the proportions of each age group who show significantly impaired Understanding or Reasoning (or both), because significant impairment in either could raise doubts about competence. These results are presented in Fig. 2, illustrating that 30% of 11- to 13-year-olds, and 19% of 14- to 15-year-olds, were significantly impaired on one or both of these subscales; the figures for 16- to 17-year-olds and for young adults were both 12%.

To examine whether these patterns of age differences varied as a function of gender, ethnicity, or Detained versus Community status, a 4 (age group) $\times$ 2 (gender) $\times$ 3 (ethnicity) $\times$ 2 (Detained/Community status) multiple analysis of covariance (MANCOVA) was conducted with the three MacCAT-CA subscale scores (Understanding, Reasoning, and Appreciation) as the dependent variables and SES and IQ as covariates. MacCAT-CA performance was unrelated to Detained/Community status, gender, and ethnicity. More importantly, the only interaction to reach significance was the two-way interaction between age and Detained/Community status, multivariate $F(9, 3157) = 2.465$, $p < .01$, and the univariate effect was significant only for scores on the Understanding subscale, $F(3, 1299) = 6.09$, $p < .001$. Follow-up analyses indicated that whereas Detained and Community young adults differed significantly in Understanding scores, Detained and Community juveniles (of any age) did not.

In a separate analysis that treated socioeconomic status as a three-level independent variable rather than as a covariate, we did not find significant main effects for SES or a significant interaction between SES and age. The absence of significant interactions between age and gender, age and ethnicity, and age and SES indicates

[11] We do not report proportions of individuals showing impaired appreciation, because it is not clear what such impairment means in a sample of individuals without serious mental illness. This subscale of the MacCAT-CA was developed to identify individuals whose beliefs about their trial were highly irrational or distorted as a result of serious mental disorder. In this study, the majority of individuals who showed "impaired" appreciation did so because they could not articulate reasons for their responses to certain interview questions, not because they demonstrated distorted or irrational thinking.

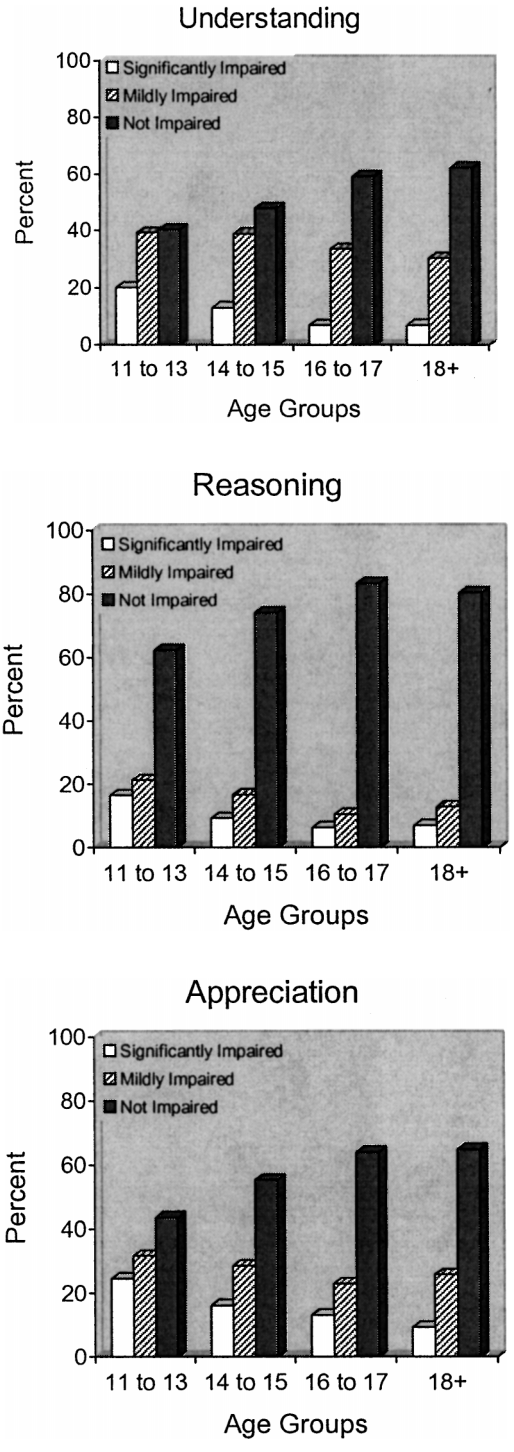

Fig. 1. Degree of impairment on MacCAT-CA Understanding, Reasoning, and Appreciation subscales as a function of age.

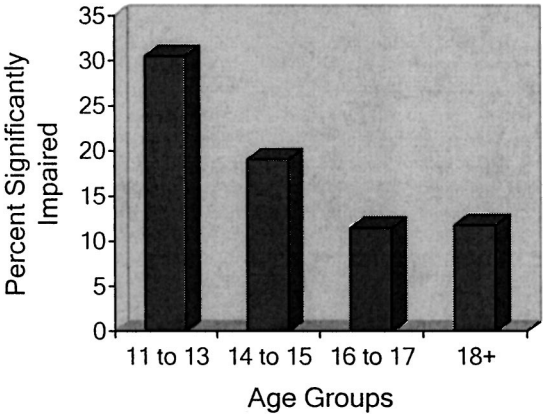

Fig. 2. Proportion of individuals at different ages who are significantly impaired with respect to either or both MacCAT-CA Understanding and Reasoning.

that age differences in MacCAT-CA performance were consistent between males and females, across individuals from different ethnic groups, and across individuals from different socioeconomic backgrounds when controlled for IQ.

Patterns of age differences in the proportions of individuals showing no impairment, mild impairment, or significant impairment on Understanding are shown separately for the Detained and Community samples in Fig. 3. As the figure illustrates, the proportions of individuals showing mild or significant impairment in Understanding differed between Detained and Community adults but were relatively similar among Detained and Community juveniles.

When chi-square analyses were used to compare the Detained and Community groups with respect to the proportions of individuals in each age group who demonstrate significantly impaired Understanding *or* Reasoning (or both), similar patterns of age differences in the two groups emerged (both with and without controlling for IQ and SES). As Fig. 4 illustrates, although impairment was more common among Detained than Community individuals, in both groups, 11- to 13-year-olds, and to a lesser extent 14- to 15-year-olds, were more likely than adults to show deficits in the capacities related to CTS, for Community participants, $\chi^2(3) = 32.37$, $p < .001$; for Detained participants, $\chi^2(3) = 17.10$, $p < .001$. In both groups, the performance of 16- to 17-year-olds was comparable to that of young adults.

MacCAT-CA: Intelligence, Prior Justice System Experience, Mental Health Problems

MacCAT-CA performance may be influenced by factors other than age, including intelligence (which one would be expected to be positively related to MacCAT performance), mental health problems (expected to be negatively related to MacCAT-CA performance), and prior experience in the justice system (expected to be positively related to MacCAT-CA performance). To examine these relations, we conducted a series of multiple regression analyses, regressing scores for each of

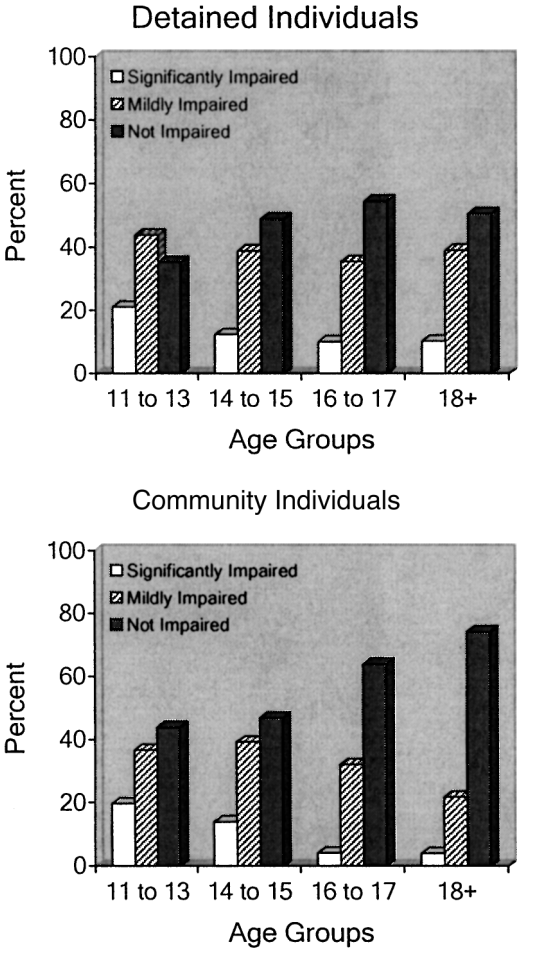

Fig. 3. Impairment on MacCAT-CA Understanding subscale as a function of age and justice system status.

the MacCAT-CA subscales on age (as a continuous variable), IQ, each of the six subscales of the MAYSI-2, and our measure of prior experience in the justice system (for justice system participants only). As expected, IQ was significantly correlated with Understanding, $\beta = .415, t(1358) = 15.96, p < .001$; Reasoning, $\beta = .421$, $t(1358) = 16.17$, $p < .001$; and Appreciation, $\beta = .328$, $t(1358) = 12.10$, $p < .001$. Contrary to expectancy, MacCAT-CA performance was unrelated to our measure of prior experience in the justice system and largely unrelated to MAYSI-2 mental health problems.

Figure 5 shows the relation between IQ, treated as a three-level categorical variable (IQ = 60–74, 75–89, or 90 and above) and impairment on the three MacCAT-CA subscales. As expected, chi-square analyses showed that individuals of lower intelligence were more likely to have impaired Understanding, $\chi^2(4) = 211.27$, $p <$

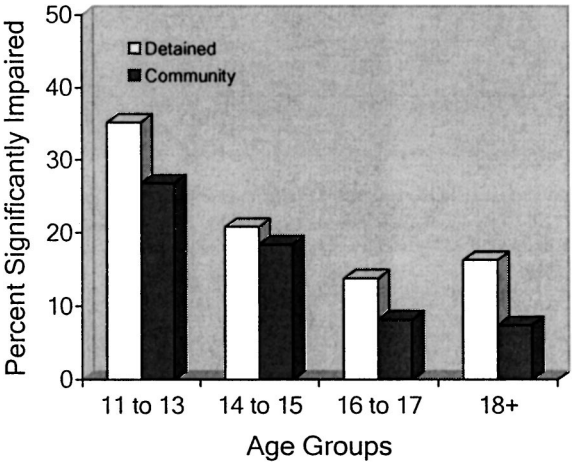

Fig. 4. Proportion of individuals at different ages who are significantly impaired with respect to either or both MacCAT-CA Understanding and Reasoning as a function of age and justice system status.

.001, Reasoning, $\chi^2(4) = 130.50$, $p < .001$, and Appreciation, $\chi^2(4) = 119.55$, $p < .001$. Figure 6 displays the proportions of individuals in each IQ group who were significantly impaired on either the Understanding or the Reasoning scale (or both). Again, individuals of lower intelligence were far more likely to lack these capacities related to participation in trials as defendants.

To examine whether the relations between MacCAT-CA performance and intelligence and justice system experience varied with age, we conducted a second series of regressions, in which the main effects of these variables, along with age (as a continuous variable), were entered into the equation followed by the terms representing the interactions between each variable and age. Age remained a significant predictor of MacCAT-CA performance on all three scales, even when intelligence and prior justice system experience were controlled. There were marginally significant interactions between age and IQ for both Understanding, $\beta = .324$, $t(1361) = 1.696$, $p = .09$, and Appreciation, $\beta = -.382$, $t(1361) = -1.909$, $p = .06$, but no age by experience interaction.

To examine the nature of these interactions, follow-up analyses were conducted in which correlations between MacCAT-CA performance and IQ were computed separately for each age group. The interaction between age and IQ in the prediction of MacCAT-CA performance is difficult to interpret; the correlation between IQ and Understanding generally increased with age, but the correlation between IQ and Appreciation generally decreased with age.

MacCAT-CA Performance as a Function of Intelligence, Age, and Detained/Community Status

It is widely established that, on average, individuals who are detained in the justice system score lower on intelligence tests than demographically comparable

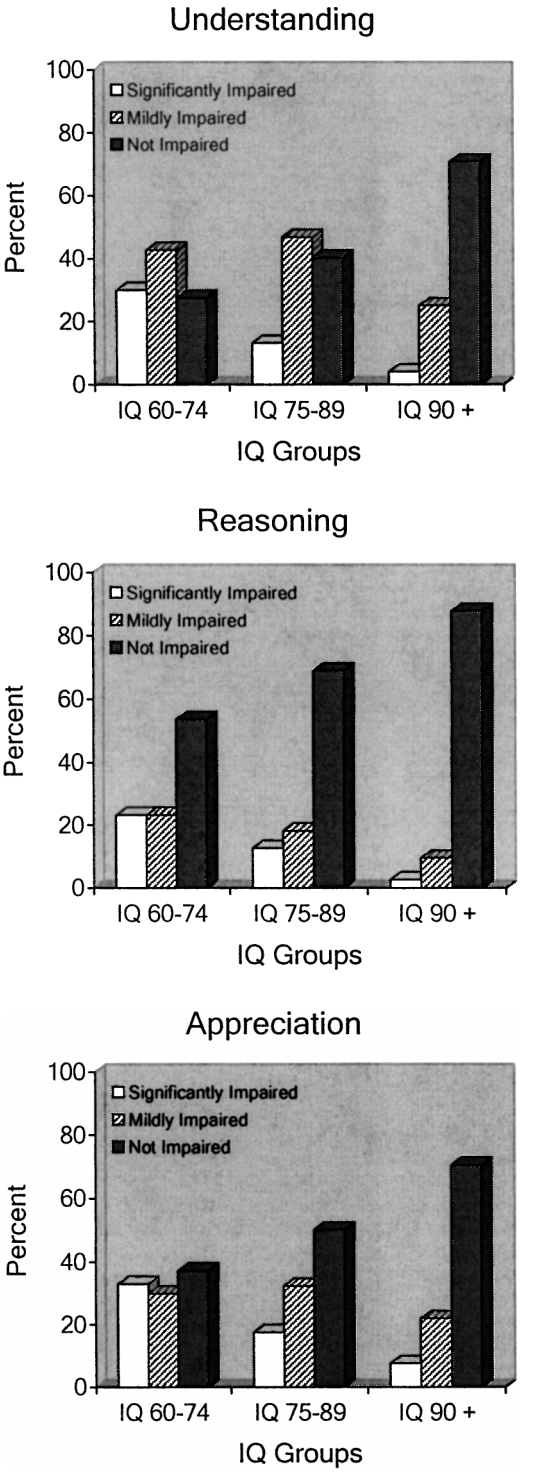

Fig. 5. Impairment on MacCAT-CA Understanding, Reasoning, and Appreciation subscales as a function of IQ.

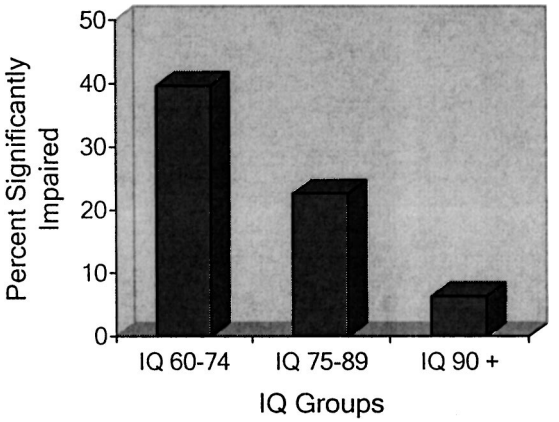

Fig. 6. Proportion of individuals who are significantly impaired with respect to either or both MacCAT-CA Understanding and Reasoning as a function of IQ.

samples of individuals drawn from the community. As expected, an analysis of variance showed that the average IQ score of detained individuals in this study ($M = 86.28$, $SD = 12.95$) was substantially lower than that of individuals from the community, $M = 97.46$, $SD = 15.63$; $F(3, 1385) = 5.64$, $p < .001$, a finding that did not vary as a function of age, $F(3, 1385) = .48$, *ns*). In light of this, and in view of the strong relation between IQ and MacCAT-CA performance, we examined the associations between IQ and MacCAT-CA performance separately within each age group, focusing on proportions with scores in the seriously impaired range.

Figure 7 shows the proportions of individuals of different levels of intelligence, within each age group, who were seriously impaired with respect to Understanding or Reasoning or both. Younger individuals of lower intelligence were especially likely to be deficient in the necessary capacities associated with trial competence. Indeed, among 11- to 13-year-olds, more than one half with an IQ between 60 and 74, and more than one third with an IQ between 75 and 89, were significantly impaired. Among 14- to 15-year-olds, approximately 40% of those with an IQ between 60 and 74, and more than one in four with an IQ between 75 and 89, were comparably impaired. These figures are important because, as Fig. 8 illustrates, between one fifth and one quarter of juveniles aged 15 and younger in the Detained sample had IQ scores between 60 and 74, and approximately 40% of Detained juveniles aged 15 and younger had IQ scores between 75 and 89. In other words, approximately two thirds of the Detained juveniles aged 15 and younger had an IQ that was associated with a significant risk of being incompetent to stand trial because of impaired Understanding or Reasoning or both.

MacJEN: Age Differences in Choices on Decision-Making Vignettes

Turning now to MacJEN results related to questions about participants' legal decision making, we examined age differences in the participants' recommended best choice, using separate chi-square analyses for each of the three decision-making

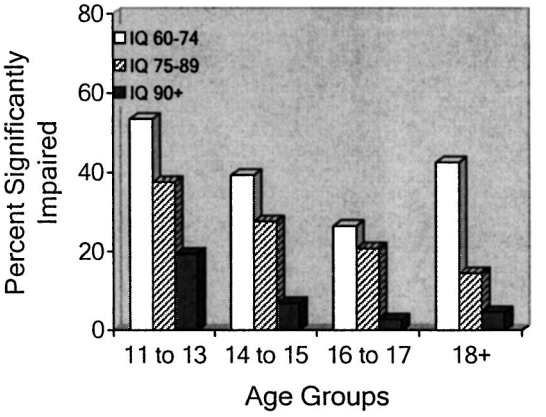

Fig. 7. Proportion of individuals at different ages who are significantly impaired with respect to either or both MacCAT-CA Understanding and Reasoning as a function of age and IQ.

vignettes (police interrogation, attorney consultation, plea agreement; see Fig. 9). Analyses indicated significant age differences for choices regarding police interrogation, $\chi^2(6) = 158.73$, $p < .001$. The proportion of participants who chose confession as the best choice decreased with age, from about one half of the 11- to 13-year-olds to only one fifth of young adults. No age differences were found for the second vignette regarding consultation with a public defender, $\chi^2(9) = 11.59$, *ns*, or a private attorney, $\chi^2(9) = 11.32$, *ns*); over 75% of each age group recommended full disclosure. Significant age differences were found for the plea agreement vignette, $\chi^2(3) = 45.58$, $p < .001$, the proportion accepting the plea agreement decreasing from 74% among 11- to 13-year-olds to 50% of young adults.

Because the four age groups differed significantly with respect to social class and intelligence, separate chi-square analyses examined age differences within three

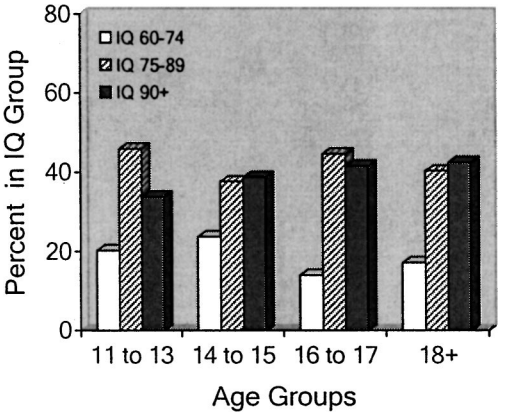

Fig. 8. Proportion of detained individuals at different IQ levels as a function of age.

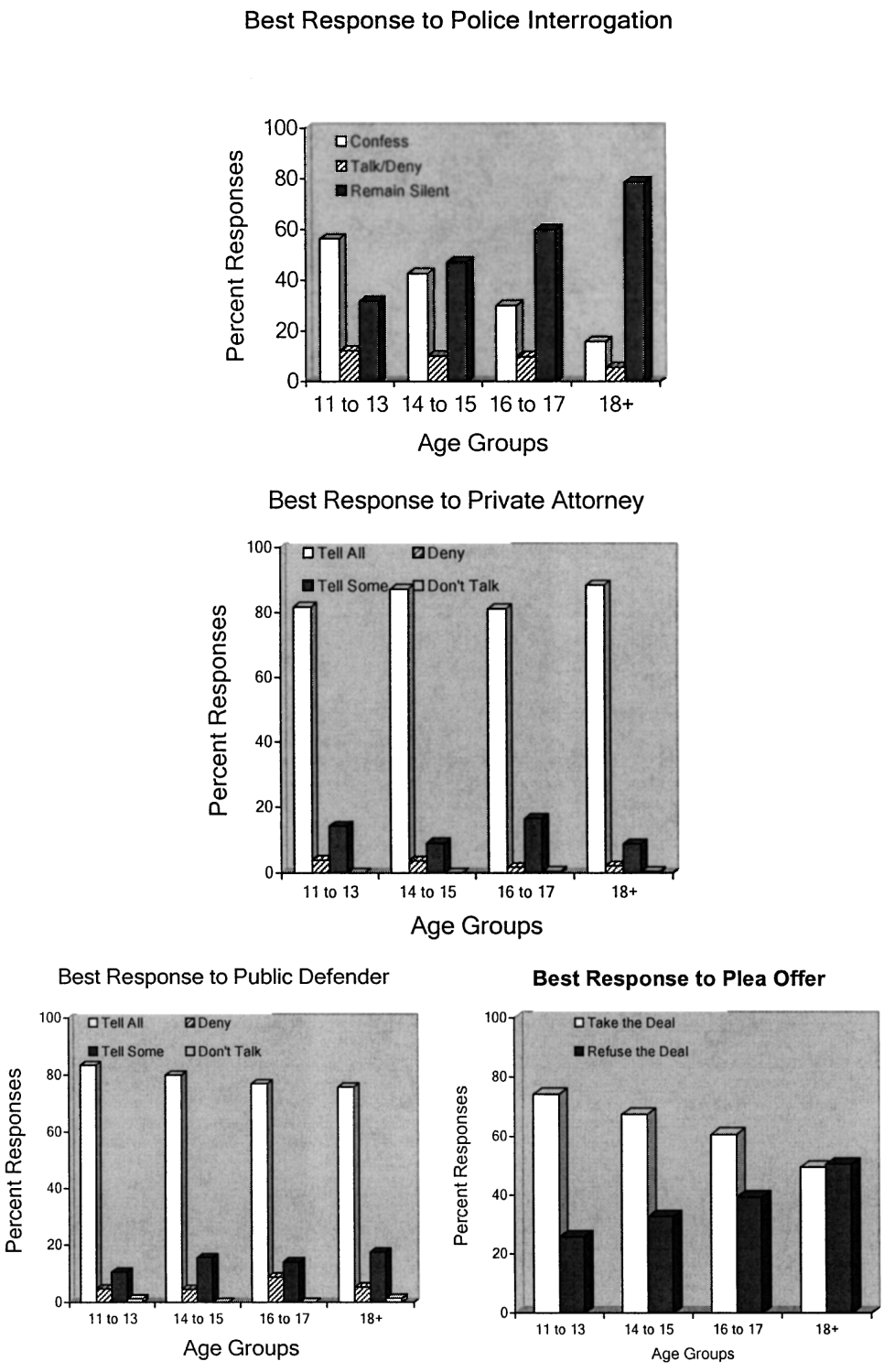

Fig. 9. Decision choices for Police Interrogation, Attorney Consultation, and Plea Agreement vignettes as a function of age.

IQ categories (60–74, 75–89, 90 and above) and five SES categories. The proportion of confession and plea recommendations decreased with age for each IQ category ($p < .005$ or smaller for each analysis), except for the plea recommendation among low IQ participants in which no age-based differences were found. The proportion of confession and plea recommendations decreased with age for each SES category ($p < .05$ or smaller for each analysis) except for those in the highest socioeconomic class, which was not statistically significant.

To examine whether the age effects varied across the other demographic variables, a hierarchical logistical regression was run for each of the three dependent variables (confess/other, full disclosure/less than full, accept plea/refuse plea) with all two-way age interaction terms included in the second step. None of the interactions were significant for the confession, disclosure to public defender, or plea agreement vignettes, indicating that age differences in these choices remain consistent across gender, ethnicity, and Detained/Community status, as well as intelligence and SES. An Ethnicity (White/other) × Age interaction was significant for the regression on full disclosure to a private attorney. Specifically, there were no ethnic differences for 11- to 13-year-olds and 14- to 15-year-olds, but a higher proportion of non-Hispanic White 16- to 17-year-olds (90%) recommended full disclosure than other ethnic groups of the same ages (75% of 16- to 17-year-olds and 85% of young adults).

MacJEN: Age and Compliance With Authorities

In each vignette, one decision choice represents compliance with authority—confessing to police, fully disclosing to the attorney, and accepting the prosecutor's plea agreement. An *authority compliance* score summed the number of compliant choices made across the three vignettes. An Analysis of Variance (ANOVA) was conducted with compliance as the dependent variable, and age, intelligence, and SES as independent variables. The results demonstrated a significant effect for age, $F(3, 1352) = 88.71$, $p < .001$. Post hoc tests indicated that the 11- to 13-year-olds ($M = 2.0$) did not differ from the 14- to 15-year-olds ($M = 1.8$), but both groups were more compliant with authority than the two older groups; the 16- to 17-year-olds ($M = 1.5$) did not differ from the young adults ($M = 1.3$; see Fig. 10).

A 4 (age group) × 2 (gender) × 3 (ethnicity) × 2 (Detained/Community status) ANOVA tested whether age differences in authority compliance varied by gender, ethnicity, and Detained/Community status when SES and intelligence were included as covariates. The main effect of age was significant and post hoc tests were consistent with results reported previously. No significant two-way interactions with age were found, indicating that age differences in authority compliance remained constant across gender, ethnicity, and Detained/Community status.

MacJEN: Psychosocial Factors and Legal Decision Making

Risk Appraisal

Three variables assessed risk appraisal in the decision-making vignettes: (a) risk recognition, (b) risk likelihood (as perceived by the participant), and (c) risk impact (how unpleasant the negative consequences would be if they did occur).

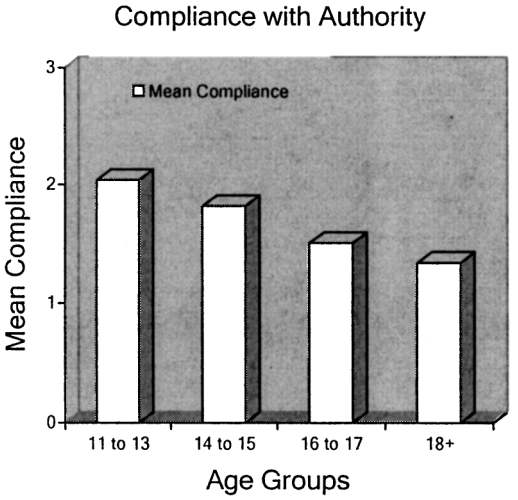

Fig. 10. Authority compliance scores as a function of age.

An ANOVA with age, IQ, and SES as independent variables and *risk recognition* as the dependent variable resulted in main effects for all three independent variables. post hoc tests of the age effect, $F(3, 1368) = 5.18$, $p < .001$, indicated that 11- to 13-year-olds ($M = 3.0$) scored lower than 16- to 17-year-olds ($M = 3.3$) and young adults ($M = 3.3$); the 14- to 15-year-olds ($M = 3.1$) were not significantly different from any other age group.

Main effects for age, $F(3, 1368) = 14.26$, $p < .001$, and SES, $F(4, 1368) = 4.08$, $p < .01$, were found in an ANOVA with average *risk likelihood* as the dependent variable. Young adults reported significantly higher likelihood of risk ($M = 13.7$) than the three adolescent groups, which did not differ from each other.

In the analysis of age, intelligence, and SES with average *risk impact* as the dependent variable, only a main effect of age was significant, $F(3, 1368) = 8.37$, $p < .001$. The youngest participants ($M = 14.5$) and 14- to 15-year-olds ($M = 14.6$) scored lower than young adults ($M = 15.2$). The 16- 17-year-olds (15.0) were significantly higher than 14- to 15-year-olds but did not differ from young adults.

Future Orientation

Recognition of future consequences was indexed by the average number of long-range consequences identified across vignettes. An ANOVA resulted in main effects for age, $F(3, 1368) = 3.56$, $p < .01$, and intelligence, $F(2, 1368) = 28.46$, $p < .001$, but not SES, $F(4, 1368) = 11.54$, *ns*. The 11- to 13-year-olds reported fewer long-range consequences ($M = 7.8$) than the 16- to 17-year-olds ($M = 8.6$). The 14- to 15-year-olds ($M = 8.1$) and young adults ($M = 8.5$) were not significantly different from any other group. All three intelligence categories were significantly different from each other; average long-range consequence scores increased as intelligence increased (Ms = 7.3, 8.2, 9.2).

Resistance to Peer Influence

Resistance to peer influence was measured by comparing the participants' original choice in each decision-making vignette to their choice under a condition of peer influence in which peers recommended the opposite course of action (e.g., if a participant stated that they would confess to the police, peers recommended remaining silent). For each decision-making vignette, resistance to peer influence was measured as a dichotomous variable (resisted influence and retained original choice versus influenced by peers and switched to peers' choice). We used age group, gender, ethnicity, detained/community status, intelligence, SES, the original vignette choice, and all two-way age interaction terms in a hierarchical logistic regression to predict whether a participant resisted peer pressure.

In the police interrogation vignette, there was a significant effect for original vignette choice (odds ratio = 4.36), in which those who said they would confess were more resistant than those who would have done something else (denied or remained silent). In addition, there was an Age × Original Choice interaction (odds ratio = 0.44), indicating that resistance to peers depended in part on what participants originally chose to do (see Fig. 11). Among participants who said they would confess, young adults were more likely to change their minds and remain silent than were youths, who were more likely to resist peer influence and confess anyway. Of those who originally said they would remain silent, however, resistance increased with age.

Only the original vignette choice predicted resistance to peer influence in the attorney consultation vignette. Those who reported they would not fully disclose to their attorney were much less likely to resist peer influence than those who said they would fully disclose. Similarly, only the original vignette choice predicted resistance to peer influence in the plea agreement vignette. Those who reported they would

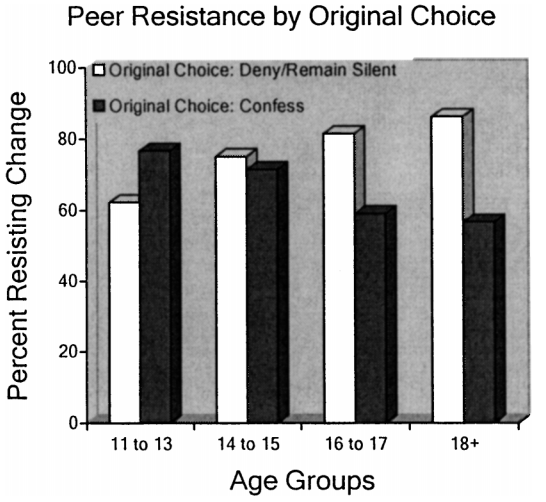

Fig. 11. Peer resistance in the police interrogation vignette as a function of age and original vignette choice.

accept the plea agreement were more resistant to peer influence than those who refused the plea agreement.

Summarizing the age-related findings with the MacJEN, (a) age was significantly related to *choices* in two of the three legal contexts (police questioning, plea agreement), at all IQ levels; (b) youths aged 15 and younger were significantly more likely to choose options that represented *compliance with authorities* in the three legal contexts; (c) compared to young adults, younger adolescents significantly less often recognized *risks*, thought that risks were likely, or thought that risks would be serious if they happened, with the three legal contexts; (d) youths under 14 were significantly less likely than other groups to provide long-range *future consequences* in explaining their choices; and (e) the relation between age and changing one's choices in response to peer suggestions varied in complex ways with the nature of participants' original choices.

DISCUSSION

Review of Findings

Our results indicate that juveniles aged 15 and younger are significantly more likely than older adolescents and young adults to be impaired in ways that compromise their ability to serve as competent defendants in a criminal proceeding. On the basis of criteria established in studies of mentally ill adult offenders (Otto et al, 1998; Poythress et al., 1999), approximately one third of 11- to 13-year-olds, and approximately one fifth of 14- to 15-year-olds are as impaired in capacities relevant to adjudicative competence as are seriously mentally ill adults who would likely be considered incompetent to stand trial by clinicians who perform evaluations for courts. Our results also indicate that the competence-relevant capacities of 16- and 17-year-olds as a group do not differ significantly from those of young adults. These patterns of age differences are robust across groups defined by gender, ethnicity, and SES, and they are evident among individuals in the justice system and in the community. Not surprisingly, juveniles of below-average intelligence are more likely than juveniles of average intelligence to be impaired in abilities relevant for competence to stand trial. Because a greater proportion of youths in the juvenile justice system than in the community are of below-average intelligence, the risk for incompetence to stand trial is therefore even greater among adolescents who are in the justice system than it is among adolescents in the community.

The results are consistent with findings from earlier studies of youths' capacities in legal contexts. For example, in a study of youths' abilities to understand and appreciate *Miranda* warnings, Grisso (1981) found that "understanding . . . was significantly poorer among juveniles who were 14 years of age or younger than among 15–16-year-old juveniles or adult offenders . . ." (p. 192), and that those deficits were even more pronounced among youths with low IQ scores, including youths who were 15 and 16 years of age. Similarly, prior research on youths' understanding and reasoning related to trial participation, although fragmentary, has been fairly consistent in suggesting poorer abilities among youths under 14 years of age (for a review, see Grisso, 1997, 2000).

Moving beyond formal competence to stand trial criteria, the results of our examination of adolescents' and young adults' responses to decisionmaking vignettes (the MacJEN procedure) indicate that psychosocial immaturity may affect the performance of youths as defendants in ways that extend beyond the elements of understanding and reasoning that are explicitly relevant to competence to stand trial. Adolescents are more likely than young adults to make choices that reflect a propensity to comply with authority figures, such as confessing to the police rather than remaining silent or accepting a prosecutor's offer of a plea agreement. In addition, when being interrogated by the police, consulting with an attorney, or evaluating a plea agreement, younger adolescents are less likely, or perhaps less able, than others to recognize the risks inherent in the various choices they face or to consider the long-term, and not merely the immediate, consequences of their legal decisions. As is the case with capacities relevant for competence to stand trial, these patterns of age differences in legal decision making generally do not vary with gender, ethnicity, or SES.

It is difficult to compare our results on decision making and psychosocial maturity with past studies, because there has been little research on this relationship and only one study with youths in juvenile or adult justice system custody. In that study, Woolard, Fried, and Reppucci (2001) found that decision options, outcomes, and judgment factors in legally relevant vignettes changed across age. The closest other parallel to our effort was a study of high school students' decisions (in nondefendant contexts), which found relationships between decisions and psychosocial maturity similar to those in the present study (Cauffman & Steinberg, 2000).

Three limits of the study must be kept in mind when interpreting our results. They pertain to *measurement*, *sampling*, and the *application* of the data for juvenile justice policy.

Concerning *measurement*, no set of standardized observations regarding abilities associated with competence to stand trial can identify all of the abilities that courts might consider when making decisions about defendants' competence. The MacCAT-CA, for example, does not assess defendants' abilities to assist counsel in reconstructing events at the time of the offense or to manage their behavior in the courtroom. One must also be careful not to interpret our proportions of youths with "serious impairments" on the MacCAT-CA as the percentage of juveniles who are actually incompetent to stand trial; the instrument assesses capacities that are relevant for the competence question, but not legal competence itself. Neither the law nor the social sciences recognize any psychometric definition of legal incompetence.

Concerning the variables in the MacJEN (risk appraisal, future orientation, and resistance to peer influence), this report provides evidence regarding their psychometric properties but not their construct validity. A subsequent report will describe their relation to other developmental measures that examine similar constructs measured as general developmental concepts, in contrast to the MacJEN's measurement of the concepts manifested in decision making in legal contexts. Further research will be required, however, to examine whether youths' performance on the MacJEN is related to their perceptions and choices in real-life legal circumstances.

Three aspects of the study's *sample* potentially affect the generalizability of the findings. First, although we oversampled younger adolescents in detention centers, detention populations typically do not have large numbers of 11- to 13-year-old youths; as a consequence, we obtained relatively smaller samples of Detained youths who were younger than 14 than those 14 years or older. Second, we were unable to obtain sufficient numbers of Asian youths across sites to analyze data separately for that ethnic group. Third, our method for obtaining the Detained samples may have reduced the number of youths in our samples with serious (e.g., psychotic) mental disorders. Such youths are often diverted from detention to psychiatric services, or they may have been screened out of study participation by participant advocates, in either case making them unavailable to the study interviewers; this might not have been the case for the jailed adults. If this is so, the present results should be seen as conservative age-related estimates of proportions of youths with serious impairments on the MacCAT-CA, since inclusion of youths with serious mental disorders would likely have increased those proportions.

Finally, we caution against the *application* of these results to legal issues other than competence to stand trial. Society is engaged in active debate concerning whether adolescents should be held responsible for their offenses to the same degree, and punished to the same extent, as adults (Fagan & Zimring, 2000). Given the results of the present study, policymakers and practitioners may wish to consider whether the proportion of very young adolescents with deficits in abilities to participate in their trials is sufficiently great to warrant special protections against unfair adjudication as adults. However, our results say nothing about whether youths' developmental capacities render them more or less culpable than adults in terms of their behavior at the time of the alleged offense.

Implications

The issue that the study addresses—the relationship between immaturity and competence to stand trial—has been largely unnoticed (at least in policy circles) during the last decade or so, as legislatures around the country have moved to facilitate the adjudication of younger and younger offenders in adult criminal court (Bonnie & Grisso, 2000). On reflection, however, it is obvious that the same due process constraints that prohibit the adjudication of mentally ill and mentally retarded defendants who do not understand the process they face or cannot assist their attorneys also apply to juveniles who are incompetent because of immaturity alone. The standard announced by the Supreme Court in *Dusky v. United States* (1960) is a functional test, and functionally it should make no difference whether the source of the defendant's incompetency is mental illness or immaturity. This study confronts policymakers and courts with an uncomfortable reality. Under well-accepted constitutional restrictions on the state's authority to adjudicate those charged with crimes, many young offenders—particularly among those under 14—may not be appropriate participants for criminal adjudication.

The findings of this study raise several important issues. Most obvious, perhaps, are the policy and practice implications for the adjudication of youths in adult criminal

court. If one in three 11- to 13-year-old defendants potentially may not be competent to stand trial, this should be a concern whenever a youth in this age group is subject to adjudication in adult criminal court. When youths are considered for transfer to criminal court on the basis of judicial discretion, the simplest response would be to make a determination of competence a condition of criminal adjudication for younger defendants. A few states, such as Virginia, already require a finding of competence to stand trial as a predicate condition before a court may consider the transfer of youths from juvenile to adult court (Va. Code Ann. Sect. 16.1-269.1 (A)(3)(2001)).

When youths are charged directly in criminal court, the proper mechanism might be a requirement that an evaluation and determination of competence to stand trial would automatically precede the adjudication. The optimal age boundary for an automatic inquiry into competence is not obvious; clearly jurisdictions and courts will vary. It does seem clear, however, that at some minimal age, the risk of incompetence is so great that a determination should always be a predicate to adjudication in adult court. Even with youths older than this minimum age, defense attorneys, prosecutors, and judges should be concerned about a defendant's competence to stand trial whenever adult adjudication is proposed for a juvenile.

The findings of the study may also be relevant to the legislative determination of the minimum age for adjudication of youths in adult court. Many jurisdictions have set the age bar very low for adult prosecution of youths for serious crimes, usually without consideration of the likelihood that many youths of the specified minimum age may be incompetent (Bonnie & Grisso, 2000). Because the evaluation and judicial determination of competence are likely to be costly in both time and money (and because the risk of incompetence is substantial below age 14), a legislature might well conclude that an efficient and just approach is to set the minimum age of adult adjudication at an age at which competence to stand trial is not potentially an issue in every case.

The findings of the study should also focus attention on the issue of competence to stand trial in juvenile court delinquency proceedings. Many states extend the competence requirement to juvenile court adjudications, but most focus on mental illness and disability as the sources of incapacity (Redding & Frost, 2002). An important consideration in expanding the doctrinal framework to include incompetence as a result of immaturity is whether the competence standard applied in juvenile court should be less demanding than that applied in adult criminal court. This is important because the standard for competence in juvenile court will determine whether youths adjudicated incompetent as adults can be tried as juveniles. If a less demanding standard operates in juvenile court proceedings, many younger defendants who lack the capacity to be adjudicated as adults can be tried in this venue. Otherwise, the question of how to respond to these immature defendants presents a daunting challenge.

We believe that a more relaxed competence standard in juvenile court is compatible with the demands of constitutional due process. The Supreme Court has made it clear that the requirements of due process in delinquency proceedings are not identical to those that regulate criminal trials (*McKeiver v. Pennsylvania*, 1971). The justification for a separate juvenile court rests in part on the fact that it is not an exact replica of criminal court. If juvenile court jurisdiction ends when the minor

reaches adulthood (an important "if"), then the stakes of a delinquency proceeding are not as high as those faced by a youth charged with a felony in adult court. Under these conditions, no constitutional bar would restrict the use of a more relaxed standard of adjudicative competence in juvenile court. As Bonnie and Grisso (2000) have argued, in an ordinary juvenile court delinquency proceeding, the minimal criteria for adjudication are satisfied if the youth "has a basic understanding of the purpose of the proceedings and can communicate rationally with counsel" (p. 97).

This approach not only is constitutionally legitimate, but also offers a practical solution to the challenges that may follow when courts recognize incompetence due to developmental immaturity. Most children and adolescents who are found incompetent to proceed in criminal court because of immaturity could likely be adjudicated in a juvenile delinquency proceeding under a more relaxed competence standard. In most cases, this avoids the dispositional problem of dealing with young defendants who cannot be tried as adults and are not likely to become competent in a reasonable time. Several courts that have considered competence to stand trial in juvenile court assume that the competence demands of a delinquency proceeding are lower than in an adult trial, and that youths who cannot be transferred to criminal court because of incompetence can be tried in juvenile court (e.g., *In the Matter of W.A.F*, 1990; *Ohio v. Settles*, 1998).

The two-tier standard also minimizes the extent to which delinquency proceedings will be burdened by the incorporation of developmental immaturity as a basis for incompetence. If youths in juvenile court must meet adult standards of competence, prosecutors legitimately might worry that defense attorneys in delinquency proceedings will routinely petition for competence assessments. This will be unlikely if the competency standard in juvenile court is understood to be a modest one. Those who care about the welfare of youths and those who worry about the efficiency of the justice process share a common interest in promoting practices that implement due process without creating an undue burden on the court system.

Careful attention must be directed toward devising dispositions for youths who are found to be incompetent as a result of developmental immaturity, in part to allay fears that might arise about the possibility that some dangerous youths would be immune from prosecution because of immaturity—a specter that will alarm many people. Whereas the disposition of mentally ill defendants is directed toward restoration to competence, this goal is not appropriate for immature youths who have never achieved competence. A disposition that simply waits for a youth to mature until he or she is competent to stand trial is both politically inconceivable and constitutionally problematic.[12] Unless other dispositions are offered, courts and legislatures are unlikely to deal seriously with developmental incompetence.

This challenge may be less daunting than it at first appears. As suggested earlier, most youths who are not competent to stand trial as adults because of immaturity could likely be adjudicated in juvenile court. Moreover, some defendants whose

[12]In *Jackson v. Indiana*, 406 U.S. 715 (1972), the Supreme Court held that due process requires that the state must either restore the incompetent defendant in a reasonable period of time or release him.

incompetence is based solely on deficient understanding (rather than immature reasoning) could likely be tried as adults after a period of instruction about the matters they do not comprehend. Thus, the great majority of youths would be subject to adjudication on their criminal charges with little delay even when an assessment of their abilities indicates they do not meet adult competence standards.

The more difficult questions involve appropriate dispositions for those defendants who are (a) charged with serious crimes and (b) incompetent to stand trial even in juvenile court on the basis of their immaturity. At least a few options other than the dismissal of charges suggest themselves as possible responses to this very small group of offenders. First, if the youth is a danger to self or others, civil commitment procedures can be initiated. Confinement for an indefinite period to achieve sufficient maturity to stand trial is another option, but one that must have outer time limits. As the Supreme Court made it clear in *Jackson v. Indiana* (1972) (at least for adults), indefinite confinement of incompetent defendants is analogous to punishment without a trial. Finally, a social service or an educational intervention may be warranted as a response to problems manifested by the child's behavior. For example, failure of parental supervision may result in removal of the child to state custody and foster care placement. None of these responses are ideal; they may be more restrictive than dispositions that are appropriate for adults. Nonetheless, they deserve careful consideration as responses to the unique developmental status of children.

This study compared juveniles and adults in their capacities to function in the trial process under established doctrinal requirements that focus on reasoning, understanding, and appreciation. But questions about how minors function as criminal defendants compared to adults go beyond those that are captured by the narrow focus of the ordinary competence inquiry. The study indicates that psychosocial immaturity may affect a young person's decisions, attitudes, and behavior in the role of defendant in ways that do not directly implicate competence to stand trial, but that may be quite important to how they make choices, interact with police, relate to their attorneys, and respond to the trial context.

Policymakers and practitioners should be concerned about these matters, and special procedures and strategies may be warranted when youths face criminal jeopardy. For example, if young persons are more likely to talk to the police than are adults because of different attitudes toward adult authority figures, they may be more vulnerable to police coercion. If so, youths may need special protection of their Fifth Amendment rights in the custodial context, such as a per se rule that requires the presence of an attorney as a predicate to interrogation (Grisso, 1980). In the plea agreement context, judicial inquiry that goes beyond the standard colloquy may be needed when courts are presented with a guilty plea by a young defendant. In general, those who deal with young persons charged with crimes—and particularly their attorneys—should be alert to the impact of psychosocial factors on youths' attitudes and decisions, even when their understanding and reasoning appear to be adequate. Deficiencies in risk perception and future orientation, as well as immature attitudes toward authority figures, may undermine competent decision making in ways that standard assessments of competence to stand trial do not capture.

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REFERENCES

Abramovitch, R., Peterson-Badali, J., & Rohan, M. (1995). Young people's understanding and assertion of their rights to silence and legal counsel. *Canadian Journal of Criminology*, *37,* 1–18.

Bonnie, R. (1992). The competence of criminal defendants: A theoretical reformulation. *Behavioral Sciences and the Law*, *10,* 291–316.

Bonnie, R. (1993). The competence of criminal defendants: Beyond Dusky and Drope. *Miami Law Review*, *47,* 539–601.

Bonnie, R., & Grisso, T. (2000). Adjudicative competence and youthful offenders. In T. Grisso & R. Schwartz (Eds.), *Youth on trial: A developmental perspective on juvenile justice* (pp. 73–103). Chicago: University of Chicago Press.

Cooper, D. (1997). Juveniles' understanding of trial-related information: Are they competent defendants? *Behavioral Sciences and the Law*, *15,* 167–180.

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. *Dusky v. United States,* 362 U.S. 402 (1960).

Fagan, J., & Zimring, F. (Eds.). (2000). *The changing borders of juvenile justice: Transfer of adolescents to the criminal court.* Chicago: University of Chicago Press.

Godinez v. Moran, 509 U.S. 389 (1993).

Grisso, T. (1980). Juveniles' capacities to waive *Miranda* rights: An empirical analysis. *California Law Review*, *68,* 1134–1166.

Grisso, T. (1981). *Juveniles' waiver of rights: Legal and psychological competence.* New York: Plenum.

Grisso, T. (1997). The competence of adolescents as trial defendants. *Psychology, Public Policy, and Law*, *3,* 3–32.

Grisso, T. (2000). What we know about youths' capacities as trial defendants. In T. Grisso & R. Schwartz (Eds.), *Youth on trial: A developmental perspective on juvenile justice* (pp. 139–171). Chicago: University of Chicago Press.

Grisso, T. (2002). *Evaluating competencies: Forensic assessments and instruments* (2nd en.). New York: Kluwer/Plenum.

Grisso, T., & Appelbaum, P. (1998). *Assessing competence to consent to treatment: A guide for physicians and other health care professionals.* New York: Oxford University Press.

Grisso, T., & Barnum, R. (2000). *Massachusetts Youth Screening Instrument—Second Version: User's manual and technical report.* Worcester: University of Massachusetts Medical School.

Grisso, T., Barnum, R., Fletcher, K., 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., & Schwartz, R. (Eds.). (2000). *Youth on trial: A developmental perspective on juvenile justice.* Chicago: University of Chicago Press.

Hollingshead, A. (1975). *Four factor index of social status*. New Haven, CT: Department of Sociology, Yale University.

In the Matter of W.A.F., 573 A2d 1264 (D.C. 1990).

Jackson v. Indiana, 406 U.S. 715 (1972).

Keating, D. (1990). Adolescent thinking. In S. Feldman and G. Elliott (Eds.), *At the threshold: The developing adolescent* (pp. 54–89). Cambridge: Harvard University Press.

McKeiver v. Pennsylvania, 403 U.S. 538 (1971).

Mumley, D., Tillbrook, C., & Grisso, T. (in press). Five year research update (1996–2000): Evaluations for competence to stand trial (adjudicative competence). *Behavioral Sciences and the Law.*

Ohio v. Settles, 13-97-50 (1998) Ohio App. LEXIS 4973 (Ohio App. 3rd Sept. 30, 1998).

Otto, R., Poythress, N., Edens, N., Nicholson, R., Monahan, J., Bonnie, R., Hoge, S., & Eisenberg, M. (1998). Psychometric properties of the MacArthur Competence Assessment Tool-Criminal Adjudication. *Psychological Assessment*, *10,* 435–443.

Peterson-Badali, M., & Abramovitch, R. (1993). Grade related changes in young people's reasoning about plea decisions. *Law and Human Behavior*, *17,* 537–552.

Peterson-Badali, M., Abramovitch, R., & Duda, J. (1997). Young children's legal knowledge and reasoning ability. *Canadian Journal of Criminology*, *39,* 145–170.

Poythress, N., 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: Psychological Corportation.

Redding, R., & Frost, L. (2002). Adjudicative competence in the modern juvenile court. *Virginia Journal of Social Policy and the Law*, *9,* 353–410.

Scott, E. (1992). Judgment and reasoning in adolescent decision making. *Villanova Law Review*, *37,* 1607–1669.

Scott, E., Reppucci, N., & Woolard, J. (1995). Evaluating adolescent decision-making in legal contexts. *Law and Human Behavior*, *19,* 221–244.

Snyder, H., & Sickmund, M. (1995). *Juvenile offenders and victims: A national report.* Washington, DC: Office of Juvenile Justice and Delinquency Prevention.

Snyder, H., & Sickmund, M. (1999). *Juvenile offenders and victims: 1999 national report.* Washington, DC: Office of Juvenile Justice and Delinquency Prevention.

Steinberg, L., & Cauffman, E. (1996). Maturity of judgment in adolescence: Psychosocial factors in adolescent decision-making. *Law and Human Behavior*, *20,* 249–272.

Torbet, P., Gable, R., Hurst, H., Montgomery, I., Szymanski, L., & Thomas, D. (1996). *State responses to serious and violent juvenile crime.* Washington, DC: Office of Juvenile Justice and Delinquency Prevention.

Woolard, J. (1998). *Developmental aspects of judgment and competence in legally relevant contexts.* Unpublished doctoral dissertation, Psychology Department, University of Virginia.

Woolard, J., Fried, C., & Reppucci, N. (2001). Toward an expanded definition of adolescent competence in legal situations. In R. Roesch, R. Corrado, & R. Dempster (Eds.), *Psychology in the courts: International advances in knowledge* (pp. 21–40). London: Routledge.