

Future Orientation and Competence to Stand Trial: The Fragility of Competence

Aaron J. Kivisto, PhD, Todd M. Moore, PhD, Paula A. Fite, PhD, and Bruce G. Seidner, PhD

The current study examined the direct, indirect, and interactive effects of age, intellectual ability, psychiatric symptomatology, and future orientation on juvenile adjudicative competence utilizing a secondary sample of 927 youth from the MacArthur Juvenile Adjudicative Competence Study. Consistent with previous research, age, intellectual ability, and future orientation were found to be positively associated with competence, and psychiatric symptomatology was weakly negatively related to competence. Tests of indirect effects revealed that the development of an orientation toward future consequences partially explains the relationship between age and the capacity to reason about legal decision-making. Further, tests of invariance revealed that the competence of immature adolescents is particularly “fragile,” in that smaller deficits in cognitive abilities appear to pose greater problems in youths regarding their adjudicative competence than in their more mature peers. Findings are discussed in regard to forensic practice as well as for future research.

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With the establishment of the juvenile court system in 1899 in Chicago, Illinois, the doctrine of *parens patriae* became the guiding principle in dealing with the needs and misbehavior of delinquent youth. Within the next 30 years, nearly every state had established its own juvenile court system, characterized by the social service agency granted the authority of a legal institution.¹ Because the court’s purpose was to serve delinquent youth rather than to punish them, the proceedings were not viewed as adversarial, and no legal counsel was required, thus making the juvenile’s adjudicative competence a moot point.² However, the period from the 1960s through the 1990s

saw several significant changes in the juvenile court system. Two major court decisions in the 1960s effectively served to reject the assertion that juveniles did not require the same rights of due process. In *Kent v. United States*³ and subsequently in *In re Gault*,⁴ juvenile defendants were granted rights of due process on par with adult defendants, contributing to the recognition of the necessity of juveniles to be competent defendants.

While these specific changes were established with little apparent regard to juveniles’ developmental capacities, it is important to point out that the courts have indeed acknowledged the legal ramifications of immaturity at various points. Beginning with *In re Causey*,⁵ which found that normal immaturity may be sufficient for a finding of incompetence to proceed, the Supreme Court has recently weighed the effects of youthful immaturity in two influential cases. In *Roper v. Simmons*,⁶ the Supreme Court outlawed the juvenile death penalty in part on the basis of developmental research supporting the view that adolescents are less criminally responsible than

Dr. Kivisto was a Doctoral Candidate in Clinical Psychology at the University of Tennessee and will be a Postdoctoral Fellow in the Children and the Law Program at Massachusetts General Hospital; Dr. Moore is Assistant Professor at the University of Tennessee; Dr. Fite was an Assistant Professor at the University of Tennessee and is currently Assistant Professor at the University of Kansas; Dr. Seidner is an Adjunct Clinical Faculty Member at the University of Tennessee. Address correspondence to: Aaron J. Kivisto, PhD, Department of Psychology, University of Tennessee, Austin Peay Building (227), Knoxville, TN 37996. E-mail: akivisto@utk.edu.

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adults. In a similar vein, the Supreme Court recently decided the case of *Graham v. Florida*⁷ and found life sentences for juveniles for nonhomicide offenses to be unconstitutional. Similar to *Roper v. Simmons*,⁶ the impact of normal immaturity on juvenile decision-making again played a central role in the arguments presented to the court. While these cases speak directly to the role of immaturity in antisocial decision-making and criminal responsibility, questions remain regarding the legal ramifications of immaturity in youthful decision-making in the context of juvenile competence to stand trial (CST). The following sections will briefly review the correlates of incompetence to stand trial in youthful offenders, as well as one specific aspect of psychosocial development (future orientation) that may affect the decisional competence of juvenile defendants.

Juvenile Adjudicative Competence

In the first published study of juvenile adjudicative competence, Savitsky and Karras⁸ found that age was significantly associated with performance on a brief competency screening measure, with results indicating that 12-year-olds were, as a group, not competent to stand trial, and that 15- to 17-year-olds were found to be less competent trial defendants than adults. Lending further support to a developmental influence on trial competency, Cowden and McKee⁹ and McKee¹⁰ reviewed the records of juveniles referred for CST evaluations and found that, as a group, nearly all preteens were incompetent, while approximately 50 percent of youths aged 13 to 14 were found incompetent. Those between the ages of 15 and 17, however, were found incompetent in only approximately 25 percent of the cases reviewed, a figure similar to the proportion of referred adult defendants found incompetent. This research lends support to the finding of Grisso¹¹ that, in general, 14-year-olds with average abilities show similar psycholegal abilities to adult defendants, as did Cooper,¹² whose data show age to be related to competency-related abilities, with those 13 years old and younger particularly vulnerable to deficits.

Taken together, the results of these studies suggest that the central role of psychosis in findings of incompetence among criminal defendants¹³ differs markedly from the emerging findings in the juvenile literature insofar as developmental differences appear to account for most of the variance between competent and incompetent juvenile defendants.

While these findings are an important first step toward understanding the impact of developmental factors on competence-related abilities, two limitations must be addressed to understand better precisely what developmental abilities account for these noted changes in abilities as adolescents mature. First, although age has consistently been found to be related to trial competence,⁸⁻¹¹ it appears possible that age is merely a proxy for specific developmental achievements that are responsible for increased functional capacities. For instance, researchers^{11,14-18} have recently hypothesized that various psychosocial factors are likely to account for a significant proportion of the variance in juveniles' capacities as trial defendants. In addition to the limitation of using age alone as a proxy for development, a second major limitation of this early generation of juvenile adjudicative competence research lies in the relatively narrow conceptualization of the competency standard used by these authors. Specifically, first-generation screening measures, such as the Georgia Court Competency Test, focus almost exclusively on defendants' knowledge and understanding of the trial situation, with minimal if any emphasis on the decisional capacities of defendants. Through the broader conceptualization of competency captured by the reformulation developed by Bonnie,¹⁹ the influence of age and psychosocial development on decisional competency largely remains an open question.

Development and Decisional Competence

While Bonnie's¹⁹ emphasis on decisional competence was not intended explicitly for juvenile defendants, this construct is increasingly being recognized as essential to the evaluation of juveniles' adjudicative competence.^{9,14-18,20-22} Because developmental factors are particularly likely to exert an adverse influence on decisional capacities as opposed to understanding pertinent information or communicating rationally with counsel,²³ the domain of decisional competence appears to be particularly fertile for furthering our understanding of the influence of normal development on competency-related abilities. To paraphrase Bonnie and Grisso,²³ the question that evaluators must remain cognizant of in evaluating the decisional capacities of juvenile defendants asks, "Does this legal decision reflect the reasoning that this defendant would bring to bear on the same issue in a few short years?" (Ref. 23, p 84). While more research is needed for a better under-

standing of the relationships between development and decisional competence, researchers over the past 15 years have begun to address these questions from both theoretical and empirical angles.

Expanding on the cognitive emphasis found in the informed-consent decision-making model, Scott *et al.*¹⁷ introduced what they called a judgment model, emphasizing the underlying cognitive, emotional, and social processes involved in decision-making. Within this expanded-judgment model, the previously accepted informed-consent model is broadened to include subjective values thought to motivate the choices of adolescents within the legal context. One variable that has received considerable attention from developmental researchers involves the construct of future orientation, which has been defined as the extent to which long-range consequences influence decision-making processes.²¹ Relevant to adolescents' myopic temporal perspective, an underdeveloped orientation to the future is thought to contribute to this group's stereotypically poor judgment and risky decision-making.²² Consistent with previous research demonstrating that adolescents become more oriented to future consequences as they get older,^{24–26} Steinberg *et al.*²⁷ recently demonstrated that younger adolescents evince a weaker orientation to the future than those 16 and older, who use a delay discounting task. Related to decisional competence, the construct of future orientation is particularly relevant to adolescents involved in the legal system, given that delinquent youth who engage in risky behavior have been found to be less oriented to the future than their nondelinquent peers.²⁸

While these converging lines of research suggest that psychosocial variables influence adolescent decision-making not explained by cognitive abilities, *per se*, both bear only indirectly on Bonnie's conceptualization of adjudicative competence.¹⁹ However, with the development of instruments such as the Judgment in Legal Contexts (JILC),²¹ recent researchers have begun to contextualize this line of research to examine the role of psychosocial variables on adolescent adjudicative competence. Examining the performance of 927 adolescents from community and juvenile detention settings, Grisso *et al.*²⁹ found that those who performed more poorly on the JILC were less likely to recognize the risks inherent in the choices they were making, with a tendency to overemphasize the immediate consequences of their legal decisions at the expense of fully considering the po-

tential long-term consequences, suggesting that a lack of future orientation may adversely impact juveniles' decisional competence.

The Present Study

While early research examining the competence of juvenile defendants has consistently pointed to a positive association between age and competency-related abilities,^{12,29,30} the mechanisms accounting for this relationship have only recently begun to be explored. While researchers have begun to examine the influence of psychosocial maturity on competence to stand trial,^{30,31} most of the work in this area has focused on the role of psychosocial maturity in other legal contexts, including adolescents' understanding of *Miranda* warnings³² and criminal decision-making.³³ In line with theory and extending previous research, we first hypothesized that age and intelligence would be positively associated with MacCAT-CA-assessed understanding, reasoning, and appreciation, whereas psychiatric symptomatology would be negatively associated with these three domains of competence. Utilizing the JILC²¹ to assess one specific aspect of psychosocial maturity, we further hypothesized that future orientation would be positively related to understanding, reasoning, and appreciation. Because the age-related development of future orientation is thought to influence decisional competence²³ more than an adolescent's ability to understand factual information or communicate with an attorney, it was also hypothesized that the well-documented association between age and MacCAT-CA-assessed reasoning would be partially mediated by future orientation. Future orientation was not anticipated to mediate the relationships between age and understanding or age and appreciation. Finally, in line with Warren *et al.*,³⁰ who suggested that lower levels of mental illness and intellectual deficit can adversely affect younger defendants to a greater extent than older adolescents, it was hypothesized that future orientation would moderate the relationships between intellectual ability, psychiatric symptomatology, and MacCAT-CA-assessed reasoning and appreciation. To this end, it was anticipated that low levels of intelligence and high levels of psychiatric symptoms would result in greater deficits in competency-related abilities for youths who are less oriented to the future than their more future-oriented counterparts.

Methods

The present sample was collected as a secondary sample from the MacArthur Juvenile Adjudicative Competence Study with permission from the original authors,²⁹ and use of this data was approved by the institutional review board (IRB) at the University of Tennessee. The original sample included males and females aged 11 to 24 years ($n = 1,393$) recruited from detention centers and surrounding communities in Los Angeles ($n = 404$); Philadelphia ($n = 390$); northern Florida ($n = 223$); and northern, central, and western Virginia ($n = 376$). Participants included in the present study ($n = 927$) include male and female adolescents aged 11 to 17 years recruited from 11 juvenile detention facilities and their surrounding communities. Details on the present study's instruments and procedures have been published^{29,34} and are available in an archival report at <http://www.mac-adoldev-juvjustice.org>.

Participants and Sites

Participants included 453 detained youth and 474 youth recruited from the community. Detained youth were being held in a juvenile detention facility, and community youth were residing in the same or a demographically similar community and reported that they had never been held overnight in a justice system facility and were not facing charges. The age and ethnic composition of the detained and community samples reflect the proportion of age and ethnic groups found in a national survey of juvenile detention centers.³⁵ Most participants across both groups were classified in the two lowest SES categories, according to the Hollingshead³⁶ system. Participants obtaining IQ scores below 60 were excluded from the present sample due to inadequate norms for these participants on one of the study's dependent measures (MacCAT-CA).³⁷ In addition, in compliance with federal requirements for the protection of minors in residential facilities, independent participant advocates, who were not affiliated with the research team, monitored the solicitation process in juvenile detention centers and were granted the authority to veto a youth's participation if they believed the youth to be under substantial stress at the time of recruitment.

Measures

Participants provided demographic information regarding age, gender, ethnicity, and socioeconomic status.

Measure of Adjudicative Competence

The MacArthur Competence Assessment Tool-Criminal Adjudication (MacCAT-CA)³⁷ was derived from a more comprehensive assessment instrument called the MacArthur Structured Assessment of Competencies of Criminal Defendants (MacSAC-CD)³⁸ and was formulated based on Bonnie's two-prong conceptualization of competency¹⁹ which, as mentioned earlier, distinguishes between competency to assist counsel and decisional competency. The MacCAT-CA is a 22-item measure administered in a semistructured interview format that provides three subscale scores: understanding (the ability to understand general information related to the law and adjudicatory proceedings), reasoning (the ability to discern the potential legal relevance of information, and capacity to reason about specific choices that confront a defendant in the course of adjudication), and appreciation (rational awareness of the meaning and consequences of the proceedings in one's own case). The reasoning subscale most closely reflects Bonnie's concept of decisional competence. Each of the 22 items is scored on a scale of 0 to 2, resulting in subscale scores ranging from 0 to 16 (understanding and reasoning) and 0 to 12 (appreciation). A hypothetical vignette about an individual charged with assault provides the context for items loading on the understanding and reasoning subscales, while items loading on the appreciation subscale are based on the circumstances of the defendant's specific case.

The MacCAT-CA was found to have good psychometric properties, with a sample of 729 defendants between the ages of 18 and 65 years, demonstrating strong internal consistency ($\alpha > .80$), good interrater reliability ($R = 0.75-0.90$), and correlations in the expected direction with measures of cognitive ability, psychopathology, and clinical judgments of impaired competence, lending support to the construct validity of this measure.³⁹ Although the MacCAT-CA has been used with adolescent samples, previous authors have noted consistent impairment on the appreciation scale for youths as old as 17 and have cautioned against interpreting such impairments as evidence of psychotically compromised appreciation in favor of a developmentally based deficit.^{29,40}

Measure of Future Orientation

The Judgment in Legal Contexts (JILC) instrument²¹ was designed to assess youth and adult decision-making in the context of the legal circumstances

that frequently face defendants. In addition to assessing the examinees' choices in three legal decision contexts commonly facing defendants, the JILC assessment was designed to identify and evaluate examinees' explanations for their choices. These explanations are coded to provide the present study's measure of future orientation. Previous studies utilizing the JILC (formerly called the MacArthur Judgment Evaluation) to measure future orientation have found age-related increases in this dimension of psychosocial maturity such that older adolescents identify more long-range consequences on the JILC than do younger adolescents.^{29,34}

The first of the three vignettes involves a police interrogation in which officers, seeking to obtain a statement, request that the suspect waive his rights to silence and counsel. The suspect is described as having been a lookout for others engaged in a crime, and the examinee is asked to advise the suspect regarding how to handle the situation. Through a set of structured interview questions, the examinee is asked to provide possible ways that the suspect could respond, eliciting a best choice and worst choice from these options, eliciting explanations for why these choices are best and worst, ranking the importance and impact of the consequences provided for the best and worst choices, and identifying what the examinee believes he would actually do in this situation.

The second vignette (plea agreement) focuses on a defendant's decision in response to an agreement in which pleading guilty will result in the offer of a lesser penalty than the prospective outcome of pleading not guilty. The series of structured interview questions following the presentation of this vignette mirrors those outlined in the police interrogation vignette. Finally, the third vignette (consulting attorney) involves responses to the defendant's attorney who is requesting information to prepare a defense. Follow-up questions are abbreviated versions of those accompanying the police interrogation and plea agreement vignettes, as the consulting attorney vignette does not include follow-up questions assessing the dimension of future time perspective.

After they have reviewed these vignettes, participants are asked to list potential positive and negative consequences for the choices previously identified as best and worst. Future time perspective includes the variable of future recognition (F-Rec), which reflects the total number of long-term consequences provided from this inquiry and was operationalized by

Woolard and colleagues²¹ as consequences that occur within several days after the decision was made. The variable F-Rec reflects the total number of consequences, both positive and negative, that are coded as long-term.

Measure of Intellectual Ability

The Wechsler Abbreviated Scale of Intelligence (WASI)⁴¹ is a standardized measure of intellectual functioning and provides both a four- and two-subtest form. The two-subtest form, used in the present study, is composed of a vocabulary section, which is a measure of individuals' expressive vocabulary and verbal knowledge; and a matrix reasoning section, which is a measure of nonverbal fluid reasoning and general intellectual ability. The WASI was normed on individuals between the ages of 6 and 89 and correlates highly with both the Wechsler Intelligence Scale for Children-III (WISC-III) and the Wechsler Adult Intelligence Scale-III (WAIS-III). The correlation coefficient between the WISC-III Full Scale Intelligence Quotient (FSIQ) and WASI two-subtest FSIQ is 0.81, and the correlation coefficient between the WAIS-III FSIQ and the WASI two-subtest FSIQ is 0.87.⁴¹

Measure of Psychopathology

The Massachusetts Youth Screening Instrument-Second Version (MAYSI-2)⁴² is a 52-item self-report instrument asking individuals whether (yes/no) various thoughts, feelings, and behaviors have applied to them within the past few months. The MAYSI-2 was created as a screening instrument for youths entering juvenile detention facilities and is composed of six scales representing common psychiatric conditions among youth entering the juvenile justice system that potentially warrant clinical attention: alcohol/drug use, anger/irritability, depression/anxiousness, somatic complaints, suicidal ideation, and thought disturbance. This instrument has demonstrated adequate internal reliability with α coefficients ranging from 0.61 to 0.86,⁴³ good factor structure, test-retest reliability, and concurrent external validity.^{43,44}

Data Analyses

Models testing direct and indirect effects and tests of invariance were estimated using AMOS 17.0⁴⁵ utilizing maximum likelihood estimation to compute all solutions. According to the recommendations of Hu and Bentler,⁴⁶ a combination of fit indices including χ^2/df , which should be less than 3⁴⁷;

Table 1 Correlations, Means, and Standard Deviations of Observed Study Variables

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|------------------------------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| Age | — | .20* | .22* | .18* | .12* | .02* | .01 | .22* | .06 | .04 | .09* | -.01 | -.02 |
| MacCAT-CA understanding | | — | .44* | .39* | .15* | .40* | .26 | .06 | -.08† | -.10* | -.05 | -.02 | -.04 |
| MacCAT-CA reasoning | | | — | .43* | .30* | .44* | .30* | -.01 | -.10* | -.10* | -.04 | -.07† | -.05 |
| MacCAT-CA appreciation | | | | — | .19* | .34* | .23 | .04 | -.06 | -.04 | -.01 | -.01 | .01 |
| JILC F-RecI | | | | | — | .30* | .21* | -.02 | -.02 | -.02 | .03 | -.01 | .00 |
| WASI vocabulary | | | | | | — | .55* | -.16* | -.21* | -.27* | -.11* | -.13* | -.12* |
| WASI matrix reasoning | | | | | | | — | -.15* | -.17* | -.20* | -.07† | -.07† | -.04 |
| MAYSI alcohol/drug | | | | | | | | — | .37* | .33* | .26* | .25* | .26* |
| MAYSI anger/irritability | | | | | | | | | — | .65* | .51* | .44* | .44* |
| MAYSI depression/anxiousness | | | | | | | | | | — | .55* | .55* | .49* |
| MAYSI somatic concerns | | | | | | | | | | | — | .33* | .38* |
| MAYSI suicidal ideation | | | | | | | | | | | | — | .38* |
| MAYSI thought disturbance | | | | | | | | | | | | | — |
| Mean | 14.97 | 11.41 | 12.22 | 10.33 | 4.23 | 43.19 | 44.67 | 1.76 | 3.58 | 2.25 | 2.67 | .55 | .68 |
| SD | 1.67 | 3.04 | 2.58 | 1.90 | 1.59 | 11.08 | 11.07 | 2.41 | 2.62 | 2.13 | 1.80 | 1.19 | .95 |

* $p < .01$.† $p < .05$.

Bentler's comparative fit index (CFI),⁴⁸ which should be greater than 0.95^{46,47}; and the root mean square error of approximation (RMSEA),⁴⁹ which should be less than 0.06,⁴⁶ was used to determine the fit of the model to the data. Moderation analyses used a multiple group model approach⁴⁷ in which the hypothesized moderator was dichotomized by a median split procedure. After an adequate fit of the model was established without the imposition of equality constraints, a series of increasingly restrictive constraints were placed on the model.⁵⁰ Chi-square tests for difference were used to evaluate whether constraining these parameter estimates to be invariant across groups resulted in a significant decrement in the model chi-square.⁴⁷ If constraining parameter estimates to be equivalent across the groups resulted in a decrement in the model chi-square value, then moderation was indicated. In addition, z -scores were utilized to examine pairwise parameter comparisons in order to determine the relative magnitude of multiple paths.

Results

Preliminary Results

The means, correlations, and standard deviations of all observed study variables are presented in Table 1 and mean performances by age and sample are presented in Table 2. As seen in Table 1, competency-related abilities were strongly positively associated with age and with WASI vocabulary scores, with slightly weaker associations between competency-related abilities and WASI matrix reasoning scores.

In contrast, MAYSI-2 measures of psychopathology showed only minimal correlation with competency-related abilities. Also, the JILC measure of future orientation (F-Rec) showed significant positive associations with competency-related abilities. In line with the suggestion of Bonnie and Grisso²³ that maturity would exert the strongest effects on decisional competence, pair-wise parameter comparisons demonstrated that the correlation of F-Rec with reasoning was stronger than that between F-Rec and understanding ($z = 3.11$; $p < .05$) or F-Rec and appreciation ($z = -4.93$; $p < .05$).

Note that preliminary analyses were conducted that found that the relationships between age ($\Delta\chi^2_3 = 2.40$; $p > .05$), psychiatric symptomatology ($\Delta\chi^2_3 = 2.38$; $p > .05$), intellectual abilities ($\Delta\chi^2_3 = 5.29$; $p > .05$), future orientation ($\Delta\chi^2_3 = 3.97$; $p > .05$) and competence were invariant across the detention and community samples. As a result, all subsequent analyses combined the detention and community samples.

Indirect Effects of Age on Competence

It was hypothesized that future orientation would partially explain the association between age and reasoning, but not between age and understanding or age and appreciation. Consistent with the causal-steps strategy advocated by Baron and Kenny,⁵¹ Sobel's test⁵² of indirect effects was used to evaluate the mediated paths. To evaluate mediation, this strategy examines the ratio of the product term ab (standardized regression path from age to competence multiplied by the standardized regression path from future orientation to competence,

Future Orientation and Competence

Table 2 Performance by Age and Sample Across Study Variables

| | Detained Youth Age Groups | | | | Community Youth Age Groups | | | | t_{total}^* |
|------------------------|---------------------------|-------|-------|-------|----------------------------|-------|-------|-------|---------------|
| | 11-13 | 14-15 | 16-17 | Total | 11-13 | 14-15 | 16-17 | Total | |
| MacCAT-CA | | | | | | | | | |
| Understanding | 10.07 | 11.30 | 11.67 | 11.26 | 10.69 | 11.23 | 12.32 | 11.55 | 1.48 |
| Reasoning | 10.62 | 11.88 | 12.29 | 11.85 | 11.73 | 12.35 | 13.23 | 12.57 | 4.28† |
| Appreciation | 9.36 | 10.31 | 10.48 | 10.23 | 9.89 | 10.35 | 10.81 | 10.43 | 1.61 |
| MAYSI-2 | | | | | | | | | |
| Alcohol/drug | 1.95 | 2.97 | 3.56 | 3.06 | .03 | .57 | .79 | .53 | 18.73† |
| Anger/irritability | 3.86 | 4.74 | 4.41 | 4.46 | 2.40 | 3.03 | 2.71 | 2.74 | 10.55† |
| Depression/anxiousness | 2.53 | 3.34 | 2.77 | 2.96 | 1.46 | 1.72 | 1.51 | 1.57 | 10.55† |
| Somatic | 2.64 | 3.04 | 3.01 | 2.96 | 2.17 | 2.46 | 2.47 | 2.39 | 4.84† |
| Suicidal ideation | .81 | .95 | .66 | .80 | .27 | .36 | .27 | .30 | 6.56† |
| Thought disturbance | 1.00 | .89 | .80 | .87 | .51 | .55 | .46 | .50 | 5.95† |
| WASI | | | | | | | | | |
| Vocabulary | 38.03 | 37.91 | 40.35 | 38.97 | 47.87 | 46.31 | 47.59 | 47.23 | 12.23† |
| Matrix reasoning | 41.50 | 41.02 | 42.42 | 41.70 | 47.72 | 46.38 | 48.28 | 47.50 | 8.28† |
| FSIQ | 84.82 | 84.34 | 87.06 | 85.58 | 97.28 | 94.70 | 97.25 | 96.41 | 11.88† |
| JILC | | | | | | | | | |
| Future orientation | 3.78 | 4.00 | 4.24 | 4.06 | 4.10 | 4.33 | 4.62 | 4.40 | 3.18‡ |

* Difference between detained and community total scores.

† $p < .001$.

‡ $p < .01$.

with adjustment for age) to its estimated standard error. This ratio yields a z -statistic that is compared with the standard normal distribution to test for indirect effects. A Bonferroni correction was applied to control for the probability of Type I error, resulting in an α threshold of .02 for all tests of significance. As seen in Figure 1, the path from age to future orientation as well as the paths from future orientation to competence, with adjustment for age, were all significant. Moreover, the tests of indirect effects of future orientation suggest that age is indirectly related to reasoning by future orientation

($z = 3.36, p < .001$) and to appreciation by future orientation ($z = 2.91, p < .01$), but not to understanding through future orientation ($z = 1.81, p = .04$). That is, consistent with the stated hypothesis, future orientation partially mediated the relation between age and reasoning and, unexpectedly, between age and appreciation.

The Fragility of Competence

We also hypothesized that the competence of adolescents who were less future oriented would be

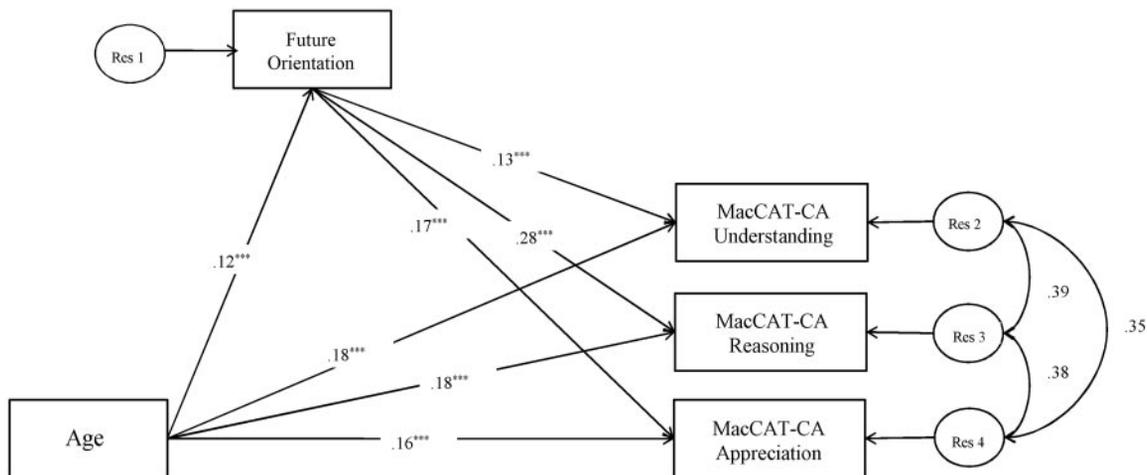


Figure 1. Test of indirect effects of age on competence through future orientation. Estimates are standardized. *** $p < .001$.

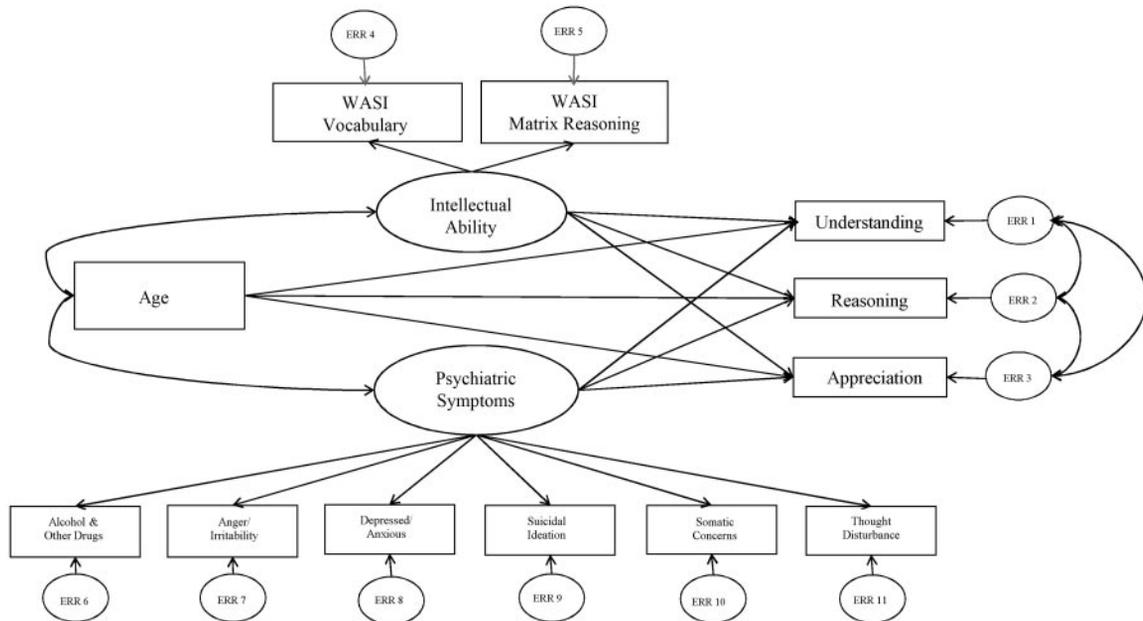


Figure 2. Baseline model for tests of invariance across levels of future orientation.

more vulnerable to the effects of cognitive impairment and psychiatric symptomatology. First examining the potential moderating role of future orientation on the intellectual ability-competence link, we estimated a model in which intellectual ability and psychiatric symptomatology were simultaneously entered to predict understanding, reasoning, and appreciation, and age was entered as a covariate (Fig. 2). Based on the recommendation of Byrne,⁵⁰ two groups (i.e., high and low levels of future orientation) were created with a median split procedure. Then, an initial model was run to establish an adequate baseline fit of the model to the data with no equality constraints imposed. Next, increasingly restrictive constraints were placed on the model, beginning with constraining all factor loadings on the latent variable of intellectual ability to be invariant across groups to evaluate whether the WASI factor structure was equivalent across groups. After placing these constraints on the model, chi-square tests for difference were used to evaluate whether constraining these factor loadings to be invariant across groups resulted in a significant decrement in the model chi-square.⁴⁷ If the WASI factor loadings were equivalent across groups, these constraints were retained, and an additional constraint was added to the model to constrain the paths from intellectual ability to competence invariant across groups.

The baseline model shown in Figure 2 resulted in a good fit to the data ($\chi^2_{89} = 183.11$; CFI = 0.97;

RMSEA = 0.034. Imposing equality constraints on all WASI factor loadings ($\Delta\chi^2_1 = 0.31$; $p > .05$) and the paths from intellectual ability to each MacCAT-CA scale ($\Delta\chi^2_3 = 15.78$; $p < .001$) supported measurement invariance, but suggested that one or more of the paths from intellectual ability to the observed competence variables varied across high and low levels of future orientation. As shown in Table 3, a series of stepwise analyses revealed that future orientation moderated the association between intellectual ability and appreciation. The models indicated that the association between intellectual ability and appreciation was stronger at low levels of future orientation ($\beta = 0.45$; $p < .001$) compared with high levels of future orientation ($\beta = 0.27$; $p < .001$).

Using the same model in Figure 2, the potential moderating role of future orientation on the psychiatric symptomatology-competence link was examined. The baseline model resulted in a good fit to the data ($\chi^2_{89} = 183.11$; CFI = 0.97; RMSEA = 0.034). Imposing equality constraints on all MAYSI-2 factor loadings ($\Delta\chi^2_5 = 2.07$; $p > .05$) and the three paths from psychiatric symptomatology to the three MacCAT-CA scales ($\Delta\chi^2_3 = 2.92$; $p > .05$) across high and low levels of future orientation did not result in a significant decrement in the model chi-square, indicating that the relationship between psychiatric symptomatology and each MacCAT-CA scale did not vary across groups.

Future Orientation and Competence

Table 3 Tests of Invariance Across Future Recognition From WASI to MacCAT-CA Paths

| Model Description | Comparative Model | <i>df</i> | χ^2 | Δdf | $\Delta\chi^2$ |
|--|-------------------|-----------|----------|-------------|--------------------|
| Baseline model (Model 1) | — | 89 | 183.11 | — | — |
| Intellectual ability to understanding path constrained equal | Model 1 | 90 | 184.60 | 1 | 1.49 ^{NS} |
| Intellectual ability to understanding and reasoning paths constrained equal | Model 1 | 91 | 187.17 | 2 | 4.06 ^{NS} |
| Intellectual ability to understanding, reasoning, and appreciation paths constrained equal | Model 1 | 92 | 198.69 | 3 | 15.58* |

NS, not significant.

* $p < .01$.

In sum, findings suggest that future orientation partially mediates the relationship between age and reasoning and also between age and appreciation. Further, future orientation was found to moderate the relationship between intellectual ability and appreciation, indicating that the relationship between intelligence and this aspect of adjudicative competence varies depending on a youth's level of psychosocial maturity.

Discussion

The present study first examined the direct effects of age, intellectual ability, psychiatric symptomatology, and future orientation on adolescents' competency-related abilities. Congruent with previous research, age and intellectual ability were both positively related to competence. Further, the development of an orientation to the future was found to be significantly positively related to an adolescent's competence. In contrast to previous research in adult populations that shows a strong negative association between psychiatric symptomatology and competence,¹³ only small effects were detected in the present study linking psychiatric symptomatology and competence. Expanding on previous research which has consistently documented a positive association between age and competence, the present study found that this association is partially explained by the development of an orientation to the future. In addition, while future orientation was found to moderate the association between intellectual ability and competence, it did not influence the modest relation between psychiatric symptomatology and competence.

In demonstrating that the development of an orientation to the future partially mediates the relationship between age and competence, the present findings shed an explanatory light on this relationship

that forensic evaluators might consider when assessing juvenile competence to stand trial. Within the framework of the conceptual model of Grisso,²⁰ the evaluation of an adolescent's future orientation may represent a causal factor contributing to deficits in the adolescent's psycholegal abilities, thereby informing the evaluator's prognosis for competency restoration. That is, whereas recommendations regarding maturational deficits based solely on age are inherently "untreatable," explanatory factors such as future orientation may guide competency-restoration interventions (see Seginer⁵³ for review). In addition, the present findings support the expansion of the predicate conditions often necessary, either implicitly or explicitly, for adult defendants that narrowly focus on cognitive deficits or severe psychopathology.

Further, in finding that future orientation moderated the relationship between intellectual ability and competence, the present findings carry important implications for immature youth entering the justice system. That is, given that the adolescents recruited from detention facilities performed one standard deviation below the established mean on the WASI (mean \pm SD, 85.58 \pm 12.31), it appears that most youth entering the juvenile justice system show some degree of cognitive limitations. Not only do these cognitive limitations exert a substantial effect on the competency-related abilities of these youth, but combined with the effects of immaturity these factors appear to be particularly detrimental to these youths' capacity to proceed. For the forensic evaluator, these findings suggest caution is warranted in interpreting how a particular score on an intelligence measure might translate into competency-related abilities. Specifically, these findings suggest that evaluators are likely to reach the most accurate conclusions concerning the role of intelligence when it is considered in the context

of an adolescent's psychosocial maturity. From a treatment perspective, restoration programs attempting to compensate for these pervasive cognitive limitations would do well to use concrete learning strategies tailored to individuals with cognitive limitations to bring these defendants up to speed legally.

Limitations, Strengths, and Conclusions

While the present findings regarding the role of future orientation on juvenile competence to stand trial begin to delineate the mechanisms responsible for the well-documented association between age and competence, they are not without several limitations. First, given that detained adolescents evincing acute psychological distress were screened out of the present study, the weak findings linking psychiatric symptomatology and competence should be interpreted cautiously. That is, because of the artificially circumscribed range of psychiatric symptomatology, it would be premature to draw firm conclusions regarding the influence of psychiatric symptomatology on juvenile competence. That said, given that severe psychiatric disorders typically do not manifest until late adolescence or early adulthood, it is also possible that youthful defendants simply do not tend to experience psychiatric symptoms of the severity that often result in findings of incompetence for adult defendants (e.g., psychotic symptoms), and this developmental progression of psychopathology may underlie the weak correlations in the findings noted here. Second, it should be noted that future orientation is but one of many aspects of psychosocial maturity. While an underdeveloped ability to consider future consequences has been shown to be related to antisocial decision-making,¹⁴ the present findings are the first to demonstrate the role of future orientation on adolescent defendants' decision-making in the context of competency to stand trial. Future research should continue to examine how other aspects of psychosocial maturity, such as risk orientation and resistance to peer influence, may influence juveniles' decision-making in legal contexts.

Despite these limitations, the present findings provide support for the consideration of psychosocial maturity in evaluating juveniles' adjudicative competence. While several states (e.g., Florida) have codified the consideration of maturity in evaluating juveniles' adjudicative competence, many states continue to conceptualize juvenile competence in a direct hand-me-down fashion from the adult standard, with little consideration of the

unique developmental influences affecting youthful offenders. Under the adult standard emphasizing mental disease or defect, a defendant who is free of severe psychiatric symptomatology and not cognitively deficient is generally presumed to be competent. As the present findings suggest, however, this does not appear to be adequate for youthful defendants given that normal immaturity alone can exert a significant impact on competency-related abilities. As the juvenile justice system continues to shift toward a more punitive approach to youthful offenders and the state is given greater leeway to pursue harsher sanctions, it becomes the responsibility of researchers to expose the impact of these changes to the light of scientific scrutiny and to continue to inform the legal system of the empirical basis surrounding the prosecution of youthful offenders.

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Future Orientation and Competence

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