University of Tennessee, Knoxville
Trace: Tennessee Research and Creative Exchange

Doctoral Dissertations | Graduate School

8-2011

Juvenile Competence to Stand Trial: An Examination of the Effects of Cognitive Ability, Psychiatric Symptomatology, and Psychosocial Maturity

Aaron John Kivisto
University of Tennessee - Knoxville, akivisto@utk.edu

Recommended Citation
Kivisto, Aaron John, "Juvenile Competence to Stand Trial: An Examination of the Effects of Cognitive Ability, Psychiatric Symptomatology, and Psychosocial Maturity. " PhD diss., University of Tennessee, 2011.
http://trace.tennessee.edu/utk_graddiss/1089

This Dissertation is brought to you for free and open access by the Graduate School at Trace: Tennessee Research and Creative Exchange. It has been accepted for inclusion in Doctoral Dissertations by an authorized administrator of Trace: Tennessee Research and Creative Exchange. For more information, please contact trace@utk.edu.

To the Graduate Council:

I am submitting herewith a dissertation written by Aaron John Kivisto entitled "Juvenile Competence to Stand Trial: An Examination of the Effects of Cognitive Ability, Psychiatric Symptomatology, and Psychosocial Maturity." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Psychology.

Todd M. Moore, Paula J. Fite, Major Professor

We have read this dissertation and recommend its acceptance:

Bruce G. Seidner, Mae C. Quinn, Deborah L. Rhatigan

Accepted for the Council:
Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

Juvenile Competence to Stand Trial: An Examination of the Effects of Cognitive Ability,Psychiatric Symptomatology, and Psychosocial Maturity

A Dissertation
Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

Aaron John Kivisto

August 2011

Copyright © 2009 by Aaron John Kivisto
All rights reserved.

Dedication

While my academic advisors were invaluable in helping me to complete this dissertation, none of this would have been possible without the wonderful people in my life. To my family, who has supported me through the ups and downs of my academic career. You always believed in me and seemed to know I would get to this point, even when I was less than certain. To my wonderful friends, both back home in Illinois and in Tennessee. For all of the evidence in this dissertation pointing to the detrimental effects of immaturity, having all of you in my life will always remind me that there is indeed a very bright side to immaturity that should simply be embraced. Your constant reminders that there is a world outside of Austin Peay have kept my head out of the sand.

Last but not least, one person in particular has provided the steady love and support that has seen me through this undertaking. Through the madness of each of us writing our dissertations and applying for internship while simultaneously planning our wedding, she has been a constant source of peaceful reassurance. Words cannot express my appreciation for you Katie.

Acknowledgments

I wish to thank all of those who helped me through the dissertation process. First and foremost, I would like to thank Dr. Moore for his invaluable guidance throughout this undertaking. His openness to exploring the realm of juvenile competence speaks to his dedication to helping me pursue my passions, and without his consistent support and knowledge this would not have been possible. I would also like to thank Dr. Fite, whose expertise and generosity have been priceless. Had somebody told me that I would have nothing but positive things to say about the person exposing me to structural equation modeling for the first time, I would never have believed them before working with Dr. Fite. I would like to thank Dr. Seidner for introducing me to the world of forensic psychology. His clinical expertise and contagious curiosity were pivotal in getting this project off the ground. In addition, I would like to thank Professor Quinn for providing me with a sharp legal perspective and Dr. Rhatigan for providing thoughtful feedback on the project. Finally, I would like to acknowledge the MacArthur Foundation, Dr. Grisso, and others who reviewed my dissertation proposal. Thank you for allowing me to use the data from the MacArthur Adjudicative Competence Study.

Abstract

As the courts have evolved over the past 30 years towards increasingly punitive sanctions for youthful offenders, the fundamental protections afforded to adult defendants have become increasingly relevant for youthful offenders. Among these protections, the right of juveniles to be competent to stand trial has gained nearly universal recognition throughout this country's courts. Congruent with theory and previous research, we hypothesized that age, intellectual ability, psychiatric symptomatology, and maturity would all be directly related to adolescents' competence. It was also anticipated that adolescents in the detention sample would evidence lower maturity and competency-related abilities compared to the community sample. Expanding on previous research that has consistently documented an association between age and competence, we hypothesized that psychosocial maturity would partially mediate this relationship. Further, we hypothesized that psychosocial maturity would moderate the direct relations between intellectual ability, psychiatric symptomatology, and competence.

In order to test these hypotheses, we utilized a secondary sample from the MacArthur Adjudicative Competence Study that included 927 male and female adolescents ages 11- to 17-years-old recruited from 11 juvenile detention facilities and their surrounding communities. Results demonstrated that age, intellectual ability, and maturity were each directly positively related to competence, and psychiatric symptomatology was negatively related to competence. Further, results provided some support for the hypothesis that maturity partially explains the relationship between age and competence. While the relationship between psychiatric symptomatology and

competence did not vary across high and low levels of maturity, results supported the hypothesis that the relationship between intellectual ability and competence varies across high and low levels of psychosocial maturity.

Findings suggest that intellectual ability plays an essential role in juveniles' adjudicative competence and can serve as a protective factor against some aspects of immaturity. Given these findings, it is suggested that youth with deficient intellectual abilities facing the possibility of transfer be automatically referred for evaluations of adjudicative competence. Further, findings suggest that maturity appears to warrant further attention from researchers and clinicians involved in evaluating juveniles' adjudicative competence. Results are discussed in terms of the legal and clinical implications of developmental immaturity on the prosecution of youthful offenders.

TABLE OF CONTENTS

Chapter Page

I. **INTRODUCTION** 1
1. The Relevance of Adjudicative Competence in Juvenile Court 1
2. A Brief History of the Competency Standard 2
II. **THEORETICAL DEVELOPMENTS WITH ADULT DEFENDANTS** 8
1. Grisso's Conceptual Model 8
2. Bonnie's Reconceptualization of Competency 9
III. **EMPIRICAL DEVELOPMENTS WITH ADULT DEFENDANTS** 14
1. Forensic Assessment Instruments 14
2. Correlates of Adult Competence 17
IV. **JUVENILE COURT AND COMPETENCE** 22
1. The Evolution of Juvenile Law 22
2. Correlates of Juvenile Competence 24
3. Development and Decisional Competence 29
V. **THE CURRENT STUDY** 38
VI. **METHOD** 40
1. Participants and Sites 40
2. Measures 41
3. Procedures 46
VII. **RESULTS** 49
1. Data Analyses 49
2. Descriptive Statistics 50
3. Preliminary CFA Measurement Model Analyses 50
4. Analyses of Primary Hypotheses 52
5. Post-hoc Analyses 60
VIII. **DISCUSSION** 70
1. Preliminary Measurement Models 70
2. Direct Effects of Age, Intellectual Ability, and Psychiatric Symptomatology on Competence 71
3. Direct Effects of Maturity on Competence 72
4. Group Differences Between Detention and Community Samples 73
5. Indirect Effects of Age on Competence Through Maturity 75
6. Does Maturity Moderate the Relationship Between Psychiatric Symptomatology and Competence? 76
7. Does Maturity Moderate the Relationship Between Intellectual Ability and Competence? 78
8. Overall Summary and Implications 80
9. Strengths and Limitations 85
10. Conclusion 88
REFERENCES 90
APPENDIX 104

VITA 127

LIST OF TABLES

Table Page

1. Demographic Composition of Detained and Community Samples..... 105
2a. Correlations, Means, and Standard Deviations of Observed Study Variables 106
2b. Estimated Correlation Matrix of Latent Study Variables 107
3. MacCAT-CA and JILC Performance by Age 111
4. Goodness of Fit Tests of Invariance Across R-App2 for MAYSI-2 Factor Loadings 114
5. Goodness of Fit Tests of Invariance Across R-App1 for Psychiatric Symptomatology to MacCAT-CA Paths 121
6. Post-hoc Goodness of Fit Tests of Invariance Across R-App2 for MAYSI-2 Factor Loadings 122
7. Post-hoc Goodness of Fit Tests of Invariance Across Sum-Maturity from WASI To MacCAT-CA Paths..... 123
8. Post-hoc Goodness of Fit Tests of Invariance Across F-Rec1 from WASI to MacCAT-CA Paths..... 124
9. Post-hoc Goodness of Fit Tests of Invariance Across R-Rec1 from WASI to MacCAT-CA Paths..... 125

LIST OF FIGURES

Figure Page

1. Effects of Age, Intellectual Ability, and Psychiatric Symptoms On Competence 108
2. Effects of Psychosocial Maturity Variables on Competence 109
3. Effects of Sum-Maturity Variable on Competence 110
4. Test of Indirect Effects of Age on Competence through Sum-Maturity 112
5. Test of Indirect Effects of Age on Competence through JILC Variables 113
6. Effects of Age, Intellectual Ability, and Psychiatric Symptoms on MacCAT-CA Scales 115
7. Effects of Psychosocial Maturity Variables on MacCAT-CA Scales 116
8. Effects of Sum-Maturity Variable on MacCAT-CA Scales 117
9. Tests of Indirect Effects of Age on MacCAT-CA Scales through Sum-Maturity 118
10. Tests of Indirect Effects of Age on MacCAT-CA Scales through JILC Variables 119
11. Post-hoc Tests of Invariance Across Levels of Psychosocial Maturity 120
12. Test of Invariance of the Age-Competence Association Across Psychosocial Maturity 126

CHAPTER 1: INTRODUCTION

1:1 The Relevance of Adjudicative Competence in Juvenile Court

Initially guided by rehabilitative aims opposed to the punitive model of adult criminal courts, the American juvenile court system was founded on an aspirational framework that precluded the consideration of rights and protections considered fundamental to adult criminal defendants facing the loss of life or liberty (Melton, Petrila, Poythress, & Slobogin, 2007). Stemming from the public perception of a sharp increase in juvenile crime through the 1990's, nearly every state has amended its juvenile code to facilitate the imposition of more punitive sanctions for youthful offenders (Zimring, 1998), including one state that now allows children as young as 10-years-old to be tried as adults for capital offenses (Sickmund, 1994). Central to these changes in juvenile law is the expansion of the court's ability to transfer juvenile offenders to adult courts. While the transfer process historically required a judge's consideration through the process of judicial waiver, many states have begun to implement alternative transfer mechanisms, including prosecutorial discretion, which grants discretion to the prosecutor to file charges either in juvenile or criminal court, and statutory exclusion, which requires that youths above a certain age (which varies by state) charged with serious offenses be automatically transferred to adult courts (Grisso, 1997).

In response to the legal reforms facilitating the transfer of youthful offenders to criminal court, along with increasingly punitive sentencing within the juvenile court itself, the fundamental protections afforded adult criminal defendants are becoming increasingly relevant to juvenile defendants. Faced by the now apparent need to ensure

the rights of juveniles as trial defendants, behavioral science researchers are forced to address, among other pressing issues, the capacity to stand trial of a population historically ignored by researchers in this area. Because both the legal system and behavioral scientists initially approached the topic of juvenile competency in a top-down fashion based upon our knowledge of adult defendants, the present dissertation will begin with a brief review of the legal standard and theoretical considerations of competency in adult criminal court, followed by a synopsis of the extant body of empirical work examining the competency to stand trial of adult defendants. After reviewing the adult research, the present paper will focus in depth on the existing competency standard for juvenile defendants, followed by a review of the empirical literature surrounding juvenile competency to stand trial with an emphasis on the role of normal developmental processes on competency-related abilities.

1.2: A Brief History of the Competency Standard

Under English common law, an arraignment, trial, judgment, or execution of a defendant in a capital case could be delayed if he or she "be[came] absolutely mad" (Hale, 1736, cited in Zapf & Roesch, 2006). Some believe that the concept of competency arose in the English courts as a result of defendants who stood mute when asked to enter the plea required to proceed with trial. As this dilemma arose, the courts were forced to differentiate those who were "mute of malice" versus those believed to be "mute by visitation of God" (Melton, Petrila, Poythress, & Slobogin, 2007), with the latter group being granted a stay of trial. While those judged to be "mute by visitation of God" were initially comprised solely of those literally deaf or mute, this concept

expanded to include those suffering from mental illness as well. Modeling itself on English common law, American courts quickly adopted some variant of the competency standard from their inception. For example, in *United States v Lawrence* (1835), the court ruled that the man accused of attempting to assassinate President Andrew Jackson was incompetent to stand trial due to severe mental illness. The following year, the court outlined three elements of competency in *Regina v Pritchard* (1836), including whether the defendant was "mute of malice" or not, whether he/she has the ability to understand the proceedings against him/her, and whether he/she can interact with his/her attorney in a meaningful way. While the issue of whether a defendant is "mute of malice" no longer carries any legal significance, the latter two components remain central to our current conceptualization of competency to stand trial (Poythress, Bonnie, Monahan, Otto, & Hoge, 2002). This finding was subsequently given constitutional status in *Youtsey v United States* (1899) when the court ruled that "it is not 'due process of law' to subject an insane person to trial upon an indictment involving liberty or life" (p. 941).

The concept of competency to stand trial in the American courts is regarded as fundamental to the adversarial system of justice (*Drope v Missouri*, 1975), which is predicated upon a process in which the accused are, ideally, as evenly matched as possible in their ability to defend themselves as the prosecution is to put forth the facts against them. Related to the right to confront one's accusers, the necessity of a competent defendant is apparent as the process would be a sham if one were not able to fully participate in their own defense (Melton, Petrila, Poythress, & Slobogin, 2007). While interpretation of common law competency standards continued to evolve through

statutory interpretation, the modern standard in the United States was established in *Dusky v United States* (1960), in which the U.S. Supreme Court stated:

> It is not enough for the district judge to find that "the defendant is oriented to time and place and has some recollection of events," but that the test must be whether he has sufficient present ability to consult with his lawyer with a reasonable degree of rational understanding—and whether he has a rational as well as factual understanding of the proceedings against him (p. 402).

While the *Dusky* standard does not specifically require the presence of "mental disease or defect," and relatively few states have explicitly codified the requirement that the defendant's deficiencies in competence-related abilities must be attributable to these predicate conditions (Grisso, 2003), as a practical matter any functional deficits in competence-related abilities contributing to a finding of incompetence are usually attributable to mental illness or mental retardation (Poythress et al., 2002). However, case law is clear on the fact that the mere presence of mental disease or defect, regardless of its severity, is insufficient for a finding of incompetence to stand trial barring functional deficits in the required abilities set forth by *Dusky* (e.g., *Wieter v Settle,* 1961; *United States v Adams,* 1969). The landmark *Dusky* ruling has subsequently been re-affirmed and clarified by the Supreme Court's decisions in *Pate v Robinson* (1966), which held that an evaluation must be ordered by the court if a "bona fide doubt" arises regarding the defendant's competency, and again in *Drope v Missouri* (1975), in which the court found

this threshold for raising the question of competency to be quite low in their decision to overturn the defendant's prior conviction due to the court's failure to order a competency evaluation in light of evidence suggestive of severe mental illness.

Although the *Dusky* standard, or some minor variant of it, has been adopted by all American criminal courts, the ambiguities of the standard have necessitated further interpretation, particularly on the part of mental health professionals charged with the task of evaluating such vague concepts as "sufficient present ability" and "a rational as well as factual understanding." In an effort to operationalize the construct of competency to stand trial, McGarry and colleagues (Laboratory of Community Psychiatry, 1973) developed a widely recognized list of specific abilities relevant to the *Dusky* standard, organized by Grisso (p. 142, 2003) as follows:

Understanding of Charges and Potential Consequences

1. Ability to understand and appreciate the charges and their seriousness.
2. Ability to understand possible dispositional consequences of guilty, not guilty, and not guilty by reason of insanity
3. Ability to realistically appraise the likely outcomes

Understanding of the Trial Process

4. Ability to understand, without significant distortion, the roles of participants in the trial process (for example, judge, defense attorney, prosecutor, witnesses, jury)
5. Ability to understand the process and potential consequences of pleading and plea bargaining
6. Ability to grasp the general sequence of pretrial/trial events

Capacity to Participate with Attorney in a Defense

7. Ability to adequately trust or work collaboratively with attorney
8. Ability to disclose to attorney reasonably coherent description of facts pertaining to the charges, as perceived by the defendant
9. Ability to reason about available options by weighing their consequences, without significant distortion
10. Ability to realistically challenge prosecution witnesses and monitor trial events

Potential for Courtroom Participation

11. Ability to testify coherently, if testimony is needed
12. Ability to control own behavior during trial proceedings
13. Ability to manage the stress of trial

While McGarry and colleagues' (1973) list of functional abilities has been widely accepted for its translation of the *Dusky* standard into specific abilities relevant to defendants' capacities as trial defendants, the concept of competency continues to evolve and alternative conceptualizations of competency are currently being actively debated (e.g., Bonnie, 1992). Despite the current theoretical controversies and practical ambiguities, however, competency to stand trial remains the most frequently raised psycholegal question and the number of competency evaluations conducted in the United States continues to increase rapidly. While researchers as recently as 1997 estimated that between 25,000 and 39,000 competency evaluations are conducted annually (Hoge et al., 1997), research conducted three years later placed this number at approximately 60,000 (Bonnie & Grisso, 2000). As such, the need for advances in both theory and research is

apparent in order for mental health professionals to continue to contribute scientifically defensible information to the legal system.

CHAPTER 2: THEORETICAL DEVELOPMENTS WITH ADULT DEFENDANTS

2.1: Grisso's Conceptual Model

Providing a conceptual model for evaluating competencies, Grisso (2003) has identified five components of legal competence: 1) functional, 2) causal, 3) interactive, 4) judgmental, and 5) dispositional. In light of the fact that traditional clinical evaluations all too frequently fail to address the psycholegal question asked by the court, thus rendering them irrelevant, Grisso (2003) contends that the most fundamental objective of a competency evaluation is to obtain information regarding specific functional abilities relevant to the legal construct of competency to stand trial. As such, the functional component assesses specific abilities that an individual possesses or is capable of possessing, as well as knowledge, understanding, and beliefs necessary for the accomplishment of these abilities. Among the most widely recognized lists of functional abilities pertaining to defendants' competency to stand trial appears in McGarry's (Laboratory of Community Psychiatry, 1973) operationalization provided above.

Second, the causal component of Grisso's (2003) model refers to the "cause" of noted deficits in a defendant's functional abilities, frequently stemming from mental illness or mental retardation. Third, the interactive component recognizes that competency is contextual and is not determined by individuals' functional abilities in isolation from the situational demands of their particular trial process. Instead, competency is defined as congruence between an individual's capacities and the demands of their legal situation. Fourth, the judgmental component refers to the legal decision;

specifically, within Grisso's (2003) model, the question becomes "how much incongruence is enough to warrant a finding of incompetence" (p. 36)? Finally, the dispositional component refers to the legal status assigned to the individual in light of the decision reached in the judgmental component.

Within Grisso's (2003) conceptual model of evaluating competencies the interdisciplinary relationship between law and psychology is apparent, with mental health professionals assuming primary responsibility for the first three components while the legal system retains primary responsibility for components four and five. In light of the differential emphasis placed on the components of Grisso's (2003) conceptualization of competency by behavioral scientists and legal scholars, it is unsurprising that the majority of the extant body of behavioral science research examining competency to stand trial has focused predominantly on the relationships between mental illness, intellectual ability, and functional legal capacities.

2.2: Bonnie's Reconceptualization of Competence

Bonnie's (1992) conceptual reformulation of the competency standard utilizes the same content areas as McGarry and colleagues' unitary and contextual model (Laboratory of Community Psychiatry, 1973), but organizes these abilities into a two-prong conceptualization entailing 1) the ability to assist counsel, and 2) decisional competence, only the latter of which would be interpreted contextually. Related to one's ability to assist counsel, Bonnie (1992) includes the requirement that defendants understand the nature of the trial process, the roles of the various participants, and the potential penalties that might be imposed by the court. In addition to this factual

understanding, defendants must also possess an appreciation of how this information pertains to their case specifically. For instance, although a defendant might understand the objective role of a judge, it he/she believes that the judge in his/her case is part of a government conspiracy against him/her as a result of the defendant's delusional belief system, one would not conclude that this defendant possesses the requisite capacity to assist counsel. Finally, defendants must be able to relate pertinent information to their attorney regarding their case. In sum, the three abilities of understanding, appreciating, and relating included under Bonnie's (1992) ability to assist counsel prong serve to operationalize the *Dusky* requirements that the defendant has "a rational as well as factual understanding of the proceedings" and that he/she is able "to consult with counsel with a reasonable degree of rational understanding" (Poythress et al., 2002).

The second prong of Bonnie's (1992) conceptualization involves decisional competence, which the Supreme Court has ruled to be encompassed within the existing *Dusky* standard (*Godinez v Moran*, 1993). While the court did not specify the abilities that comprise decisional competence, Poythress and colleagues (2002) have identified four criteria that should be considered in evaluating decisional competence, including the "capacity to 1) understand information relevant to the specific decision at issue (understanding), 2) appreciate the significance of the decision as applied to one's own situation (appreciation), 3) think rationally (logically) about the alternative courses of action (reasoning), and 4) express a choice among alternatives (choice)" (p. 48).

While authorities in the field (e.g., Grisso, 2003) have conceptualized competence as a highly contextualized and unitary construct, Bonnie's (1992) reconceptualization of

competence as two related but distinct hierarchical constructs alters the contextual view adopted by previous authors. Specifically, Bonnie contends that competence to assist counsel should be viewed as a foundational concept that is not inherently contextual. Because the decisions defendants are likely to face in their trial process are inherently unique to the circumstances of their situation, however, Bonnie's conceptualization of decisional competence retains the contextual nature outlined by Grisso's (2003) model, particularly pertaining to the interactive component. Within the framework provided by this revised conceptualization, Bonnie (1992) contends that while sufficiently impaired ability to assist counsel should always lead to a finding of incompetence to stand trial, the influence of impaired decisional competence will depend on the unique situation of each adjudicative process. Specifically, Bonnie asserts that impaired decisional competence should only lead to a finding of incompetence to stand trial in situations in which defendants have waived Constitutional protections.

Examining the legal foundations of Bonnie's (1992) proposal, the Supreme Court's ruling in *Godinez v. Moran* (1993) that decisional competence should not be distinguished from the unitary conceptualization of the *Dusky* (1960) standard was articulated by Justice Thomas, writing for the majority (p. 2686): "While the decision to plead guilty is undeniably a profound one, it is no more complicated than the sum total of decisions that a defendant may be called upon to make during the course of a trial." In contrast to the majority opinion, however, support can be found for Bonnie's (1992) hierarchical conceptualization in the dissenting opinion written by Justice Blackmun, who stated: "The majority's analysis is contrary to both common sense and longstanding

case law" (p. 2691), indicating that "competency for one purpose does not necessarily translate to competency for another purpose" (p. 2694). Further, this latter conceptualization of decisional competence as a related but distinct aspect of competence has been endorsed by other authorities in the field (e.g., Roesch, Hart, & Zapf, 1996).

In order to appreciate the emphasis Bonnie (1992) places on decisional competence and the relevance to the current study, a brief synopsis of the decisional requirements of trial defendants is necessary. Given the relatively passive role of defendants in most criminal cases, characterized by defendants providing information to their attorney followed by the defense attorney and prosecution assuming the roles of active adversaries, Poythress and colleagues (2002) contend that, while accurate in many cases, this portrayal provides an incomplete picture of the Constitutional rights afforded to defendants allowing for a far more active role. For example, defendants must decide whether or not to plead guilty (*Brookhart v Janis*, 1966), and this decision cannot be made by one's attorney acting on behalf of the defendant. In addition, defendants must decide whether to testify on their own behalf (*Rock v Arkansas*, 1987), whether to have a bench or jury trial (*Adams v United States ex rel. McCann*, 1942), and have the right to decide the basic theory of their defense, including whether or not to raise a certain defense, and the attorney is required to honor their clients' decisions whether or not they believe it to be in their clients' best interests (Bonnie & Grisso, 2000). While mental illness and intellectual deficits can impede this decision making process at any point during one's adjudication, there is a growing appreciation of the potential for psychosocial immaturity to exert a particularly detrimental influence on these decisional

capacities to a greater extent than on capacities subsumed under Bonnie's (1992) rubric of competence to assist counsel (Bonnie & Grisso, 2000).

CHAPTER 3: EMPIRICAL DEVELOPMENTS WITH ADULT DEFENDANTS

3.1: Forensic Assessment Instruments

Turning from the legal and theoretical conceptualizations of competency to the clinical aspects of a competency evaluation, mental health professionals commonly employ a variety of screening and assessment measures designed to capture information relevant to the issue of competency. While traditional psychological testing instruments that provide information about an individual's personality characteristics or psychiatric symptomatology provide information relevant to Grisso's (2003) causal component, researcher's have developed a number of instruments since the 1960's designed to specifically assess the functional abilities considered relevant to adjudicative competence (Zapf & Viljoen, 2003). This latter group of measures focusing explicitly on functional psycholegal abilities has come to be known as forensic assessment instruments (FAI's; Grisso, 2003). While a thorough review of all FAI's created subsequent to the Dusky (1960) ruling is beyond the scope of the present dissertation, a brief synopsis of several commonly employed instruments is in order.

Among the earliest FAI's to receive acceptance, the Competence Screening Test (CST; Laboratory of Community Psychiatry, 1973) was comprised of 22 sentence stems that load onto three measurement constructs, including the potential for a constructive relationship with one's attorney, the defendant's understanding of the court process, and the defendant's capacity to "deal emotionally" with the criminal process, and was designed to detect whether a defendant was clearly competent or needed to undergo a more thorough evaluation. Developed for those requiring a more thorough evaluation, the

Competence to Stand Trial Assessment Instrument (CAI; Laboratory of Community Psychiatry, 1973) is a semi-structured interview that is comprised of 13 functions relevant to a defendants' capacities. While these early measures represented a first step towards measurement instruments relevant to defendant's functional competency-related abilities, neither the CST nor CAI provided normative data. Further, due to the lack of published guidelines for standardized administration and scoring, researchers have been unable to establish the psychometric properties of this instrument.

The Georgia Court Competence Test (GCCT; Wildman, 1978) is a brief 17-item interview that takes approximately 10 minutes to administer and was developed in order to serve local needs, although it was subsequently adopted by many practitioners, particularly in southern states (Grisso, 2003). In addition to questions pertaining to the roles of the trial participants, the nature and potential consequences of the current charges, and the relationship with the defendant's attorney, the GCCT was novel in including 7 questions focusing on the defendant's description of where various participant's would be located with the use of a picture of a courtroom. Intended for use as a screening tool, the GCCT has demonstrated a high rate of false positives. More troubling, however, is the concomitant low sensitivity (71%) demonstrated by the GCCT, leading to the potential for incompetent defendants to be "missed" by this screening procedure (Grisso, 2003).

The Fitness Interview Test-Revised (FIT-R; Roesch, Zapf, Eaves, & Webster, 1998) was created in response to Canada's 1992 revision of its Criminal Code defining "unfit to stand trial," and consists of 70 items grouped under three areas relevant to

fitness to stand trial. Each item is scored on a scale of 0, 1, or 2, and total scores are categorized as “Fit,” “Questionable,” or “Unfit” (Roesch et al., 1998). Through standardized administration and scoring guidelines, the FIT has demonstrated satisfactory to good interrater reliability among trained clinicians (Viljoen, Roesch, & Zapf, 2002). However, given that the FIT was created in accordance with Canadian standards, which do not include “appreciation” or “rationality” in the definition of competence, the FIT appears to be overly narrow to capture the entirety of the broader American standard (Zapf & Roesch, 2001). An additional limitation to the FIT is that the manual provides no norms (Grisso, 2003).

Finally, the MacArthur Structured Assessment of Competencies of Criminal Defendants (MacSAC-CD) was created by the MacArthur Research Network on Mental Health and Law in an effort to improve the measurement of capacities relevant to competence to stand trial. Specifically, expanding upon previous FAI’s conceptualization of competency, the MacSAC-CD was derived from Bonnie’s (1992) theoretical reconceptualization that introduced the concept of decisional competence. While the MacSAC-CD demonstrated significant psychometric improvements over prior FAI’s, the semi-structured interview took nearly two hours to administer and was deemed impractical for clinical and research purposes (Grisso, 2003). Reducing the MacSAC-CD to 22-items, the MacCAT-CA was created and has subsequently demonstrated strong construct validity (Hoge et al., 1997) and represents the first FAI to offer fully standardized administration and published norms. While the MacCAT-CA has been shown to evidence age-related measurement bias on several items, raising some questions

about its use in clinical forensic settings, these researchers concluded that the MacCAT-CA is not problematic for use in research (Viljoen, Slaney, & Grisso, 2009).

3.2: Correlates of Adult Competence

Having provided a brief synopsis of FAI's, the present review now turns to the empirical findings utilizing these measures. Among the most consistent findings regarding the relationship between competence-related abilities and psychiatric symptomatology, there is an abundance of research suggesting that adult defendants with psychotic disorders are more likely to be found incompetent to stand trial than non-psychotic defendants (e.g., Hart & Hare, 1992; Nicholson & Kugler, 1991; Rosenfeld & Wall, 1998; Viljoen, Roesch, & Zapf, 2002). In a sample of 66 defendants with psychotic disorders administered the FIT (Roesch, Webster, & Eaves, 1984) and the MacCAT-CA (Hoge, Bonnie, Poythress, & Monahan, 2005), Viljoen, Zapf, and Roesch (2003) found that psychotic defendants' performance on the FIT was significantly poorer than non-psychotic defendants, including impairment in their ability to understand the nature and object of the proceedings, the possible consequences, and the ability to communicate with counsel. In contrast, psychotic defendants administered the MacCAT-CA only evidenced impairment relative to non-psychotic defendants on the Appreciation scale, but not on the Understanding or Reasoning scales. Overall, however, the relationship between psychoticism and incompetence appears to be the exception rather than the rule, as 60% of the psychotic defendants in this sample were not impaired on any sections of the FIT or MacCAT-CA, and nearly 80% of psychotic defendants were judged competent by clinicians and the court. Examining the specific psychiatric symptoms most strongly

related to findings of incompetence among defendants with psychotic disorders, conceptual disorganization (e.g., confused, disconnected thinking or an inability to maintain a train of thought) appeared to play a particularly strong role in compromising defendants' functional legal abilities (Viljoen et al., 2003).

In contrast to the findings of Viljoen et al. (2003) suggesting that psychotic defendants only differed from non-psychotic defendants on MacCAT-CA derived legal abilities pertaining to appreciation, Hoge and colleagues (1997) found that defendants with schizophrenia scored lower on MacArthur Structured Assessment of Competencies of Criminal Defendants (MacSAC-CD; Hoge, Bonnie, Poythress, Monahan, & Eisenberg, 1997) measures of Understanding, Reasoning, and Appreciation. Further, whereas previous research has found rates of significant legal impairment judged by clinicians and judges among psychotic defendants as low as 20% (Viljoen et al., 2003), other studies have shown significant impairments in legal abilities among schizophrenics as high as 50% (Hoge et al., 1997). One possibility for these discrepant findings regards the nature of the psychotic disorder present in the defendant. Because defendants diagnosed with schizophrenia specifically evidence greater legal impairment than defendants with other psychotic disorders, such as delusional disorder and psychotic disorder not otherwise specified (e.g., Viljoen et al., 2002), Hoge and colleagues' (1997) relatively higher rates of significant legal impairment might be due to the more narrow sampling of schizophrenic patients specifically opposed to the broader sampling of psychotic patients of Viljoen and colleagues (2003). Taken together, these findings highlight the need for

future research to move towards increasing refinement of the diagnoses and ultimately symptoms most strongly related to impaired legal abilities.

Examining the relationships between Brief Psychiatric Rating Scale (BPRS; Overall & Gorham, 1962) derived symptom clusters and MacCAT-CA derived competence-related abilities, Jacobs, Ryba, and Zapf (2008) provided further support for the relationship between psychotic symptoms and impairment on MacCAT-CA Understanding, Appreciation, and Reasoning factors, with unusual thought content (subsumed under the BPRS Thought Disturbance cluster) demonstrating the strongest negative relationship with all three competence-related abilities. In addition, these authors found weaker though still significant relationships between the BPRS symptoms of uncooperativeness and MacCAT-CA impairment on all three factors, as well as BPRS symptoms of mania and impaired competence-related abilities. While manic symptoms of excitement, motor hyperactivity, distractibility, tension and elevated mood were each related to impairment on MacCAT-CA Reasoning, the relationship between these manic symptoms and MacCAT-CA Understanding and Appreciation were non-significant. Further, given the prevalence of depression among trial defendants, it is noteworthy that BPRS derived depression was not significantly related to any of the MacCAT-CA competence-related abilities (Jacobs et al., 2008).

A meta-analysis of 30 studies examining competency-related abilities of adult defendants suggests that not only is the presence of a psychotic diagnosis predictive of clinical judgments of incompetency to stand trial, but the severity of psychosis provides additional predictive value beyond the mere presence of such a diagnosis (Nicholson &

Kugler, 1991). Contrary to hypotheses, however, demographic variables such as age and race did not correlate highly with clinical judgments of competency, with correlations less than .09. In light of Nicholson and Kugler's (1991) finding that the presence of various diagnostic markers, including psychoses, accounted for only a small proportion of variance in clinical judgments of competency to stand trial, these authors conclude that future research should look at the decision-making process of criminal defendants in greater depth as well as develop better normative data on competence abilities to provide a comparative basis for referred defendants.

In contrast to the weak correlations between demographic variables and clinical judgments of incompetency noted by Nicholson and Kugler (1991), however, Hubbard, Zapf, and Ronan (2003) found being unmarried, being unemployed, being male, or receiving income from various sources such as disability income to be predictive of findings of incompetence in their sample of 468 criminal defendants. In addition, African-Americans were found incompetent significantly more often than Caucasian defendants. Whereas Hart and Hare (1992) found incompetent defendants to be more likely to be charged with violent offenses, Hubbard et al's., (2003) findings suggested that incompetent defendants were more likely to be charged with property and miscellaneous offenses.

Because the question of competency to stand trial can be raised by the defense, prosecution, or the court, an understanding of the characteristics that differentiate referred from non-referred defendants, independent of eventual dispositional findings, is essential to improving the detection of potentially incompetent defendants by these various parties.

Comparing 80 defendants referred for CST evaluations to 80 non-referred defendants, Viljoen and Zapf (2002) found that referred defendants were more likely to have a psychotic disorder, be charged with a violent offense, and evidence impaired legal abilities, while being less likely to have previous criminal charges or to meet criteria for Antisocial Personality Disorder. Raising concerns regarding current practices, approximately 25% of non-referred defendants demonstrated impaired functional legal abilities, while 20% of referred defendants showed no evidence of either functional legal impairment or a mental disorder. Also somewhat troubling, research suggests that attorneys question the competence of their clients in a higher proportion of their cases (14.8%) than is reflected in the proportion of cases referred for competency evaluation (8.2%), suggesting that the threshold of a "bona fide doubt" set forth by the Supreme Court's decision in *Pate v Robinson* (1966) has failed to protect a significant number of potentially incompetent criminal defendants (Hoge, Bonnie, Poythress, & Monahan, 1992). Speaking to this issue of doubted competence independent of referral for an evaluation, attorneys are more likely to doubt the competence of their clients who they view as passive in their interactions (Poythress, Bonnie, Hoge, Monahan, & Oberlander, 1994).

Taken together, a number of correlates of adult competence have been identified, with psychotic disorders consistently emerging as a risk factor for incompetence. While similar findings might be expected for juvenile defendants, it is possible that additional considerations would need to be taken into account that are unique to this developmentally diverse population.

CHAPTER 4: JUVENILE COURT AND COMPETENCE

4.1: The Evolution of Juvenile Law

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 misbehaviors of delinquent youth. Within the next 30 years, nearly every state had established their own juvenile court system, characterized by the aims of a social service agency granted the authority of legal institutions (Grisso, 1998). Whereas English common law exempted children under the age of 7 from criminal prosecution, the Illinois legislature raised this age to 17-years-old, paving the way for the establishment of the juvenile court system to handle all matters relating to children and adolescents.

Although the American system of criminal law has a long history of consideration of competence to stand trial in criminal court, this issue was seldom raised during the first 60 years of the juvenile justice system's history as a result of its original rehabilitative ideal. Because the court's aim was to serve delinquent youth as opposed to punish them, the proceedings were not viewed as adversarial and no legal counsel was required, thus making the issue of juvenile's adjudicative competence a moot point (Melton, Petrila, Poythress, & Slobogin, 2007). However, the period from the 1960's through the 1990's saw a number of significant changes in the juvenile court system. First, two major court decisions in the 1960's effectively served to reject the court's assertion that juveniles did not require the same rights of due process. First, in *Kent v U.S.* (1966) and subsequently in *In re Gault* (1967), juvenile defendants were given equal rights of due process, leading to the gradual increase in the recognition of the necessity of juvenile competency to stand

trial. While many states began by using a carbon-copy of the criminal court's *Dusky* standard, several appellate courts have ruled that "normal immaturity," not just mental disorder, can be the basis for a finding of incompetence (*In re Causey*, 1978).

With the perceived increase in violent crime perpetrated by juvenile offenders throughout the 1980's and 90's (Melton, Petrila, Poythress, & Slobogin, 2007), juvenile defendants entered a juvenile court system very different from that established in 1899, as the rehabilitative ideal was replaced by increasingly punitive sentencing for serious offenses (Fried & Reppucci, 2001). For example, the years between 1992 and 1995 witnessed 41 states enacting new laws facilitating the transfer of juvenile offenders to adult court (Sickmund, Snyder, & Poe-Yamagata, 1997), the removal of confidentiality provisions previously entailed in the juvenile justice system, and the allowance of juvenile offenders to be sentenced past the age of 21 (Fried & Reppucci, 2001). In addition, the increased use of blended sentencing laws has expanded the sentencing options available to juvenile court judges (Woolard, Odgers, Lanza-Kaduce, & Daglis, 2005), and a number of states have lowered the age of juvenile jurisdiction, serving to effectively do away with the issue of transfer proceedings to criminal court for those under 18-years-old excluded by these revisions (Butts & Harrell, 1998). As a result of these changes, the legal reforms of the 1960's were reinforced and the necessity of due process and the protection of juveniles' Constitutional rights became increasingly salient as juvenile courts handed down increasingly punitive sentences with little regard for juveniles' developmental status (Bonnie & Grisso, 2000).

Because nearly all states implicitly recognize the issue of juvenile competency to stand trial, without explicit legal delineation, the question of how this construct does or should differ from the adult standard continues to be debated (Heilbrun, Hawk, & Tate, 1996). Most courts addressing this issue have maintained the applicability of the *Dusky* standard (*In re S.W.T.*, 1979; *May v State*, 1981; *State v Kempf*, 1979; *In re Two Minor Children*, 1979) for juvenile defendants. In line with the current debate regarding the influence of normal immaturity on competence-related abilities, however, *In re Causey* (1978) represents a noteworthy exception to previous opinions, citing that age alone as a contributor to normal immaturity may be sufficient for a finding of incompetence, even in the absence of significant psychopathology or intellectual deficits.

4.2: Correlates of Juvenile Competence

Calling attention to the lack of research examining the role of normal developmental immaturity on competence-related abilities, Heilbrun, Hawk, and Tate (p. 575, 1996) wrote:

> While it is unclear whether "normal immaturity" will be recognized by most courts as a significant influence on juvenile trial competence, it seems plain that developmental factors influence the capacity of children and adolescents in performing the tasks relevant to trial competence. However, the extent of this influence is unclear. Without further research that both identifies the elements of trial competence in the juvenile context and provides data regarding normative performance on relevant tasks, clinicians attempting to evaluate juvenile trial competence face difficult problems.

In light of the need for normative information regarding juveniles' competence-related abilities across development, the need for future research that is able to separate normal developmental deficits from those caused by psychopathology and intellectual deficit is apparent.

In the first published study of juvenile adjudicative competence, Savitsky and Karras (1984) found that age was significantly associated with performance on a brief competency screening measure. In general, results indicated 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 McKee (1995) reviewed the records of 136 juveniles between the ages of 9-16 referred for CST evaluations and found that 80% of the cases involving youth aged 9 to 12 were found incompetent, while approximately 50% of the youths aged 13 to 14 were found incompetent. Those between the ages of 15 and 17, however, were found incompetent in only approximately 25% of the cases reviewed, a figure similar to the proportion of referred adult defendants found incompetent. Further, this research lends support to Grisso's (1997) finding that, in general, 14-year-olds with average abilities show similar psycholegal abilities to adult defendants.

Challenging the presumption of competence among older juvenile defendants, however, Cooper (1997) administered the Georgia Court Competency Test-Juvenile Revision (GCCT-JR) to 112 juveniles aged 11 through 16 adjudicated as delinquent through the South Carolina Department of Juvenile Justice. Following this baseline

administration, participants were shown a 50-minute instructional videotape the following day to educate them about juvenile court personnel and proceedings, at which point they were again administered the GCCT-JR. In line with previous research (Savitsky & Karras, 1984; Cowden & McKee, 1995), competence to stand trial was strongly related to age. Unexpectedly, however, results of the baseline administration of the GCCT-JR showed that only 2 of the 112 participants obtained scores above the cut-off suggested for trial competence. While the video intervention improved participants scores on the GCCT-JR across age groups, with the largest improvements noted in the youngest age groups, only 12 participants moved from being classified as "incompetent" to "competent" following this intervention (Cooper, 1997).

Warren and colleagues (2003) sought to examine the direct and interactional effects of age, intellectual ability, psychiatric symptomatology, and current diagnoses on adjudicative competence using the MacCAT-CA with a sample of 120 male juveniles ranging in age from 10 to 17 from an inpatient psychiatric treatment facility. Providing support for the developmental aspects of competence-related abilities, results of regression analyses consistently indicated that age contributed significantly to the prediction of MacCAT-CA performance, above and beyond intellectual ability and psychiatric symptomatology. Further, results indicated that the influence of intellectual impairment or mental illness on adjudicative competence was moderated by age, suggesting that the role of mental disease or defect differs depending on adolescent's developmental status. Although youth across all ages performed well in Warren and colleagues' (2003) study, generally scoring in the No Impairment (Understanding and

Reasoning scales) or Mild Impairment (Appreciation scale for youths under 14-years-old) range, their findings seem to suggest that the interpretation of both the presence or severity of mental disease or defect might be interpreted differently depending on the defendant's age. Whereas for adults the causal reasons for incompetence most frequently derive from active psychoses or moderate to severe levels of mental retardation, it appears that the level of severity that might contribute to impairments in competence-related abilities might be set to a lower threshold depending on the youth's age. According to Ash (2003), these findings suggest that while adolescents' competence to stand trial might be impacted in ways that mirror adult defendants (e.g., mental retardation or psychosis), a thorough assessment of competence among younger defendants should also necessarily entail an examination of the complex interactions among additional variables unique to this population, including age, cognitive factors in decision making, and maturity of judgment, as well as the potentiating influence of each of these variables on one another.

Comparing the characteristics of juveniles adjudicated competent to those found incompetent to stand trial, McKee and Shea (1999) compared these two groups on 25 historical, clinical, and offense-related variables, and found that only three, including age, estimated intellectual ability, and prior offenses, was significantly related to competency to stand trial. While these findings shed some light on the features that differentiate competent from incompetent juveniles, the crude and dichotomous use of competency status as the sole outcome variable limits a more thorough understanding of the specific functional abilities related to these variables. However, McKee and Shea's (1999)

findings that fully 46% of this sample demonstrated some degree of functional impairment is noteworthy in that it challenges the commonly held assumption of competence among juvenile defendants. While their sample of juveniles awaiting trial differs markedly from a normative sample of adolescents (e.g., 95.5% of this sample had failed at least one grade in school, 70.0% had a record of previous arrests, 29.6% had suffered molestation, neglect, or physical abuse), these authors suggest the need for the study of normal adolescents in order to better understand the base rate of competency-related functional abilities among juveniles in order to discern whether this a priori assumption of competence derived from adult defendants is accurate when applied to juveniles.

In light of the role of age on the competency-related abilities of juvenile defendants described in Grisso's (1997) review, which found that youth 13 years or younger are particularly vulnerable to deficits in trial-related abilities, with youth 14- to 15-years-old being a particularly heterogeneous group in need of careful consideration, Grisso and colleagues (1987) have recommended that the question of competency be raised for any of the following reasons: 1) Age 12 or younger, 2) prior diagnosis or treatment for mental illness or mental retardation, 3) borderline level of intellectual functioning or record of learning disability, or 4) observations of pretrial events suggestive of deficits in memory, attention, or interpretation of reality.

While these findings are an important first step towards understanding the role of developmental factors on competence-related abilities, two limitations must be addressed in future research in order to better understand 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, it appears possible that age is merely a proxy for specific developmental achievements that are responsible for increased functional capacities. For instance, researchers (Cauffman & Steinberg, 2000; Grisso, 1997; Scott et al., 1995; Steinberg & Cauffman, 1996; Woolard & Reppucci, 2000; Cauffman & Woolard, 2005) have recently hypothesized that various psychosocial factors are likely to account for a significant proportion of the variance in juveniles' capacities as trial defendants, and the direct and interactional effects of these variables along with age, psychiatric symptomatology, and intellectual abilities would further refine our current understanding. 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 utilized by these authors. Specifically, first-generation screening measures, such as the GCCT-JR, 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 Bonnie's (1992) reformulation, the influence of age and psychosocial development on decisional competency largely remains an open question.

4.3: Development and Decisional Competence

While Bonnie's (1992) emphasis on decisional competence was not written explicitly for juvenile defendants, this construct is increasingly being recognized as essential to the evaluation of juveniles' adjudicative competence (e.g., Cauffman &

Steinberg, 2000; Fried & Reppucci, 2001; Grisso et al., 2003; Scott, Reppucci, & Woolard, 1995; Steinberg & Cauffman, 1996). 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 (Bonnie & Grisso, 2000), 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 (2000), 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?" (p. 84). While more research is needed to better understand the relationships between decisional competence, age, and numerous other causal factors, researchers in the past 15 years have begun to address these questions.

In a critique of the informed consent model of legal competence, frequently utilized within the context of adolescent medical decision making such as consent to treatment as well as more politically charged issues such as abortion, recent authors (e.g., Scott, Reppucci, & Woolard, 1995; Cauffman & Steinberg, 2000) have contended that this model must be expanded in order to be applicable to adolescent decision making in legal contexts. Based on the three prong informed consent conceptualization requiring adolescents to be knowing, intelligent, and voluntary in order to make legally admissible decisions, these authors contend that this approach overemphasizes the cognitive factors involved in decision making which, overall, appear to reach maturity around the age of

16 (Overton, 1990, cited in Cauffman & Steinberg, 2000). Expanding upon the cognitive emphasis found in the informed consent decision making model, Scott, Reppucci, and Woolard (1995) introduced what they call a "judgment" model, emphasizing the underlying cognitive, emotional, and social processes involved in decision making, that includes several additional psychosocial components of the construct of judgment, including *peer and parental influence, risk preference and perception, and future orientation*. With the addition of these components, the previously accepted informed-consent model is expanded to include subjective values thought to motivate the choices of adolescents within the legal context. A brief explanation of these three proposed components is in order.

First, drawing on a body of developmental research suggesting that adolescents tend to respond to peer influence to a greater extent than adults (e.g., Steinberg & Silverberg, 1986), the importance of peer influence might influence adolescents' legal decision making in two ways, including direct peer pressure to make certain choices, as well as indirect pressure in the form of adolescents' desire for peer approval (Scott, Reppucci, & Woolard, 1995). Taken together, however, the legal presumption of autonomous decision making appears to be threatened by this normal developmental phase. Second, issues of self-control and impulsiveness aside, adolescents have been shown to hold different attitudes towards and perceptions of risk than adults (e.g., Finn & Bragg, 1986; Gardner, 1992; Tester, Gardner, & Wilfong, 1987, cited in Scott, Reppucci, & Woolard, 1995). For example, adolescents have been shown to focus more on the potential gains to be had from engaging in risky decisions, whereas adults tend to focus

more on protection against potential losses (Furby & Beyth-Marom, 1990), suggesting a developmental influence on the decision making process. Finally, related to adolescents' attitudes towards risk, research suggests that adolescents tend to weigh the short-term consequences of decisions more heavily than adults (Gardner & Herman, 1991). When applied to legal decision making, the discrepancies between adolescents' and adults' future orientation, risk perception and peer influence carry the potential for faulty reasoning on the part of the adolescent defendant, predicated in part on psychosocial immaturity. As a result, the importance of Scott and colleagues' (1995) expanded judgment model is apparent in moving the field beyond the narrow cognitive emphasis of the informed consent model towards a more thorough understanding of the developmental and psychosocial variables influencing adolescents' legal decision making.

Utilizing Scott, Reppucci, and Woolard's (1995) expanded judgment model, Fried and Reppucci (2001) examined the effects of future orientation, peer influence, and risk perception in a sample of 56 adolescents between the ages of 13- and 18-years-old utilizing a multimodal assessment methodology allowing for the assessment of decision making in general as well as criminal decision making specifically. First, participants were administered standardized measures assessing each of these components, including the Stanford Time Perspective Inventory (Zimbardo, 1990), Berndt's (1979) Vignettes of Peer Influence, and the Scale of Risk Perception (Benthin, Slovic, & Severson, 1993). In addition, participants each viewed a five minute clip from the movie *Sleepers* depicting four boys making a series of decisions beginning with a plan to steal hot dogs from a

vendor that ultimately results in the vendor's death and answering questions regarding several aspects of decision making, including the perceived risks and benefits, possible consequences, and the role of peer influence. These questions were compiled into a measure created for this study called the Criminal Decision Making Questionnaire (CDMQ). Analyses also examined cognitive functioning as a predictive variable.

Results demonstrated that risk assessment was negatively correlated with both verbal and performance cognitive abilities and adolescents with higher cognitive abilities perceived activities to be less dangerous than those with lower cognitive functioning on standardized psychosocial measures (Fried & Reppucci, 2001). Regarding the influence of age on psychosocial variables related to judgment, results demonstrated a U-shaped function, with the youngest adolescents appearing most similar to the oldest adolescents, with those aged 15- to 16-years-old indicating the lowest levels of future time orientation and resistance to peer influence. Similarly, results of the CDMQ reveal a U-shaped function of age on risk perception, with 15- to 16-year-olds again indicating the least risk compared to the youngest and oldest adolescents in this sample. While this finding appears to be counterintuitive to the expectation of a linear developmental progression, these findings are consistent with the U-shaped functions previously found by other studies of the role of psychosocial maturity on decision making (e.g., Woolard, 1998; Cauffman & Steinberg, 1997). Fried and Reppucci (2001) go on to suggest that this finding might in part be explained by previous research indicating that this "middle age" of adolescence around the ages of 15- to 16-years-old corresponds to a period in which there is a sharp increase in delinquent behaviors (Moffitt, 1993).

Employing a similar judgment model with slightly different psychosocial variables, Cauffman and Steinberg (2000) have examined the influence of age on the development of mature judgment in a sample of over 1,000 participants between 12- and 48-years-old. After administering standardized measures assessing responsibility (Psychosocial Maturity Inventory; Greenberger, Josselson, Knerr, & Knerr, 1974), future orientation (Consideration of Future Consequences Scale; Strathman, Gleicher, Goninger, & Edwards, 1994; Stanford Time Perspective Inventory; Zimbardo, 1990), and negative affect management (Weinberger Adjustment Inventory), *z*-scores for these three measures were averaged and aggregated to create a composite measure of psychosocial maturity. Antisocial decision making was assessed with the Youth Decision-Making Questionnaire (Ford, Wentzel, Wood, Stevens, & Siesfeld, 1990). Overall, results indicate that antisocial decision making was influenced significantly both by age as well as psychosocial maturity, and the latter was the more strongly related of the two variables. This finding has been replicated more recently by Modecki (2009). Further, Cauffman and Steinberg (2000) found no appreciable increases in mature decision making past the age of 19, with the steepest inflection point occurring between the ages of 16- and 19-years-old.

While this study lends further support to the role of psychosocial variables in the development of adolescent decision making, the absence of any assessment of cognitive functioning limits this study's comparative value to the informed consent model of adolescent decision making. Further, similar to Scott, Reppucci, and Woolard's (1995) research, Cauffman and Steinberg's (2000) focus on criminal decision making bears only

indirectly on judgment in the context of Bonnie's (1992) conceptualization of adjudicative competence. While the influence of psychosocial variables on adolescent decision making appears to account for some of the observed differences between adolescent and adult decision making processes not explained by cognitive abilities per se (Cauffman & Steinberg, 2000), further research is needed in order to determine the extent to which these cognitive and psychosocial variables exert their influence on adolescent decision making in particular contexts (Steinberg & Cauffman, 1996). Relevant to the present research, the role of these psychosocial variables on adolescent decision making within the context of adjudicative competence is needed in order to determine the influence of these non-cognitive factors on decisional capacities during the trial process.

Examining the influence of three psychosocial variables (risk appraisal, future orientation, and resistance to peer influence) on adjudicative competence, Grisso et al. (2003) administered the MacCAT-CA and the MacArthur Judgment Evaluation (MacJEN; Grisso, et al., 2003) to 927 adolescents in juvenile detention facilities and community settings. Consistent with previous research documenting the effects of age on adjudicative competence (e.g., Savitsky & Karras, 1984; Cowden & McKee, 1995; Grisso, 1997), approximately one third of 11- to 13-year-olds and approximately one fifth of 14-15-year olds demonstrated impairments on MacCAT-CA assessed competency abilities comparable to those of seriously mentally ill adults who would be considered incompetent to stand trial, while 16- to 17-year-olds did not differ significantly from young adults. Similarly, significant age effects were found for psychosocial maturity, and those who performed more poorly on the MacJEN were found to be more likely to make

choices suggestive of compliance with authority figures (accepting a prosecutor's plea agreement, confessing in a police interrogation), an inability to recognize the risks inherent in the choices they were making, and a tendency to overemphasize the immediate consequences of their legal decisions at the expense of fully considering the potential long-term consequences (Grisso et al., 2003). Taken together, these findings suggest that psychosocial immaturity may impact juveniles' decisional competence above and beyond the cognitive elements of understanding and reasoning frequently associated with competence to stand trial and characteristic of the informed consent model of adolescent legal decision making.

Although it remains unclear whether juvenile defendants must meet the same threshold of competency as adults, cross-sectional research has begun to compare juvenile defendants to adults in order to begin to address this issue. Comparing 16- to 17-year-old defendants whose charges were direct-filed in criminal court to a sample of 16- to 17-year-old defendants charged in juvenile court as well as to a sample of 18- to 24-year-old adults charged in criminal court, Poythress, Lexcen, Grisso, and Steinberg (2006) found few differences between adolescents charged in criminal court compared to an adult sample, suggesting that older adolescents do not have significant deficits in competence-related abilities due to age or immaturity. Further, using the MacJEN (Grisso et al., 2003), these authors were able to assess three dimensions that theoretically vary as a function of age that might potentially influence judgment in making legally-relevant decisions. The dimensions included 1) future time perspective, 2) risk orientation, and 3) resistance to peer influence (Woolard, Reppucci, Steinberg, Grisso, &

Scott, 2003). Overall, the direct-file group performed comparably to the adult group, and significantly better than the juvenile court sample on resistance to peer influence and somewhat better than the juvenile court sample in assessing risk likelihood.

These findings suggest that, at least within this sample, 16- to 17-year-old juveniles charged in adult court do not demonstrate significant deficits relative to adult defendants. However, several questions remain unanswered, especially in light of their superior performance compared to their same-age comparison group charged in juvenile court. What this finding might suggest is that prosecutors filing charges in adult court do so in light of recognizing the adolescents' maturity relative to other juvenile defendants, whereas those who might appear less mature are left to face charges within the juvenile court system. Also, while older adolescents represent the most likely group to be transferred to adult court, this sample was unable to address potential developmentally derived deficits that might be present in even younger defendants. In light of previous findings suggesting that trial capacities tend to increase through adolescence (e.g., Cooper, 1997; Grisso et al., 2003; Warren et al., 2003), future research comparing defendants across a wider age-range is needed.

CHAPTER 5: THE CURRENT STUDY

Due to the legal reforms over the past 30 years facilitating the transfer of youthful offenders to criminal court and increasing the sentencing options available to juvenile court judges, juvenile defendants are, for the first time, reliant on the Constitutional rights of due process historically reserved for adult criminal defendants. Among those protections, juvenile adjudicative competence has been conceptualized as mirroring the criminal court's *Dusky* standard. While severe mental illness or mental retardation serve, either implicitly or explicitly, as threshold conditions for incompetent adult defendants, an increasing body of literature suggests that normal immaturity should be included as a possible predicate to juvenile incompetence to stand trial. In order to more fully understand the role of developmental immaturity as well as mental illness and cognitive deficiency on juvenile defendants' adjudicative competence, however, the direct and interactional effects of these variables must be examined.

To this end, the present dissertation is aimed at examining the relationships between immaturity, cognitive ability, and psychiatric symptomatology with juvenile adjudicative competence using a pre-existing dataset of detained and community recruited adolescents and addresses the following hypotheses:

1. Consistent with prior research, competency-related abilities will be positively correlated with age and intellectual ability, and negatively correlated with psychiatric symptomatology.
2. Psychosocial maturity will be positively associated with competency-related abilities after controlling for age, psychiatric symptomatology and intellectual

ability.

3. Participants in the community sample will evidence higher psychosocial maturity and competency-related abilities than those in the juvenile court sample.
4. Psychosocial maturity will partially mediate the relationship between age and competency-related abilities, such that psychosocial maturity partially explains the mechanism through which age impacts competency.
5. Psychosocial maturity will moderate the relationship between psychiatric symptomatology and competency-related abilities, such that as psychiatric symptomatology increases, individuals with lower levels of psychosocial maturity will show greater impairments in competency-related abilities compared to individuals with higher levels of psychosocial maturity.
6. Psychosocial maturity will moderate the relationship between intellectual ability and competency-related abilities, such that as intellectual ability decreases, individuals with lower levels of psychosocial maturity will show greater impairments in competency-related abilities compared to individuals with higher levels of psychosocial maturity.

CHAPTER 6: METHOD

6.1: Participants and Sites

The present sample was collected as a secondary sample from the MacArthur Juvenile Adjudicative Competence Study (Grisso et al., 2003) that included males and females ages 11-24 (*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 ages 11- to 17-years-old recruited from 11 juvenile detention facilities in four regions of the United States and their surrounding communities. Details on the present study's instruments and procedures have been previously published (Grisso et al., 2003; Poythress, Lexcen, Grisso, & Steinberg, 2006) and are available in an archival report at www.mac-adoldev-juvjustice.org.

Table 1 (Appendix A) provides the demographic information of the detained (*n* = 453) and community (*n* = 474) groups. Detained youth were currently 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 currently 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 (Snyder & Sickmund, 1995), though both females and younger participants (11- to 13-years-old) were oversampled in order to obtain sufficient power to conduct analyses involving these

groups. Most participants across both groups were classified in the two lowest SES categories according to the Hollingshead (1975) 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; Hoge et al., 1997).

6.2: Measures

Demographics Questionnaire. Participants provided demographic information regarding gender, age, race, academic standing, and current and previous involvement in the juvenile court system.

Wechsler Abbreviated Scale of Intelligence (WASI; Psychological Corporation, 1999). The WASI is a standardized measure of intellectual functioning and provides both a four- and two-subtest form. The two-subtest form, utilized in the present study, is comprised of 1) Vocabulary, which is a measure of individuals' expressive vocabulary and verbal knowledge, and 2) Matrix Reasoning, 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 Weschsler Intelligence Scale for Children-III (WISC-III) and 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 .81, and the correlation coefficient between the WAIS-III FSIQ and the WASI two-subtest FSIQ is .87 (Psychological Corporation, 1999).

Massachusetts Youth Screening Instrument-Second Version (MAYSI-2; Grisso & Barnum, 2000). The MAYSI-2 is a 52-item self report instrument asking individuals whether or not (yes/no) various thoughts, feelings, and behaviors are true for them "in the

past few months." The MAYSI-2 was written for youths entering juvenile detention facilities and is comprised of six scales representing common psychiatric conditions among youth entering the juvenile justice system that potentially warrant clinical attention, including 1) Alcohol/Drug Use, 2) Angry-Irritable, 3) Depressed-Anxious, 4) Somatic Complaints, 5) Suicide Ideation, and 6) Thought Disturbance. This instrument has demonstrated adequate internal reliability with alpha coefficients ranging from .61 to .86 (Grisso, Barnum, Fletcher, Cauffman, & Peuschold, 2001), good factor structure, test-retest reliability, and concurrent external validity (Archer, Stredny, Mason, & Arnau, 2004; Grisso et al., 2001).

MacArthur Competence Assessment Tool-Criminal Adjudication (MacCAT-CA; Hoge et al., 1997). The MacCAT-CA was derived from a more comprehensive assessment instrument called the MacArthur Structured Assessment of Competencies of Criminal Defendants (MacSAC-CD; Hoge et al., 1997), and was formulated based upon Bonnie's (1992) two prong conceptualization of competency which distinguishes between competency to assist counsel and decisional competency. The MacCAT-CA is a 22-item measure administered in a semi-structured interview format that provides three scale 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). Each of the 22 items is scored on a scale of 0 to 2, resulting in scale 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 scales, while items loading on the Appreciation scale are based upon the circumstances of the defendants' own case. A hypothetical case was utilized for the Appreciation scale in the present study to obtain an Appreciation score for the community sample as well as to standardize this measure across participants.

The MacCAT-CA was found to have good psychometric properties with a sample of 729 defendants between the ages of 18- and 65-years-old in an eight-state National Institute of Mental Health sponsored validation study (Otto et al., 1998). Specifically, these authors found that the MacCAT-CA scales of Understanding, Reasoning, and Appreciation have good interrater reliability (*R*'s between .75 and .90) and strong internal consistency (α's > .80). Further, correlations between MacCAT-CA measures of competency and cognitive ability, psychopathology, and clinical judgments of impaired competence were all in the expected direction, lending support to the construct validity of this measure. While 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 (Ficke, Hart, & Deardorff, 2006; Warren et al., 2003).

Judgment in Legal Contexts Instrument (JILC; Woolard, Reppucci, Steinberg, Grisso, & Scott, 2003). The JILC, previously called the MacArthur Judgment Evaluation (MacJEN), was designed to assess youths' and adults' decision making in the context of

legal circumstances that frequently face defendants. In addition to assessing examinees' choices in three legal decision contexts commonly facing defendants, the JILC was designed to identify and understand examinees' explanations for their choices, and these explanations are scored on three dimensions of psychosocial maturity, including Future Time Perspective (the role of long-range consequences in the decision-making process), Risk Orientation (indicators of adolescents' tendency to engage in more risky behavior than adults), and Resistance to Peer Influence (the capacity to stand up to peer influence and behave in accordance with one's own wishes).

The first of the three vignettes (Police Interrogation) involves a police interrogation in which the police officers' request that the suspect waive his/her rights to silence and counsel in order to obtain a statement. 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 this 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/she would actually do in this situation.

The second vignette (Plea Agreement) focuses on one's decisions in response to a plea 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 above in the Police

Interrogation vignette. Finally, the third vignette (Consulting Attorney) involves responses to one's attorney who is requesting information in order to prepare a defense, and follow-up questions are abbreviated versions of 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.

Risk Orientation is composed of two variables, Risk Recognition and Risk Appraisal. Risk Recognition is assessed based upon all of the positive and negative consequences identified pertaining to each of the best and worst options identified by the examinee. The total number of risks identified for the examinee's best and worst choices yields the Risk Recognition 1 (R-Rec1) score, and the percentage of the total consequences that are negative provides the Risk Recognition 2 (R-Rec2) score.

Risk Appraisal, which measures examinee's beliefs about the likelihood of negative events occurring as well as the perceived unpleasantness of these consequences, yields two scores: 1) Risk Appraisal 1 (R-App1) assesses the likelihood of negative consequences and is measured on a four point scale, and 2) Risk Appraisal 2 (R-App2) assesses perceptions of how unpleasant the potential negative consequences would be if they were to occur, and R-App 2 is measured on a four point scale (1 = "okay" to 4 = "extremely bad").

Future Time Perspective is comprised of three variables, including Future Recognition 1 (F-Rec1), Future Recognition 2 (F-Rec2), and Future Recognition 3 (F-Rec3). Examinees are asked to list potential positive and negative consequences for the choices previously identified as best and worst. F-Rec1 reflects the total number of long-

term consequences provided from this inquiry, and was operationalized by Woolard and colleagues (2003) as consequences that occur at least several days after the decision was made. F-Rec2 is the percentage of total consequences provided that reflect long-term consequences. Finally, F-Rec3 entails asking examinees why the best choice they provided is better than their worst choice, and the reason provided is categorized as reflecting short- or long-term consequences.

Resistance to Peer Influence (RPI) provides a single score based on comparing participants' own choices in each vignette to their choice in a similar situation under conditions of peer influence. After completing the three JILC vignettes, vignettes are repeated in which peers recommend the opposite course of action to that initially provided by the examinee. Opposites are defined in the Police Interrogation vignette as talking and admitting versus denying involvement or remaining silent; as talking and admitting everything versus partial disclosure, denying involvement, or refusing to talk in the Consulting Attorney vignette; and as refusing the plea versus taking the plea in the Plea Agreement vignette (Woolard et al., 2003). RPI is measured as a dichotomous variable across vignettes, and examinees earn one point for each instance of retaining their original choice.

6.3: Procedures

The research network was organized such that a project director oversaw each of four site directors, who in turn oversaw teams of research assistants who collected and scored all data. The decision to recruit from four sites was arrived at in order to avoid any potential bias in the characteristics of youth particular to a specific jurisdiction as well as

to obtain a diverse sample that would allow for statistical analyses involving ethnicity as well as socioeconomic status. Research assistants were trained extensively prior to collecting data, including engaging in practice scoring exercises for the MacCAT-CA, JILC, and WASI to ensure adherence to the standardized procedures as well as to ensure adequate inter-rater reliability (MacArthur Research Network, 2002). Qualified research assistants visited each detention facility weekly to work with staff to identify new detainees who had not been screened out by detention center staff (due to suicidality or other acute condition deemed sufficient by staff), who were then approached regarding the study.

To recruit the community sample, potential participants were solicited from schools, community youth programs, and boys' and girls' clubs. Participants were recruited on a voluntary basis by members of the research team affiliated with a university in each of the four sites and provided with relevant information regarding the purpose of the study, potential risks, and time commitments. Participants in the community sample provided assent as well as parental consent, while participants recruited from detention facilities provided assent, though parental consent was not required. However, independent "participant advocates" monitored the recruitment of detained youth at all sites. A federal certificate of confidentiality was obtained in order to protect participants' confidentiality from being violated by requests from authorities in the legal system, including the courts and attorneys. Demographic information was first obtained, followed by the MacCAT-CA, the WASI, the JILC, and then the MAYSI-2. Participants were compensated monetarily for their participation, with detained youths

receiving $10 and community youths receiving $25 (MacArthur Research Network, 2002).

CHAPTER 7: RESULTS

7.1 Data Analyses

Models were estimated using AMOS 17.0 (Arbuckle, 1999). Using Hu and Bentler's (1999) recommendations, a combination of fit indices including χ^2/df, which should be less than 3 (Kline, 1998), *Bentler's Comparative Fit Index* (*CFI*; Bentler, 1990), which should be greater than .95 (Kline, 1998; Hu & Bentler, 1999), and the *Root Mean Square Error of Approximation* (*RMSEA*; Steiger & Lind, 1980), which should be less than .06 (Hu & Bentler, 1999), was utilized to determine the fit of the model to the data.

Multiple factorial analyses were conducted for the JILC measure. However, due to the inability to fit any hypothesized models to the data adequately, the latent variable of psychosocial maturity was excluded from analyses. Instead, in line with the JILC administration and scoring manual (Woolard et al., 2003) that advises researchers to select several variables of interest, four relevant observed variables were identified. Several considerations were taken into account in determining which JILC variables to utilize for hypotheses examining psychosocial maturity, including 1) attempting to incorporate subscales from the JILC's primary scales of Future Time Perspective (including the subscales of F-Rec1, F-Rec2, and F-Rec3) and Risk Orientation (including the subscales of R-Rec1, R-Rec2, R-App1, and R-App2), and 2) utilizing subscales that showed a positive association with age in order to increase our confidence that these variables were reflecting developmental phenomena. Based on these criteria, four JILC subscales were included for all analyses involving psychosocial maturity: F-Rec1, R-

Rec1, R-App1, and R-App2. Of these, all except R-App1 was significantly positively related to age.

In addition, a count variable was created as the fifth measure of psychosocial maturity to measure the frequency with which participants scored above or below the median score on each of the four included JILC variables. This summative variable ("Sum-Maturity") represents the most general measure of maturity by identifying those participants who performed most consistently as more or less mature across the JILC measure.

7.2: Descriptive Statistics

Correlations, means, and standard deviations of observed study variables are presented in Table 2a and the estimated correlation matrix of latent study variables is presented in Table 2b (Appendix B). As seen in Table 2a, competency-related abilities were strongly positively associated 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 relations with competency-related abilities. Apart from the strong association between the F-Rec1 and R-Rec1 scales with one another and with measures of competency-related abilities, the remaining JILC scales were unrelated to one another and to competency-related abilities.

7.3: Preliminary CFA Measurement Model Analyses

Because the present dissertation utilizes structural equation modeling techniques, it was first necessary to establish the factorial validity of the MacCAT-CA, the primary dependent variable. A confirmatory factor analysis (CFA) using AMOS 17.0 (Arbuckle,

1999) was performed to verify a good fit for the factor structure of the latent variable of competence to stand trial for the three established MacCAT-CA scales (Understanding, Reasoning, and Appreciation). Note that six parameters were estimated (2 factor loadings, 3 residual variances, and 1 disturbance), resulting in a fully saturated model (a model with zero degrees of freedom). Because a fully saturated model will always result in a perfect fit to the data, fit indices are not provided. The standardized factor loadings ranged from .62 to .70 and R^2 values ranged from .39 to .48, suggesting all three scales contributed to the latent construct.

A second CFA was performed utilizing data from the MAYSI-2 to estimate the fit of the factor structure of the latent variable of psychiatric symptomatology for the six established scales of the MAYSI-2 (Alcohol and Other drug use, Anger-Irritability, Depressed-Anxious, Somatic Concerns, Suicide Ideation, and Thought Disturbance). The model provided an adequate fit of the model to the data: χ^2 (9) = 31.42; *CFI* = .99; *RMSEA* = .052. While it is clinically useful to separate the Suicide Ideation scale from the Depressed-Anxious scale to allow for efficient screening of imminent suicidality in a detention facility, it is possible that the high degree of overlap between the Suicide Ideation and Depressed-Anxious scales might adversely impact the statistical measurement model. Therefore, a second CFA was conducted that allowed the error terms for these two scales to covary. This CFA model showed a good fit of the model to the data: χ^2 (8) = 18.65; *CFI* = .99; *RMSEA* = .038. In addition, the inclusion of this covariance term to the model resulted in a significantly better fit to the data compared to the original model, $\Delta\chi^2$ (1) = 12.77, $p < .001$. The standardized factor loadings ranged

from .43 to .83 and R^2 values ranged from .18 to .69, suggesting all six subscales contributed to the latent construct. As a result of the superior fit of this latter model, all subsequent analyses including the latent construct of psychiatric symptomatology retained this covariance term.

7.4: Analyses of Primary Hypotheses

Note that preliminary analyses were conducted which found that the relationships between age ($\Delta\chi^2$ (1) = 0.94, $p > .05$), psychiatric symptomatology ($\Delta\chi^2$ (1) = 2.39, $p > .05$), intellectual abilities ($\Delta\chi^2$ (1) = 1.40, $p > .05$), and competence were invariant across the detention and community samples. As a result, all subsequent analyses combined the detention and community samples.

Hypothesis One. In order to evaluate the first hypothesis, which posited that competence would be positively related to age and intellectual ability, and negatively related to psychiatric symptomatology, all of these variables were entered simultaneously into a model and specified to covary with one another. As seen in Figure 1 (Appendix C), this model resulted in a good fit of the model to the data, χ^2 (48) = 133.78; *CFI* = .97; *RMSEA* = .044. Hypothesis one was fully supported as age was positively associated with competence to stand trial, ($r = .31$, $p < .001$), intellectual ability was strongly positively associated with competence ($r = .67$, $p < .001$), and psychiatric symptomatology was significantly negatively related to competence ($r = -.13$, $p < .01$).

Hypothesis Two. The second hypothesis predicted that psychosocial maturity would be positively associated with competence after controlling for the effects of age, psychiatric symptomatology and intellectual ability (See Figure 2, Appendix D). Due to

correlations between the four JILC variables, all variables were designated to covary with one another. This model provided a good fit to the data, χ^2 (80) = 181.41; *CFI* = .97; *RMSEA* = .037. Providing partial support for the hypothesized association between psychosocial maturity and competence, R-Rec1 and R-App2 were significantly positively associated with competence after controlling for the effects of age, psychiatric symptomatology, and intellectual ability, while R-App1 and F-Rec1 were unrelated to competence.

A second model was run due to the shared variance between Sum-Maturity and the four JILC subscales that comprise this variable to evaluate the relationship between Sum-Maturity and competence after controlling for the effects of age, psychiatric symptomatology, and intellectual ability (Figure 3, Appendix E). The model provided a good fit to the data, χ^2 (56) = 150.68; *CFI* = .97; *RMSEA* = .043. Providing further support for the association between psychosocial maturity and competence, Sum-Maturity was positively related to competence after controlling for the effects of age, psychiatric symptomatology, and intellectual ability.

Hypothesis Three. The third hypothesis predicted that participants in the community sample would evidence greater competency-related abilities and higher psychosocial maturity than participants from the detention sample. Table 3 (Appendix F) provides mean scores for MacCAT-CA and JILC performance for the detained and community samples. Multiple t-tests were conducted to examine this hypothesis, which was only partially supported. That is, the detention sample showed no differences with the community sample on the MacCAT-CA Understanding scale, t (925) = 1.48, p = .14,

or the MacCAT-CA Appreciation scale, t (925) = 1.61, p = .11. The community sample (M = 12.57) did perform better than the detention sample (M = 11.85) on the MacCAT-CA Reasoning scale, t (925) = 4.28, p < .001, evidencing a small effect size (Cohen's d = .28). In addition, these groups did not differ on the JILC variables of R-App1, t (925) = .30, p = .77, R-App2, t (925) = .33, p = .75, R-Rec1, t (925) = 1.13, p = .26, or Sum-Maturity, t (925) = 1.20, p = .23. The sole difference between groups on the JILC variables was on the F-Rec1 scale, which found that participants in the community group recognized more long-term consequences (M = 4.40) than did participants in the detention sample (M = 4.06), t (925) = 3.18, p < .01, revealing a small effect size (Cohen's d = .21).

Hypothesis Four. The fourth hypothesis predicted that psychosocial maturity would partially mediate the relationship between age and competency-related abilities. To examine this hypothesis, two separate models were examined. The first model, seen in Figure 4 (Appendix G), examined the indirect effects of age on competence to stand trial through Sum-Maturity, which was examined separately from the four psychosocial maturity variables due to excessively high levels of shared variance between these variables. Consistent with the causal steps strategy advocated by Baron and Kenny (1986), Sobel's (1982) test of indirect effects was used to evaluate the mediated paths. In order 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 Sum-Maturity to competence controlling for age) to its estimated standard error. This ratio yields a z-statistic that is compared to the standard normal

distribution to test for indirect effects. As seen in Figure 4, the paths from age to Sum-Maturity as well as the path from Sum-Maturity to competence controlling for age were both significant. Moreover, the test of indirect effects of Sum-Maturity suggested that age is indirectly related to competence through Sum-Maturity, $z = 4.07$, $p < .01$. That is, consistent with the stated hypothesis, Sum-Maturity partially mediated the relation between age and competence, as the path from age to competence also remained significant ($\beta = .26$, $p < .001$).

As seen in Figure 5 (Appendix H), a second model was constructed testing for indirect effects of the four JILC variables on the age-competence relationship. Age was directly related to competence ($\beta = .27$, $p < .001$). However, examination of the total indirect effects including all four potentially mediating variables failed to support the mediational hypothesis ($\beta = .06$, $p > .05$). As a result, no further tests were conducted examining specific indirect effects of each JILC variable.

Hypothesis Five. The fifth hypothesis predicted that psychosocial maturity would moderate the relationship between psychiatric symptomatology and competency-related abilities, such that as psychiatric symptomatology increases, individuals with low levels of psychosocial maturity will show greater impairments in competency-related abilities compared to individuals with high levels of psychosocial maturity. In order to evaluate this hypothesis, a series of five models testing the invariance of the relationship between psychiatric symptomatology and competence in high and low levels of each psychosocial maturity variable were estimated. Intellectual ability was entered as a covariate in these models to control for shared variance. Based on Byrne's (2001) recommendation, two

groups (i.e., high and low levels of psychosocial maturity) were created utilizing 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, a series of increasingly restrictive constraints were placed on the model beginning with constraining all factor loadings on the psychiatric symptomatology latent variable to be invariant across groups to evaluate whether the MAYSI-2 factor structure was equivalent across groups. After placing these constraints on the model, chi-square difference tests were used to evaluate whether constraining these factor loadings to be invariant across groups resulted in a significant decrement in the model χ^2 (Kline, 2005). If the MAYSI-2 factor loadings were equivalent across groups, these constraints were retained, and an additional constraint was added to the model to constrain the path from psychiatric symptomatology to competence invariant across groups.

Results of five separate tests of invariance failed to support the hypothesis that psychosocial maturity would moderate the relationship between psychiatric symptomatology and competence. Beginning with the test of invariance for the potential moderating relationship of R-Rec1, the initial model with no equality constraints imposed for high and low levels of R-Rec1 resulted in χ^2 (80) = 123.20, $p < .01$. Imposing equality constraints across all MAYSI-2 factor loadings demonstrated measurement invariance across groups of R-Rec1, χ^2 (85) = 130.94, $\Delta\chi^2$ (5) = 7.74, $p > .05$. Retaining these constraints on the MAYSI-2 factor loadings, the path from psychiatric symptomatology to competence was then constrained to be equal across high and low levels of R-Rec1, χ^2

(86) = 131.46. The χ^2 difference test showed that the relationship between psychiatric symptomatology and competence was invariant across the groups, $\Delta\chi^2$ (1) = 0.52, $p > .05$.

Following the same steps utilized to evaluate the potential moderating role of R-Rec1 on the symptomatology-competence relationship, a second series of increasingly restrictive constraints were placed upon this model to examine the potentially moderating role of F-Rec1. As found with R-Rec1, constraining MAYSI-2 factor loadings ($\Delta\chi^2$ (5) = 2.09, $p > .05$) and the path from psychiatric symptomatology to competence ($\Delta\chi^2$ (1) = 0.00, $p > .05$) to be equal across high and low levels of F-Rec1 did not result in a significant decrement in the model χ^2, suggesting that the relationships did not vary across groups. Similarly, constraining MAYSI-2 factor loadings ($\Delta\chi^2$ (5) = 9.71, $p > .05$) and the path from psychiatric symptomatology to competence ($\Delta\chi^2$ (1) = 0.04, $p > .05$) to be equal across high and low levels of R-App1 did not result in a significant decrement in the model χ^2, suggesting that the relationships did not vary across groups.

Fourth, the potentially moderating role of R-App2 on the symptomatology-competence relationship was examined. The initial model with no equality constraints imposed resulted in χ^2 (80) = 139.56, $p < .001$. Imposing equality constraints on all MAYSI-2 factor loadings across high and low levels of R-App2 failed to demonstrate invariance across groups on this measure, χ^2 (85) = 152.06, $\Delta\chi^2$ (5) = 12.50, $p < .05$. Due to the noted differences across high and low R-App2 on the MAYSI-2, a series of step-wise constraints as recommended by Byrne (2001) were imposed on the MAYSI-2 factors loadings to determine where the source(s) of variance arose. As seen in Table 4 (Appendix I), no single MAYSI-2 scale factor loading appeared to be uniquely

responsible for this invariance across high and low levels of R-App2, suggesting that the source of significant variance across groups stems from the sum of several non-significant differences. Due to the clear trend for the Suicide Ideation factor loading approaching significant invariance, $\Delta\chi^2$ (3) = 7.54, p = .06, subsequent moderational analyses constrained all MAYSI-2 factor loadings invariant across groups with the exception of the Suicide Ideation factor loading, resulting in an invariant model when compared to the baseline model, χ^2 (84) = 144.72, $\Delta\chi^2$ (4) = 5.16, $p > .05$. Retaining these constraints on MAYSI-2 factor loadings, the path from psychiatric symptomatology to competence was then constrained to be equal across high and low levels of R-App2, χ^2 (85) = 145.56, suggesting that the relationship between psychiatric symptomatology and competence was invariant across high and low levels of R-App2, $\Delta\chi^2$ (1) = 0.84, $p > .05$.

Finally, the potentially moderating role of Sum-Maturity on the symptomatology-competence relationship was examined. Similar to the above findings, constraining MAYSI-2 factor loadings ($\Delta\chi^2$ (5) = 2.90, $p > .05$) and the path from psychiatric symptomatology to competence ($\Delta\chi^2$ (1) = 0.00, $p > .05$) to be equal across high and low levels of Sum-Maturity did not result in a significant decrement in the model χ^2 (χ^2 (80) = 128.94, $p < .001$), suggesting that the relationships did not vary across groups.

Hypothesis Six. The sixth hypothesis predicted that psychosocial maturity would moderate the relationship between intellectual ability and competency-related abilities, such that at low levels of psychosocial maturity, intellectual ability would be less strongly related to competency-related abilities compared to individuals with high levels of psychosocial maturity. Utilizing the same step-wise analytic strategy implemented for the

moderational analyses in hypothesis five, a series of five separate tests of invariance were conducted for the five psychosocial maturity variables. Results of each of these tests failed to support the hypothesis that psychosocial maturity would moderate the relationship between intellectual ability and competence.

Beginning with the potentially moderating role of R-Rec1, the baseline model resulted in χ^2 (80) = 123.20, $p < .001$. Constraining factor loadings of the latent variable of intellectual ability ($\Delta\chi^2$ (1) = 2.12, $p > .05$) and the path from intellectual ability to competence ($\Delta\chi^2$ (1) = 2.01, $p > .05$) to be equal across high and low levels of R-Rec1 did not result in a significant decrement in the model χ^2, suggesting that the relationships did not vary across groups. Similarly, constraining factor loadings of the latent variable of intellectual ability ($\Delta\chi^2$ (1) = 0.42, $p > .05$) and the path from intellectual ability to competence ($\Delta\chi^2$ (1) = 0.40, $p > .05$) to be equal across high and low levels of F-Rec1 did not result in a significant decrement of the baseline model (χ^2 (80) = 142.29, $p < .001$).

Examining the potentially moderating role of R-App1, equality constraints imposed on the factor loadings for intellectual ability ($\Delta\chi^2$ (1) = 0.08, $p > .05$) and the path from intellectual ability to competence ($\Delta\chi^2$ (1) = 1.48, $p > .05$) did not result in a significant decrement in the model (χ^2 (80) = 140.05, $p < .001$), suggesting that the relationships did not vary across groups. Similar results were obtained examining these relationships in high and low levels of R-App2, which provided a baseline fit of χ^2 (80) = 139.56 and did not vary with equality constraints imposed on the factor loadings for intellectual ability ($\Delta\chi^2$ (1) = 0.14, $p > .05$) or on the path from intellectual ability to competence ($\Delta\chi^2$ (1) = 1.16, $p > .05$). Finally, the potentially moderating role of Sum-

Maturity on the relationship between intellectual ability and competence was examined, resulting in a baseline fit of χ^2 (80) = 128.94. Imposing equality constraints across high and low levels of Sum-Maturity for the factor loadings for intellectual ability ($\Delta\chi^2$ (1) = 0.05, $p > .05$) and the path from intellectual ability to competence ($\Delta\chi^2$ (1) = 0.09, $p >$ .05) did not result in a significant decrement in the model χ^2, suggesting that the relationships did not vary across groups.

7.5: Post-hoc Analyses

Because the present dissertation is the first research to utilize SEM techniques to create a latent competence variable, follow-up analyses were conducted that utilized each of the three MacCAT-CA scales of Understanding, Appreciation, and Reasoning as separate outcome variables. By conducting follow-up analyses examining each MacCAT-CA scale separately, several potential theoretically based differences could be examined. These post-hoc analyses further represent logical extensions of the primary analyses and will be organized accordingly.

Post-Hoc Hypothesis One. Following up on hypothesis one, which found that age and intellectual ability were positively associated with competence and psychiatric symptomatology was negatively related to competence, several post-hoc analyses were conducted to further clarify these findings. Specifically, these relationships were further examined utilizing the three MacCAT-CA scales as separate outcome variables (See Figure 6, Appendix J). This model resulted in an adequate fit to the data, χ^2 (42) = 129.09; *CFI* = .97; *RMSEA* = .047. Results found that age was significantly related to Understanding ($r = .20$, $p < .001$), Reasoning ($r = .22$, $p < .001$), and Appreciation ($r =$

.18, $p < .001$). Similarly, intellectual ability was significantly positively related with Understanding ($r = .44$, $p < .001$), Reasoning ($r = .48$, $p < .001$), and Appreciation ($r = .37$, $p < .001$). While previous research would suggest that psychiatric symptomatology would be most strongly related to Appreciation, results unexpectedly found that symptomatology was significantly negatively related to Understanding ($r = -.09$, $p < .05$) and Reasoning ($r = -.11$, $p < .01$), but was unrelated to Appreciation ($r = -.04$, $p > .05$).

Post-Hoc Hypothesis Two. Following up on hypothesis two, which found that three of the five measures of psychosocial maturity (R-Rec1, R-App2, and Sum-Maturity) were positively related to competence after controlling for age, intellectual ability and psychiatric symptoms, additional analyses were conducted to assess any potential differences in the relationship between psychosocial maturity and the three MacCAT-CA scales. Specifically, given the theoretical impact of psychosocial maturity on decisional competence (Bonnie & Grisso, 2000), we might hypothesize that psychosocial maturity would be most strongly related to the Reasoning scale (See Figure 7, Appendix K). The model adequately fit the data, χ^2 (69) = 246.80; *CFI* = .95; *RMSEA* = .05. After controlling for the effects of age, psychiatric symptomatology, and intellectual ability, only R-Rec1 was significantly negatively related to Understanding ($\beta = -.10$, $p < .05$), with the remaining standardized estimates ranging from -.10 to .07.

Examining the correlations without controlling for the effects of age, psychiatric symptomatology, and intellectual ability, F-Rec1, R-Rec1, and R-App2 were significantly related to all three MacCAT-CA scales, while R-App1 was not related to any MacCAT-CA scales. Lending partial support to the hypothesis that maturity would

be most strongly related to the Reasoning scale, Reasoning was correlated at .30 ($p <$ .001), .32 ($p < .001$), and .10 ($p < .01$) with F-Rec1, R-Rec1, and R-App2, respectively. This is in contrast to the weaker correlations for Understanding of .15 ($p < .001$), .17 ($p <$ .001), and .08 ($p < .05$) with these variables and .19 ($p < .001$), .25 ($p < .001$), and .08 ($p < .05$) for Appreciation with these variables, respectively.

A second model was run to examine the relationship between Sum-Maturity and each of the MacCAT-CA scales (See Figure 8, Appendix L). This model provided an acceptable fit to the data, χ^2 (51) = 232.68; *CFI* = .94; *RMSEA* = .062. After controlling for the effects of age, psychiatric symptomatology, and intellectual ability, Sum-Maturity was unrelated to any MacCAT-CA scales with standardized estimates ranging from -.06 to .06 (p's > .05). Examining these correlations without controlling for the effects of age, psychiatric symptomatology, and intellectual ability, however, Sum-Maturity was significantly related to each MacCAT-CA scale, with standardized correlations of .13 ($p < .001$), .22 ($p < .001$), and .22 ($p < .001$) on the Understanding, Reasoning, and Appreciation scales, respectively.

Post-Hoc Hypothesis Three. Primary analyses provided partial support for the mediating role of maturity on the relationship between age and competence to stand trial, with results showing that age was directly related to competence and indirectly related to competence through Sum-Maturity. Following up on these findings, further analyses indicated that age was indirectly related to each individual MacCAT-CA scale through Sum-Maturity. As seen in Figure 9 (Appendix M), all paths were significantly positive and support the direct relationship between age and each of the MacCAT-CA scales.

Further, utilizing Sobel's (1982) method for testing indirect effects, these computations indicate that age is indirectly related to Understanding through Sum-Maturity, $z = 2.58$, $p < .01$, to Reasoning through Sum-Maturity, $z = 3.98$, $p < .01$, and to Appreciation through Sum-Maturity, $z = 4.03$, $p < .01$.

As seen in Figure 10 (Appendix N), further analyses were conducted to test for indirect effects for age on individual MacCAT-CA scales through each of the four JILC maturity scales. Examining the total effects of age on Understanding, Reasoning, and Appreciation, the data evidence a significant positive association with standardized total effects of .20, .22, and .19, respectively. Failing to support the mediational hypothesis, however, results suggest that a majority of this variance is accounted for by the direct effects of age on the MacCAT-CA scales, with standardized direct effects of .18 ($p < .001$), .17 ($p < .001$), and .15 ($p < .001$) for the Understanding, Reasoning, and Appreciation scales, respectively, with standardized indirect effects through the four JILC maturity scales showing non-significant effects of .03 ($p > .05$), .05 ($p > .05$), and .04 ($p > .05$), respectively. Due to the non-significant indirect effects of age on competence through the four JILC maturity variables, no further analyses were conducted to examine the potential indirect effects of each individual JILC scale.

Post-Hoc Hypothesis Four. While primary analyses failed to support the hypothesis that psychosocial maturity would moderate the relationship between psychiatric symptomatology and competence, post-hoc analyses were conducted to examine the potentially moderating role of each of the five psychosocial maturity variables on each of the three MacCAT-CA scales. To evaluate the potentially

moderating role of Sum-Maturity, a baseline model (See Figure 11, Appendix O) resulted in a good fit to the data, χ^2 (72) = 116.24; *CFI* = .98; *RMSEA* = .026. Following the same data analytic strategy utilized in examining the primary hypotheses, constraining MAYSI-2 factor loadings ($\Delta\chi^2$ (5) = 2.98, $p > .05$) and each path from psychiatric symptomatology to Understanding, Reasoning, and Appreciation ($\Delta\chi^2$ (3) = 3.84, $p > .05$) to be equal across high and low levels of Sum-Maturity did not result in a significant decrement in the model χ^2, suggesting that the relationship between psychiatric symptomatology and each MacCAT-CA scale did not vary across groups.

Next, the potentially moderating role of F-Rec1 was examined. The baseline model seen in Figure 11 resulted in a good fit to the data, χ^2 (72) = 132.15; *CFI* = .98; *RMSEA* = .030. 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) = 3.26, $p > .05$) across high and low levels of F-Rec1 did not result in a significant decrement in the model χ^2, indicating that the relationship between psychiatric symptomatology and each MacCAT-CA scale did not vary across groups. Similarly, the baseline model for R-Rec1 resulted in a good fit to the data, χ^2 (72) = 105.66; *CFI* = .99; *RMSEA* = .022, and there was no evidence of variance across high and low levels of R-Rec1 after constraining all MAYSI-2 factor loadings ($\Delta\chi^2$ (5) = 7.72, $p > .05$) and paths from psychiatric symptomatology to each MacCAT-CA scale ($\Delta\chi^2$ (3) = 2.43, $p > .05$) to be equal across groups.

Fourth, the potentially moderating role of R-App1 was examined. The baseline model seen in Figure 11 resulted in a good fit to the data, χ^2 (72) = 123.49; *CFI* = .98;

RMSEA = .028. Imposing equality constraints on all MAYSI-2 factor loadings ($\Delta\chi^2$ (5) = 10.03, $p > .05$) indicated that the factor structure of the MAYSI-2 was invariant across high and low levels of R-App1. Imposing equality constraints on each path from psychiatric symptomatology to Understanding, Reasoning, and Appreciation ($\Delta\chi^2$ (3) = 9.67, $p < .05$) supported the hypothesis that R-App1 would moderate the relationship between psychiatric symptomatology and the MacCAT-CA scales. In order to determine which path was non-invariant across levels of R-App1, a series of stepwise constraints were imposed (Byrne, 2001). As seen in Table 5 (Appendix P), the paths from psychiatric symptomatology to Understanding and Reasoning were invariant across groups, although, congruent with previous research highlighting the prominent role of psychiatric symptomatology on Appreciation, the data suggest that the relationship between symptomatology and Appreciation is moderated by R-App1. The model suggested that the relationship between psychiatric symptomatology and Appreciation holds only for those low on R-App1 ($\beta = .174$, $p < .001$). That is, at low levels of R-App1, symptomatology was unexpectedly positively associated with Appreciation, whereas as high levels of R-App1 symptoms and Appreciation were unrelated ($\beta = .013$, $p > .05$).

Finally, the potentially moderating role of R-App2 was examined. The baseline model seen in Figure 11 resulted in a good fit to the data, χ^2 (72) = 133.73; *CFI* = .98; *RMSEA* = .030. Imposing equality constraints on all MAYSI-2 factor loadings ($\Delta\chi^2$ (5) = 12.43, $p < .05$), indicated that the factor structure of the MAYSI-2 varied across high and low levels of R-App2. As seen in Table 6 (Appendix Q), no single factor loading was significantly non-invariant, suggesting a summative effect across variables. However,

similar to the results found in the primary analyses, the Suicide Ideation factor loading showed a strong trend approaching significant variance. As such, all MAYSI-2 factor loadings were retained with the exception of Suicide Ideation for subsequent analyses, providing a modified baseline fit of, χ^2 (76) = 138.83; *CFI* = .98; *RMSEA* = .030. Imposing equality constraints on the Understanding, Reasoning, and Appreciation factor loadings ($\Delta\chi^2$ (3) = 1.49, $p > .05$) failed to support the hypothesized moderating role of R-App2 on the symptomatology-competence relationship.

Post-Hoc Hypothesis Five. While primary analyses failed to support the hypothesis that psychosocial maturity would moderate the relationship between intellectual ability and competence, post-hoc analyses were conducted to examine the potentially moderating role of each of the five psychosocial maturity variables on each of the three MacCAT-CA scales. To evaluate the potentially moderating role of Sum-Maturity, a baseline model (See Figure 11) resulted in a good fit to the data, χ^2 (72) = 116.24; *CFI* = .98; *RMSEA* = .026. Imposing equality constraints on the WASI factor loadings ($\Delta\chi^2$ (1) = 0.10, $p > .05$) and the paths from intellectual ability to each MacCAT-CA scale ($\Delta\chi^2$ (3) = 17.72, $p < .001$) supported measurement invariance and suggested that the relationship between at least one path from intellectual ability to a MacCAT-CA scale varied by group. As seen in Table 7 (Appendix R), a series of stepwise analyses revealed that Sum-Maturity moderated both the relationship between intellectual ability and Reasoning as well as the relationship between intellectual ability and Appreciation. Probing this interaction in high and low levels of Sum-Maturity, all four slopes were significantly positive, suggesting that the source of non-invariance rested in the

differential magnitude of the positive slopes across levels of Sum-Maturity. The associations between intellectual ability and Reasoning and intellectual ability and Appreciation were stronger at low levels of Sum-Maturity (β's = .527, .453) when compared to high levels of Sum-Maturity (β's = .398, .247).

Next, the potentially moderating role of F-Rec1 was examined. The baseline model seen in Figure 11 resulted in a good fit to the data, χ^2 (72) = 132.15; *CFI* = .98; *RMSEA* = .030. 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) = 16.62, $p < .001$) supported measurement invariance and suggested that one or more of the paths from intellectual ability to the observed competence variables varied across high and low levels of F-Rec1. As seen in Table 8 (Appendix S), a series of stepwise analyses revealed that F-Rec1 moderated the relationship between intellectual ability and Appreciation. The models indicated that the association between intellectual ability and Appreciation was stronger at high levels of F-Rec1 (β = .460) compared to low levels of F-Rec1 (β = .291).

Third, the potentially moderating role of R-Rec1 was examined. The baseline model seen in Figure 11 resulted in a good fit to the data, χ^2 (72) = 105.66; *CFI* = .99; *RMSEA* = .022. Imposing equality constraints on all WASI factor loadings ($\Delta\chi^2$ (1) = 2.28, $p > .05$) suggested measurement invariance. However, constraining paths from intellectual ability to each MacCAT-CA scale ($\Delta\chi^2$ (3) = 18.40, $p < .001$) resulted in a significant decrement in the model χ^2, suggesting that one or more of the paths from intellectual ability to the observed competence variables varied across high and low

levels of R-Rec1. As seen in Table 9 (Appendix T), a series of stepwise analyses revealed that R-Rec1 moderated the relationship between both intellectual ability and Reasoning as well as between intellectual ability and Appreciation. Models indicated that the associations between intellectual ability and Reasoning and between intellectual ability and Appreciation were stronger at low levels of R-Rec1 (β's = .531, .481) when compared to high levels of R-Rec1 (β's = .397, .254).

Fourth, the potentially moderating role of R-App1 was examined. The baseline model seen in Figure 11 resulted in a good fit to the data, χ^2 (72) = 123.49; *CFI* = .98; *RMSEA* = .028. Imposing equality constraints on all WASI factor loadings ($\Delta\chi^2$ (1) = 0.04, $p > .05$) and the paths from intellectual ability to each MacCAT-CA scale ($\Delta\chi^2$ (3) = 3.85, $p > .05$) did not result in a significant decrement in the model χ^2, suggesting that these relationships did not vary by group. Similarly, imposing equality constraints on all WASI factor loadings ($\Delta\chi^2$ (1) = 0.09, $p > .05$) and the paths from intellectual ability to each MacCAT-CA scale ($\Delta\chi^2$ (3) = 1.32, $p > .05$) across high and low levels of R-App2 did not result in a significant decrement in the baseline model (χ^2 (72) = 133.73; *CFI* = .98; *RMSEA* = .030).

Post-Hoc Hypothesis Six. While the results of the fourth primary hypothesis partially supported the hypothesis that psychosocial maturity would mediate the relationship between age and competence, on conceptual and theoretical grounds it is possible that psychosocial maturity also plays a moderating role on the age-competence association. As such, an additional model was tested to examine this possibility. As seen in Figure 12 (Appendix U), age, intellectual ability, and psychiatric symptomatology

were entered simultaneously into a model and specified to covary. First examining the potentially moderating role of Sum-Maturity on the age-competence relationship, a baseline model resulted in a good fit to the data, χ^2 (96) = 176.66; *CFI* = .97; *RMSEA* = .030. Imposing equality constraints on the path from age to competence ($\Delta\chi^2$ (1) = 0.05, $p > .05$) did not result in a significant decrement in the model χ^2, suggesting that the relationship between age and competence does not vary by group. Similar findings were obtained for the remainder of the psychosocial maturity variables, including F-Rec1 ($\Delta\chi^2$ (1) = 0.60, $p > .05$), R-Rec1 ($\Delta\chi^2$ (1) = 0.22, $p > .05$), R-App1 ($\Delta\chi^2$ (1) = 0.77, $p > .05$), and R-App2 ($\Delta\chi^2$ (1) = 2.81, $p > .05$), all suggesting that the relationship between age and competence does not vary across high and low levels of maturity.

CHAPTER 8: DISCUSSION

8.1: Preliminary Measurement Models

In light of the increasingly punitive sanctions being handed down to juvenile defendants and the recognition that juveniles are entitled to procedural protections, the need to better understand juveniles' competency-related abilities has lead to a growing body of empirical research in the past 25 years. The direct relationships between age, psychiatric symptomatology, and intellectual ability with juveniles' competency-related abilities have been consistently demonstrated. More recently, researchers have also begun to find support for the relationship between psychosocial maturity and competence for youthful offenders. With the exception of Warren and colleagues (2003), however, this research has generally approached these issues in a piecemeal fashion and, to date, there has been a paucity of research examining the interrelationships among these variables. As such, the present dissertation tested a number of hypotheses regarding the competency-related abilities of juvenile offenders using statistical modeling techniques that allowed for the simultaneous examination of the interrelationships of these relevant variables.

Preliminary results found support for the factorial validity of the competency measure (i.e., MacCAT-CA) utilizing the Understanding, Reasoning, and Appreciation scales as observed variables and for the intellectual ability measure (i.e., WASI) utilizing the Vocabulary and Matrix Reasoning scales as observed variables. In addition, preliminary CFA measurement model analyses provided support for the factorial validity of the psychiatric symptomatology measure (i.e., MAYSI-2). Due to the noted shared variance between the suicide ideation and depressed/anxious scales, optimal fit indices

for the MAYSI-2 measurement model were obtained when these scales were specified to covary with one another. In contrast, results of CFA measurement model analyses failed to support the factorial validity of the psychosocial maturity measure (i.e., JILC). In line with the JILC administration and scoring manual that advises researchers to select several variables of particular interest, four theoretically and empirically relevant observed variables were selected and a fifth count variable was created for all analyses including psychosocial maturity. Having achieved adequate initial validity for key study variables, I then proceeded to examine specific hypotheses regarding competency among juvenile offenders.

8.2: Direct Effects of Age, Intellectual Ability, and Psychiatric Symptomatology on Competence

Consistent with prior research, age and intellectual ability were both found to be strongly positively related to competence, and psychiatric symptomatology was negatively related to competence. Further, these results emerged both with a latent competence variable as well as with each observed MacCAT-CA scale. That is, age and intellectual ability were positively associated with the latent competence construct as well as with the Understanding, Reasoning, and Appreciation scales, while psychiatric symptomatology was negatively related to the latent competence construct as well as with each MacCAT-CA scale. Having replicated these direct effects, I was able to proceed to subsequent novel analyses with greater confidence that the findings that emerged with the present sample were generalizable to the extent that this sample similarly evidenced these key relations that have been consistently documented in previous samples. Further, for

subsequent analyses examining the interplay of these factors, this replication suggests that moderational effects were not due to differential direct effects in the present dissertation.

8.3: Direct Effects of Maturity on Competence

The first hypothesis extending past research proposed that maturity would be positively related to competence after controlling for age, psychiatric symptomatology, and intellectual ability. Providing partial support for this hypothesis, overall maturity (Sum-Maturity), the ability to recognize risks (R-Rec1), and perceiving potential negative outcomes as being more unpleasant if they were to occur (R-App2) were each significantly positively related with the latent competence construct. However, the relationship between maturity and each observed MacCAT-CA scale failed to emerge. Because controlling for the effects of age, psychiatric symptomatology, and intellectual ability provides a highly stringent test, additional models were tested that removed these statistical controls. Providing additional support for the relationship between maturity and competence, four of the five maturity variables were found to be related to each of the three MacCAT-CA scales. In line with theoretical expectations, maturity was found to be most strongly related to the Reasoning scale, suggesting that maturity might exert the greatest impact on adolescents' ability to discern the potential legal relevance of information and to reason about specific choices that confront a defendant in the course of adjudication.

8.4: Group Differences Between Detention and Community Samples

I also anticipated that participants in the detention sample would show more deficits in their competency-related abilities and maturity than the community sample, but analyses provided only minimal support for this hypothesis. Specifically, the only group differences that emerged suggested that participants in the community group performed better on the Reasoning scale of the MacCAT-CA and on the F-Rec1 (i.e., recognizing long-term consequences) scale of the JILC. Given the strong correlation found between Reasoning and the ability to recognize long-term consequences, this specific area concerning the ability to reason about specific choices in the course of adjudication and the ability to consider long-term consequences seems to represent an area of particular concern for adolescents in juvenile detention facilities. It is possible that the relations between these difficulties with reasoning about choices and identifying long-term consequences among youth in detention facilities might underlie some of the processes that contribute to adolescents' decision making that leads to their arrest in the first place, though future research will be needed to more fully elucidate this possibility.

Given the general lack of support for this hypothesis, it is important to consider potential explanations that might facilitate our understanding of and guide future research examining potential differences between adolescents in detention facilities and those in the community. Previous research has consistently found detention and community youth to differ (similar to the differences found in the present sample) in terms of intellectual ability, psychiatric symptomatology, and socioeconomic status (Cocozza, 1992; Elliott et al., 1983; Howell et al., 1995; McKee & Shea, 1999; Otto et al., 1992). Further, previous

research has consistently documented the association between intellectual ability, psychiatric symptomatology, and competence (e.g., Warren et al., 2003). Based on this pattern of findings, I anticipated that detention and community samples would differ in terms of their competency-related abilities. One possible explanation for the failure to detect group differences on the Understanding and Appreciation scales might stem from differences between groups in terms of prior experience with the legal system. That is, it is possible that those in the detention sample have been involved in the legal system previously and have therefore learned, *in vivo*, the basics of the trial process (Understanding) and have gained an appreciation that these consequences apply to their personal situation (Appreciation). In contrast, however, there might be less reason to suspect that previous experience with the legal system would enhance one's ability to reason about the trial situation, resulting in the noted group differences on the Reasoning scale. To the extent that the detention sample might potentially benefit from this previous experience on the Understanding and Appreciation scales, it is possible that the hypothesized group differences stemming from intellectual abilities and psychiatric symptomatology are effectively "washed out."

In order to better understand the general lack of group differences found for psychosocial maturity, however, explanations pointing to previous experience with the legal system are unlikely to suffice. In drawing upon previous research that generally points to poorer performance across a variety of measures (i.e., intellectual ability, psychiatric symptomatology), it was anticipated that the detention sample would show similar relative deficits in psychosocial maturity. Given that this pattern did not emerge,

several possibilities warrant consideration. First, in line with the conceptual foundation of psychosocial maturity as existing along a separate developmental line that is distinct from cognitive ability (i.e., one can be bright but immature, while another can be very mature but of modest intelligence), the present findings suggest only minimal associations between intellectual ability and psychosocial maturity. In light of this, it appears possible that the group differences between detention and community youth that have been consistently noted in the literature bear little impact on the distinct construct of psychosocial maturity. To this end, it is possible that the null findings in the present dissertation accurately capture the similarities between detention and community samples in terms of psychosocial maturity.

However, a second possibility might similarly explain this lack of findings. Given the poor psychometric properties of the JILC noted in the present dissertation, it is possible that this problematic measurement tool effectively obscured potential group differences. Given this possibility, it would be premature at this point to make any conclusions regarding detention and community samples differential maturity. Future research might return to the question of these group differences once a psychometrically sound measure of psychosocial maturity in the context of the legal system has been constructed.

8.5: Indirect Effects of Age on Competence Through Maturity

Expanding upon previous research that has consistently demonstrated the positive association between age and competence, the present results provided partial support for the hypothesized mediating (but not moderating) role of psychosocial maturity on the

age-competence association. Specifically, Sum-Maturity partially mediated the age-competence relationship when competence was analyzed as a latent construct, suggesting that the positive influence of age on competence is due in part to a youth's maturity. However, when examining the hypothesized mediating role of the individual JILC variables these results failed to reach significance, suggesting that the summative effects of these variables partially explain the relationship between age and the construct of competence, but none individually. Further, Sum-Maturity (but no individual JILC variable) was found to partially mediate the relationship between age and each individual MacCAT-CA scale.

8.6: Does Maturity Moderate the Relationship Between Psychiatric Symptomatology and Competence?

Contrary to expectations, psychosocial maturity failed to moderate the relationship between psychiatric symptomatology and competence, regardless of whether competence was measured as a latent construct or as three observed variables. Thus, while psychiatric symptomatology was directly related, albeit weakly, to competence, this relationship did not vary depending on adolescents' level of maturity. One possibility for this finding rests in the procedurally constrained levels of psychiatric symptomatology present in the current sample. That is, given that the research protocol allowed for detention facility staff to screen out youths with acute and severe psychiatric disturbances, including active psychoses and "noticeable stress," it is possible that the constricted range of psychiatric symptomatology limited the ability to statistically detect moderational effects. Such an interpretation requires qualification, however, in light of

the good factorial validity evidenced by the MAYSI-2 in the present study, suggesting adequate variability and range. Nonetheless, given that the procedural protections likely contributed to a failure to capture the true range of psychiatric symptomatology in the present sample, and in line with previous research suggesting that it is the extreme forms of mental illness that most commonly impact competence, it is possible that removing this exclusionary criterion would have resulted in positive findings.

In order to more fully capture the influence of psychiatric symptomatology, future research examining the direct and interactive effects of psychiatric symptomatology, psychosocial maturity, and competence might do well to implement a research design similar to that of Warren and colleagues (2003), who utilized a sample of males residing in an inpatient psychiatric treatment facility opposed to juvenile detention centers. Utilizing this methodology that likely captured the full range (or at least the more extreme forms) of psychiatric symptomatology in an adolescent population, these authors found that age moderated the association between psychiatric symptomatology and competence, such that younger adolescents tended to show deficits in their competency-related abilities stemming from milder forms of psychopathology, whereas older adolescents tended to require more severe psychopathology before these symptoms showed associations with their competency-related abilities. By more fully capturing the range of potential psychiatric impairment in an adolescent population, such a research design would likely be more generalizable. Furthermore, because the participants that were screened out of the present study due to current distress likely represented many of the youthful defendants of particular relevance to this line of research, future research

should continue to strive to balance the protections of this vulnerable population with the need to obtain data on these individuals.

However, there exists a second possible explanation for the relatively weak relationships noted between psychiatric symptomatology and competence in the present dissertation. Namely, because previous research suggests that it is often the most severe forms of psychiatric disturbance that detrimentally impact a defendant's competence, it is possible that the lower prevalence of these disorders in an adolescent population might account for these relatively weak effects. That is, because disorders such as Schizophrenia and other psychotic disorders as well as Bipolar Disorder typically do not develop until late adolescence or early adulthood, it is possible that the association between psychiatric symptomatology and competence is in fact weaker in juvenile populations than it is in adult populations.

8.7: Does Maturity Moderate the Relationship Between Intellectual Ability and Competence?

While psychosocial maturity similarly did not influence the relationship between intellectual ability and competence when competence was measured as a latent construct, maturity did influence the intellectual ability-competence relationship when competence was measured as three observed variables. Specifically, compared to individuals high in Sum-Maturity, individuals low in Sum-Maturity evidenced stronger associations between intellectual ability and Reasoning and between intellectual ability and Appreciation, indicating that intellectual ability might serve as a protective factor for immature individuals entering the juvenile justice system. Similarly, compared to individuals high

in R-Rec1, individuals low in R-Rec1 evidenced stronger associations between intellectual ability and Reasoning and between intellectual ability and Appreciation, suggesting that intellectual ability might serve as a protective factor against functional deficits in competency-related abilities for youth who struggle to recognize risks (R-Rec1). In contrast to these findings, F-Rec1 evidenced the opposite pattern, with stronger associations between intellectual ability and Appreciation for individuals high in F-Rec1 compared to those low in F-Rec1, suggesting that intellectual ability does not serve a protective function for youth who struggle to recognize long-term consequences. Taken together, this pattern of results suggests that, in general, intellectual ability serves a protective function for immature youths (Sum-Maturity) and specifically for youths who struggle to recognize risks (R-Rec1). However, intellectual ability does not appear to protect against juveniles' myopic temporal perspective (F-Rec1).

Taken together, the present dissertation provided further support for the relationships between age, intellectual ability, psychiatric symptomatology, and psychosocial maturity with competence to stand trial. In expanding upon previous research, the present dissertation found that some aspects of maturity partially explain the relationship between age and competence. Furthermore, while maturity was not found to influence the relationship between psychiatric symptomatology and competence, the present findings are the first to highlight the interplay between psychosocial maturity and intellectual ability and how these variables influence competence. Specifically, while results found some support for the relationship between maturity and competence, the present dissertation was the first to find support for the protective role of intellectual

ability for youths low in overall maturity or with difficulties identifying risks. While future research is needed to more fully elucidate the influence of these variables on juveniles' competence to stand trial, the present dissertation represents a step towards understanding the unique considerations inherent in evaluating juveniles' adjudicative competence.

8.8: Overall Summary and Implications

Youthful offenders in the last several decades have entered a juvenile justice system that is radically different from that created in 1899, which was created with explicitly rehabilitative aims. Instead, changing attitudes towards adolescent offenders has lead to their being prosecuted in an increasingly punitive system torn between punishment, retribution, and societal protection on the one hand, and the lingering belief that youthful offenders are still amenable to rehabilitation on the other. Given these changes that make it increasingly possible for juvenile offenders to face the loss of their basic freedoms, it has become necessary to invoke procedural protections previously reserved for adult defendants, including the assurance that juvenile defendants are competent to stand trial. Given the hand-me-down nature of the adult competency standard articulated in *Dusky*, early investigations examining juvenile adjudicative competence examined correlates of competence identified in the adult literature (e.g., intellectual ability, psychiatric symptomatology). Recent researchers, however, have begun to identify other potential factors that might uniquely impact youthful offenders, including psychosocial maturity.

Given this background, the present dissertation found support for a large number of hypotheses concerning the correlates of juvenile competence to stand trial. Considering the wide array of findings, what conclusions can be drawn regarding juveniles' competence to stand trial? First, the consistency of findings pointing to the central role of intellectual ability on competency-related abilities appears to warrant discussion. Specifically, not only did intellectual ability emerge as the single strongest predictor of competency-related abilities compared to the relationships between age, psychiatric symptomatology, and maturity with competency-related abilities, but it also was found to be a strong protective factor against several detrimental outcomes. For example, examining the bivariate correlations among study variables, intellectual ability appears to be a protective factor against each type of psychiatric symptomatology, such that as intellectual ability increases, psychiatric symptomatology appears to decrease. In light of the well-known admonition that correlation does not equal causation, however, it is also possible that lower levels of psychopathology facilitate learning and serve to increase intelligence, and this alternative explanation must also be considered. Furthermore, while deficits in several aspects of psychosocial maturity were found to detrimentally impact juveniles' competency-related abilities, intellectual ability was again found to serve a protective function such that immature youth entering the legal system generally showed improved competency-related abilities as their intellectual abilities increased.

Given the centrality of intellectual ability on youthful defendants' competence found in the present dissertation, these findings carry implications for the legal system.

While Grisso (2000) has argued that youth under the age of 14 facing the possibility of waiver to criminal court should automatically be referred to undergo competency evaluations due to strong evidence suggesting that youth under this age tend to show compromised competency-related abilities, the present findings might suggest that a similar approach for all youth evidencing compromised intellectual abilities might be warranted. For example, adolescents with documented learning disabilities facing the prospects of waiver to the criminal court might also be automatically referred for competency evaluations. Similarly, for youth without documented learning disabilities who court personnel suspect might possess impaired intellectual abilities, it might be desirable to administer a brief screening measure in order to determine the need for more extensive evaluation. Given the strong associations (*r*'s ranging from .34 - .44) between the WASI Vocabulary subtest and MacCAT-CA performance found in the present dissertation, it appears that administering similarly brief (i.e., less than 10 minutes) measures might be an efficient means of identifying at-risk youth.

A second general finding that warrants further discussion surrounds the effects of psychosocial maturity on competence and in particular on juvenile defendants' performance on the Reasoning scale of the MacCAT-CA. While research with adult defendants has consistently found that severe psychiatric symptoms exert their greatest impact on the Appreciation and to a slightly lesser extent the Reasoning scales, these findings were not found in the present dissertation. However, the present findings do suggest that normal immaturity in adolescent defendants might exert a very similar influence on adolescent defendants' ability to reason about their adjudicative process.

While intellectual ability was found to be a protective factor against some of the detrimental effects of immaturity on their ability to reason about their trial situation, however, it appears that youth's near-sighted temporal perspective (F-Rec1) poses a risk to their competence irrespective of their intellectual abilities.

These findings carry potential implications for both the criminal as well as juvenile courts. First, given the increased ease with which adolescent defendants can be transferred to the criminal courts to face prosecution, the present findings point to the need to increase the criminal court's recognition of developmental influences on competency-related abilities. More specifically, the typical predicate conditions of mental disease or defect often required as a basis for finding a defendant incompetent to stand trial appear to be in need of revision to include the effects of normal immaturity. That is, similar to the adverse influence of mental disease and defect on Appreciation and Understanding, respectively, the present dissertation suggests that normal developmental immaturity might exert a similarly negative influence on Reasoning.

Because previous authors contend that the bar for competency for adolescent defendants facing charges in the juvenile court system should be lower than if they were facing more punitive sanctions in the criminal court (Bonnie & Grisso, 2000), it is likely that adolescent defendants deemed incompetent to stand trial due to immaturity in the criminal court might still be found competent to stand trial in the juvenile court system. In light of the growing consensus that punitive sanctions are no longer exclusively under the purview of the criminal courts, however, the question becomes one of how the juvenile court system might respond to working with these developmentally immature

youth who evidence deficits in their competency-related abilities. Drawing on Vygotsky's (1978) research on scaffolding that suggests that a properly structured and supportive environment can help individuals perform up to their maximum potential, Grisso (1986) cogently argues that the juvenile justice system might do well to bear these principles in mind. While an argument in favor of returning to an exclusively rehabilitative juvenile court would likely be regarded as Pollyannaish idealism, that is not to say that meaningful steps in that direction are impossible. For example, it would be possible to embed a structured educational curriculum into the juvenile justice system in order to augment youthful defendant's competent participation in the legal process. Further, in keeping with Vygotsky's (1978) concept of scaffolding, Bonnie and Grisso (2000) have suggested that several procedural protections be introduced, including their suggestion that adolescent defendants be forbidden from waiving counsel or pleading guilty without counsel's consent. While such paternalistic protections would likely minimize the detrimental effects of immature reasoning on adolescents' trial participation, such measures are indeed controversial and run counter to the Supreme Court's decision in *Faretta v California* (1975) that is recognized in the criminal courts.

Finally, the present findings raise an interesting question regarding the dispositional mechanisms in the juvenile and criminal courts for youth found to be incompetent due to immaturity. As it presently stands, findings of incompetence generally lead to efforts at competence restoration. For example, if an actively psychotic defendant is found incompetent to stand trial, the defendant would then be mandated to undergo treatment to ameliorate the psychotic symptoms in an effort to eventually bring

this defendant to trial. In light of the present findings that suggest that defendants' normal developmental immaturity might contribute to significant deficits in their competency-related abilities, the notion of competency restoration becomes a misnomer. What, then, should the legal system do with defendants who would likely be incompetent until normal development comes to fruition? Despite the imperfect nature of Bonnie and Grisso's (2000) suggestions that would potentially impinge on the rights of youthful defendants, such a mechanism appears to be preferable to the alternative of granting an immature defendant the ability to make potentially disastrous legal decisions (based on compromised reasoning) that could carry life-long implications.

8.9: Strengths and Limitations

One particular strength of the present dissertation was the large representative sample that was utilized in which demographic characteristics were matched to those obtained through representative surveys of juvenile detention facilities, thereby increasing the generalizability of the present findings. It should be noted, however, that the large sample size resulted in small effect sizes reaching statistical significance. As a result, some of the statistically significant findings should be interpreted cautiously in light of the possibility that statistical significance in this large sample does not necessarily translate into clinically significant relationships. Further, the present dissertation represents the first empirical investigation to utilize SEM techniques to examine the direct, indirect, and interactive effects of age, intellectual ability, psychiatric symptomatology, and psychosocial maturity.

Despite these strengths, the present dissertation was not without its limitations. One major limitation to the present dissertation is evident in the poor psychometric properties of the JILC instrument. While multiple factorial analyses were conducted to identify a one, two, or three factor structure for the JILC instrument, none of these models resulted in an acceptable fit. While the JILC instrument is theoretically divided to include three constructs, including Future Time Perspective, Risk Orientation, and Resistance to Peer Influence, the data did not support the factorial validity of these constructs. As a result, all analyses included four individual JILC scales as well as one count variable that was constructed to represent the most general measure of maturity in the present dissertation. While such an approach was statistically necessary, it resulted in a large number of analyses that makes the interpretation of findings more difficult.

Given the poor psychometric properties of the JILC instrument, a theoretically and empirically-driven process guided the selection of variables that included making an effort to capture each domain of psychosocial maturity as well as including variables that were correlated with age to ensure that the variables were truly capturing developmental phenomena. While R-App1 (the likelihood of a negative consequence occurring) was the only JILC variable not related to age, its theoretical relevance to maturity resulted in its inclusion in the present dissertation. Further, given its hypothesized role as a moderating variable, it was not statistically necessary for R-App1 to be related to competence. However, it will be important for future research to develop a psychometrically sound instrument to assess psychosocial maturity in the context of adolescents' legal decision making.

Because the present dissertation is the first to examine the factorial validity of the theoretically-driven JILC constructs and there is no published data on the psychometric properties of this instrument, it is important to consider potential reasons for the poor performance of this measure. It should be noted, however, that such considerations are anchored in the non-essential assumption that these dimensions of psychosocial maturity need to be related to one another. That is, given the lack of consensus regarding a clear definition of psychosocial maturity in the literature, it is possible that there is no single construct of psychosocial maturity that can be captured in a single latent construct. However, if we work from the assumption that individual aspects of psychosocial maturity can be clearly defined and measured, it remains possible that given the developmental "unevenness" of the attainment of various aspects of psychosocial maturity, measurement would continue to pose psychometric difficulties. Insofar as adolescents might have attained some aspects of maturity but not others, the identification of a single latent construct of psychosocial maturity would theoretically remain difficult until all aspects have developed.

In light of these possibilities, potential explanations for the poor performance of the JILC in the present dissertation might be framed along both psychometric and conceptual lines. Psychometrically, it is possible that low variance and circumscribed range adversely affected the measurement model. At a conceptual level, it is possible that several JILC subscales suffer from a high degree of overlap with other factors that might potentially exert an influence on measurement. Using R-Rec1 as an example, which asks participants to identify all of the potential risks for the best and worst choices that a

hypothetical defendant might make in different legal contexts, simply counting the total number of risks identified might not provide a "pure" measure of maturity's influence on risk recognition. Instead, it is possible that R-Rec1 might also be tapping other unintended constructs, such as verbal ability and cognitive flexibility, which could similarly facilitate the naming of many hypothetical risks. Strong associations between R-Rec1 and F-Rec1, which are theoretically distinct dimensions of psychosocial maturity, attest to the potential role of shared measurement variance.

Similarly, the R-App1 scale which asks participants to rate the likelihood of a negative consequence occurring might fail to capture the full complexity of psychosocial maturity. Because psychosocial maturity is conceptualized as a cognitive-emotional construct, the measurement of risk appraisal should necessarily entail cognitive and emotional aspects. By asking participants to rate the likelihood of a hypothetical consequence for a hypothetical defendant, the possibility arises that this question exclusively taps the cognitive aspects of psychosocial maturity while failing to get at the emotional factors that underlie risk appraisal as it occurs in adolescents' real life decision making.

8.10: Conclusion

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 to the unique developmental influences effecting youthful offenders. Under the adult standard emphasizing mental disease or defect, a defendant that is free of severe psychiatric symptomatology and not mentally retarded 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 towards 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. I hope that these findings will shed some light on this issue.

References

Adams v. United States ex rel. McCann, 317 U.S. 269, (1942).

Arbuckle, J.L. (1999). Amos 4.0 [Computer software]. Chicago: Smallwaters.

Archer, R.P., Stredny, R.V., Mason, J.A., & Arnau, R.C. (2004). An examination and replication of the psychometric properties of the Massachusetts Youth Screening Instrument-Second Edition (MAYSI-2) among adolescents in detention settings. *Assessment, 11*, 290-302.

Ash, P. (2003). Commentary: Risk markers for incompetence in juvenile defendants. *Journal of the American Academy of Psychiatry and Law, 31*, 310-313.

Baron, R.M., & Kenny, D.A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173-1182.

Benthin, A., Slovic, P., & Severson, H. (1993). A psychometric study of adolescent risk perception. *Journal of Adolescence, 16*, 153-168.

Bentler, P.M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107*, 238-246.

Berndt, T.J. (1979). Developmental changes in conformity to peers and parents. *Developmental Psychopathology, 15*, 608-615.

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

Bonnie, R.J., & Grisso, T. (2000). Adjudicative competence and youthful offenders. In T. Grisso & R.G. Schwartz (Eds.), *Youth on trial: A developmental perspective on criminal justice.* Chicago: University of Chicago Press.

Brookhart v. Janis, 384 U.S. (1966).

Butts, J., & Harrell, A. (1998). *Delinquents or criminals: Policy options for young offenders*. Washington, DC: Urban Institute.

Byrne, B.M. (2001). *Structural equation modeling with AMOS: Basic concepts, applications, and programming*. Mahwah, NJ: Lawrence Erlbaum Associates.

Cauffman, E., & Steinberg, L. (1997, April). *Maturity of judgment: Psychosocial factors in adolescent decision making*. Paper presented at the Biennial Conference of the Society for Research in Child Development, Washington, DC.

Cauffman, E., & Steinberg, L. (2000). (Im)maturity of judgment in adolescence: Why adolescents may be less culpable than adults. *Behavioral Sciences and the Law, 28*, 741-760.

Cauffman, E., & Woolard, J. (2005). Crime, competence, and culpability: Adolescent judgment in the justice system. In J.E. Jacobs & P.A. Klaczynski (Eds.), *The Development of Judgment and Decision Making in Children and Adolescents* (pp. 279-301). Malwah, NJ: Lawrence Erlbaum Associates.

Cocozza, J. (1992). *Responding to the mental health needs of youth in the juvenile justice system.* Seattle, WA: National Coalition for the Mentally Ill in the Criminal Justice System.

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

Cooper v. Oklahoma, 517 U.S. 348 (1996).

Cowden, V., & McKee, G. (1995). Competency to stand trial in juvenile delinquency proceedings: Cognitive maturity and the attorney-client relationship. *Journal of Family Law, 33*, 629-660.

Drope v. Missouri, 420 U.S. 162, 172 (1975).

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

Elliott, D.S., Ageton, D., Huizinga, B., Knowles, B., & Canter, R. (1983). *The prevalence and incidence of delinquent behavior: 1976-1980. (The National Youth Survey Report No. 26)*. Boulder, CO: Behavioral Research Institute.

Faretta v. California, 422 U.S. 806 (1975).

Ficke, S.L., Hart, K.J., & Deardorff, P.A. (2006). The performance of incarcerated juveniles on the MacArthur Competence Assessment Tool-Criminal Adjudication (MacCAT-CA). *Journal of the American Academy of Psychiatry and Law, 34*, 360-373.

Finn, P., & Bragg, B.E. (1986). Perception of the risk of an accident by young and older drivers. *Accident Analysis and Prevention, 18*, 289-298.

Ford, M., Wentzel, K., Wood, D., Stevens, E., & Siesfeld, G.A. (1990). Processes associated with integrative social competence: Emotional and contextual influences on adolescent social responsibility. *Journal of Adolescent Research, 4*, 405-425.

Fried, C.S., & Reppucci, N.D. (2001). Criminal decision making: The development of adolescent judgment, criminal responsibility, and culpability. *Law and Human Behavior, 25*, 45-61.

Furby, L., & Beyth-Marom, R. (1992). Risk-taking in adolescence: A decision-making perspective. *Development Review, 12*, 1-44.

Gardner, W. (1992). A life span theory of risk taking. In N. Bell (Ed.), *Adolescent and adult risk taking: The eighth Texas Tech symposium on interfaces in psychology*. Newbury Park: Sage.

Gardner, W., & Herman, J. (1991). Adolescents' AIDS risk taking: A rational choice perspective. In W. Gardner, S. Millstein, & B. Wilcox (Eds.), *Adolescents in the AIDS epidemic* (pp. 17-34). San Francisco: Jossey-Bass.

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

Greenberger, E., Josselson, R., Knerr, C., & Knerr, B. (1974). The measurement and structure of psychosocial maturity. *Journal of Youth and Adolescence, 4*, 127-143.

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

Grisso, T. (2003). *Evaluating Competencies: Forensic Assessments and Instruments* (2nd ed.). New York, NY: Kluwer Academic/Plenum Publishers.

Grisso, T. (1998). *Forensic Evaluation of Juveniles*. Sarasota, FL: Professional Resource Press.

Grisso, T., & Barnum, R. (2000). *Manual for the Massachusetts Youth Screening Instrument-Second Version (MAYSI-2)*. Worcester, MA: University of Massachusetts Medical School.

Grisso, T., Barnum, R., Fletcher, K.E., Cauffman, E., & Peuschold, D. (2001). Massachusetts youth screening instrument for mental health needs of juvenile

justice youths. *Journal of the American Academy of Child & Adolescent Psychiatry, 40*, 541-548.

Grisso, T., Miller, M., & Sales, B. (1987). Competency to stand trial in juvenile court. *International Journal of Law and Psychiatry, 10*, 1-20.

Grisso, T., Steinberg, L., Woolard, J., Cauffman, E., Scott, E., Graham, S., Lexcen, F., Reppucci, N.D., & Schwartz, R. (2003). Juveniles' competence to stand trial: A comparison of adolescents' and adults' capacities as trial defendants. *Law and Human Behavior, 27*, 333-363.

Hart, S.D., & Hare, R.D. (1992). Predicting fitness to stand trial: The relative power of demographic, criminal, and clinical variables. *Forensic Reports, 5*, 53-65.

Heilbrun, K., Hawk, G., & Tate, D.C. (1996). Juvenile competence to stand trial: Research issues in practice. *Law and Human Behavior, 20*, 573-578.

Hoge, S.K., Bonnie, R.J., Poythress, N., & Monahan, J. (1992). Attorney-client decision-making in criminal cases: Client competence and participation as perceived by their attorneys. *Behavioral Sciences and the Law, 10*, 385-394.

Hoge, S.K., Bonnie, R.J., Poythress, N., & Monahan, J. (2005). *MacArthur Competence Assessment Tool-Criminal Adjudication*. Lutz, FL: Psychological Assessment Resources.

Hoge, S.K., Bonnie, R.J., Poythress, N., Monahan, J., Eisenberg, M., & Feucht-Haviar, T. (1997). The MacArthur Adjudicative Competence Study: Development and validation of a research instrument. *Law and Human Behavior, 21*, 141-179.

Hoge, S.K., Poythress, N., Bonnie, R.J., Monahan, J., Eisenberg, M., & Feucht-Haviar, T. (1997). The MacArthur adjudicative competence study: Diagnosis, psychopathology, and competence-related abilities. *Behavioral Sciences and the Law, 15*, 329-345.

Howell, J., Krisberg, B., Hawkins, J., & Wilson, J. (1995). *Serious, violent, and chronic juvenile offenders*. Thousand Oaks, CA: Sage.

Hu, L., & Bentler, P.M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1-55.

Hubbard, K.L., Zapf, P.A., & Ronan, K.A. (2003). Competency restoration: An examination of the differences between defendants predicted restorable and not restorable to competency. *Law and Human Behavior, 27*, 127-139.

In re Causey, 363 So.2d 472 (1978).

In re Gault, 387 U.S. 1 (1967).

In re S.W.T., 277 N.W.2d 507 (1979).

In re Two Minor Children, 592 P.2d 166 (1979).

Jackson v. Indiana, 406 U.S. 715 (1967).

Jacobs, M.S., Ryba, N.L., & Zapf, P.A. (2008). Competence-related abilities and psychiatric symptoms: An analysis of the underlying structure and correlates of the MacCAT-CA and the BPRS. *Law and Human Behavior, 32*, 64-77.

Kent v. United States, 383 U.S. 541 (1966).

Kline, R.B. (1998). *Principles and practice of structural equation modeling*. New York: Guilford Press.

Laboratory of Community Psychiatry, Harvard Medical School (1973). *Competency to stand trial and mental illness*. Rockville, MD: Department of Health Education and Welfare.

MacArthur Research Network. (August, 2002). Working paper for the MacArthur research network on adolescent development and juvenile justice: Method, measures, and procedures for the juvenile adjudicative competence study. Unpublished working paper.

MacKinnon, D.P., Lockwood, C.M., & Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivariate Behavioral Research, 39*, 99-128.

May v. State, 618 S.W. 2d 333 (1981).

McKee, G.R., & Shea, S.J. (1999). Competency to stand trial in family court: Characteristics of competent and incompetent juveniles. *Journal of the American Academy of Psychiatry and Law, 27*, 65-73.

Melton, G.B., Petrila, J., Poythress, N.G., & Slobogin, C. (2007). *Psychological evaluations for the courts: A handbook for mental health professionals and lawyers, 3rd Edition.* New York, NY: The Guilford Press.

Modecki, K.L. (2009). "It's a rush": Psychosocial content in antisocial decision making. *Law and Human Behavior, 33*, 183-193.

Moffitt, T.E. (1993). Adolescence-limited and life-course-persistent antisocial behavior: A developmental taxonomy. *Psychological Review, 100,* 674-701.

Nicholson, R., & Kugler, K. (1991). Competent and incompetent criminal defendants: A quantitative review of comparative research. *Psychological Bulletin, 109*, 355-370.

Otto, R., Greenstein, J., Johnson, M., & Friedman, R. (1992). Prevalence of mental disorders among youth in the juvenile justice system. In J. Cocozza (Ed.). *Responding to the mental health needs of youth in the juvenile justice system*. Seattle, WA: National Coalition for the Mentally Ill in the Criminal Justice System.

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

Overall, J.E., & Gorham, D.R. (1962). The Brief Psychiatric Rating Scale. *Psychological Reports, 10*, 799-812.

Pate v. Robinson, 383 U.S. 375 (1966).

Poythress, N.G., Bonnie, R.J., Monahan, J., Otto, R., & Hoge, S.K. (2002). *Adjudicative competence: The MacArthur studies*. New York: Plenum Publishers.

Poythress, N., Lexcen, F.J., Grisso, T., & Steinberg, L. (2006). The competence-related abilities of adolescent defendants in criminal court. *Law and Human Behavior, 30,* 75-92.

Psychological Corporation (1999). *Wechsler Abbreviated Scale of Intelligence Manual.* San Antonio, TX: Psychological Corporation.

Regina v Pritchard, 173 Eng Rep 135 (1836).

Rock v. Arkansas, 107 S.Ct. 2704 (1987).

Roesch, R., Hart, S.D., & Zapf, P.A. (1996). Conceptualizing and assessing competency to stand trial: Implications and applications of the MacArthur Treatment Competence Model. *Psychology, Public Policy, and Law, 2*, 96-113.

Roesch, R., Webster, C.D., & Eaves, D. (1984). *The Fitness Interview Test: A method for examining fitness to stand trial.* Toronto: Research Report of the Centre of Criminology, University of Toronto.

Roesch, R., Zapf, P., Eaves, D., & Webster, C. (1998). *Fitness Interview Test (Revised Edition).* Burnaby, British Columbia, Canada: Mental Health, Law, and Public Policy Institute, Simon Frasier University.

Rosenfeld, B., & Wall, A. (1998). Psychopathology and competence to stand trial. *Criminal Justice and Behavior, 25*, 443-462.

Ryba, N.L., Cooper, V.G., Zapf, P.A. (2003). Juvenile competence to stand trial evaluations: A survey of current practices and test usage among psychologists. *Professional Psychology: Research and Practice, 34*, 499-507.

Savitsky, J.C., & Karras, D. (1984). Competency to stand trial among adolescents. *Adolescence, 74*, 349-358.

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

Shafer, A. (2005). Meta-analysis of the Brief Psychiatric Rating Scale Factor Structure. *Psychological Assessment, 17*, 324-335.

Sickmund, M. (1994). *How juveniles get to criminal court.* Juvenile Justice Bulletin: OJJDP Update on Statistics. Washington, DC: U.S. Department of Justice.

Sickmund, M., Snyder, H.N., & Poe-Yamagata, E. (1997). *Juvenile offenders and victims: 1997 update on violence*. Washington, DC: Office of Juvenile and Delinquency Prevention.

State v. Kempf, 282 N.W. 2d 704 (1979).

Steiger, J.H., & Lind, J.C. (1980, June). *Statistically based tests for the number of common factors.* Paper presented at the Psychometric Society Annual Meeting, Iowa City, IA.

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

Steinberg, L., & Silverberg, S.B. (1986). The vicissitudes of autonomy in early adolescence. *Child Development, 57*, 841-851.

Strathman, A., Gleicher, F., Boninger, D., & Edwards, C.S. (1994). The consideration of future consequences: Weighing immediate and distant outcomes of behavior. *Journal of Personality and Social Psychology, 66*, 742-752.

United States v. Adams, 297 F. Supp. 596 (1969).

United States v. Lawrence, 26 F. Cas. 887 (D.C. Cir. 1835).

Viljoen, J.L., Roesch, R., & Zapf, P.A. (2002). An examination of the relationship between competency to stand trial, competency to waive interrogation rights, and psychopathology. *Law and Human Behavior, 26*, 481-506.

Viljoen, J.L., Roesch, R., & Zapf, P.A. (2002). Interrater reliability of the Fitness Interview Test across 4 professional groups. *Canadian Journal of Psychiatry, 47*, 945-952.

Viljoen, J.L., Slaney, K.L., & Grisso, T. (2009). The use of the MacCAT-CA with adolescents: An item response theory investigation of age-related measurement bias. *Law and Human Behavior, 33*, 283-297.

Viljoen, J.L., & Zapf, P.A. (2002). Fitness to stand trial evaluations: A comparison of referred and non-referred defendants. *International Journal of Forensic Mental Health, 1*, 127-138.

Viljoen, J.L., Zapf, P.A., & Roesch, R. (2003). Diagnosis, current symptomatology, and the ability to stand trial. *Journal of Forensic Psychology Practice, 3*, 23-37.

Vygotsky, L. (1978). *Mind in Society*. Cambridge, MA: Harvard University Press.

Warren, J.I., Aaron, J., Ryan, E., Chauhan, P., & DuVal, J. (2003). Correlates of adjudicative competence among psychiatrically impaired juveniles. *Journal of the American Academy of Psychiatry and Law, 31*, 299-309.

Wieter v. Settle, 193 F. Supp. 318 (W.D. Mo., 1961).

Wildman, R. (1978). *The Georgia Court Competency Test: An attempt to develop a rapid, quantitative measure of fitness for trial.* Unpublished manuscript: Forensic Services Division, Central State Hospital, Milledgeville, GA.

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

Woolard, J.L., Odgers, C., Lzna-Kaduce, L., & Daglis, H. (2005). Juveniles within adult correctional settings: Legal pathways and developmental considerations. *International Journal of Forensic Mental Health, 4*, 1-18.

Woolard, J.L., & Reppucci, N.D. (2000). Researching juveniles' capacities as defendants. In T. Grisso & R. Schwartz (Eds.), *Youth on Trial* (pp. 173-192). Chicago: University of Chicago Press.

Woolard, J.L., Reppucci, N.D., Steinberg, L., Grisso, T., & Scott, E.S. (2003). Judgment in Legal Contexts Instrument Manual.

Youtsey v. United States, 97 F. 937, 940-41 (6th Cir. 1899)

Zapf, P.A., & Roesch, R. (2001). A comparison of the MacCAT-CA and the FIT for making determinations of competency to stand trial. *International Journal of Law and Psychiatry, 24*, 81-92.

Zapf, P.A., & Roesch, R. (2006). Competency to stand trial: A guide for evaluators. In I.B. Weiner & A.K. Hess (Eds.), *The handbook of forensic psychology* (3rd edition, pp. 305-331). Hoboken, NJ: John Wiley & Sons, Inc.

Zapf, P.A., & Viljoen, J.L. (2003). Issues and considerations regarding the use of assessment instruments in the evaluation of competency to stand trial. *Behavioral Sciences and the Law, 21*, 351-367.

Zimbardo, P.G. (1990). *The Stanford Time Perspective Inventory*. Stanford, CA: Stanford University.

Zimring, F.E. (1998). *American Youth Violence.* New York, NY: Oxford University Press.

Appendix

Appendix A

Table 1. Demographic Composition of Detained and Community Samples

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

Note. This table appears in Grisso et al. (p. 337, 2003).

Appendix B

Table 2a. Correlations, Means, and Standard Deviations of Observed Study Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Age	---	.20**	.22**	.18**	.12**	.13**	.04	.12**	.24**	.02	.01	.22**	.06	.04	.09**	-.01	-.02
2. MacCAT Understanding		---	.44**	.39**	.15**	.17**	-.04	.08*	.19**	.40**	.26**	.06	-.08*	-.10**	-.05	-.02	-.04
3. MacCAT Reasoning			---	.43**	.30**	.32**	-.03	.10**	.30**	.44**	.30**	-.01	-.10**	-.10**	-.04	-.07*	-.05
4. MacCAT Appreciation				---	.19**	.25**	.02	.08*	.28**	.34**	.23**	.04	-.06	-.04	-.01	-.01	.01
5. JILC F-Rec1					---	.70**	.02	.02	.75**	.30**	.21**	-.02	-.02	-.02	.03	-.01	.00
6. JILC R-Rec1						---	-.01	.07*	.77**	.31**	.23**	.03	.07*	.02	.08*	.03	.05
7. JILC R-App1							---	.06	.58**	-.04	-.01	.05	.08*	.06	.07*	-.03	.03
8. JILC R-App2								---	.60**	.03	-.02	.00	-.01	.01	.02	-.03	-.04
9. Maturity High-Low									---	.24**	.16**	.06	.08	.03	.05	-.06	.01
10. WASI Vocabulary										---	.55**	-.16**	-.21**	-.27**	-.11**	-.13**	-.12**
11. WASI Matrix Reasoning											---	-.15**	-.17**	-.20**	-.07*	-.07*	-.04
12. MAYSI Alcohol & Drug												---	.37**	.33*	.26**	.25**	.26**
13. MAYSI Anger/ Irritability													---	.65**	.51**	.44**	.44**
14. MAYSI Depressed/ Anxious														---	.55**	.55**	.49**
15. MAYSI Somatic Concerns															---	.33**	.38**
16. MAYSI Suicide Ideation																---	.38**
17. MAYSI Thought Disturbance																	---
Mean	14.97	11.41	12.22	10.33	4.23	3.27	13.11	14.78	.41	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	1.28	1.90	1.94	.49	11.08	11.07	2.41	2.62	2.13	1.80	1.19	.95

< .05, ** < .01

Appendix B (continued)

Table 2b. Estimated correlation matrix of latent study variables

Variable	1	2	3
1. Psychiatric Symptomatology	--	-.30***	-.13**
2. Intellectual Ability		--	.67***
3. Competence to Stand Trial			--

Note. Estimates are standardized.
*$p < .05$, **$p < .01$, ***$p < .001$

Appendix C

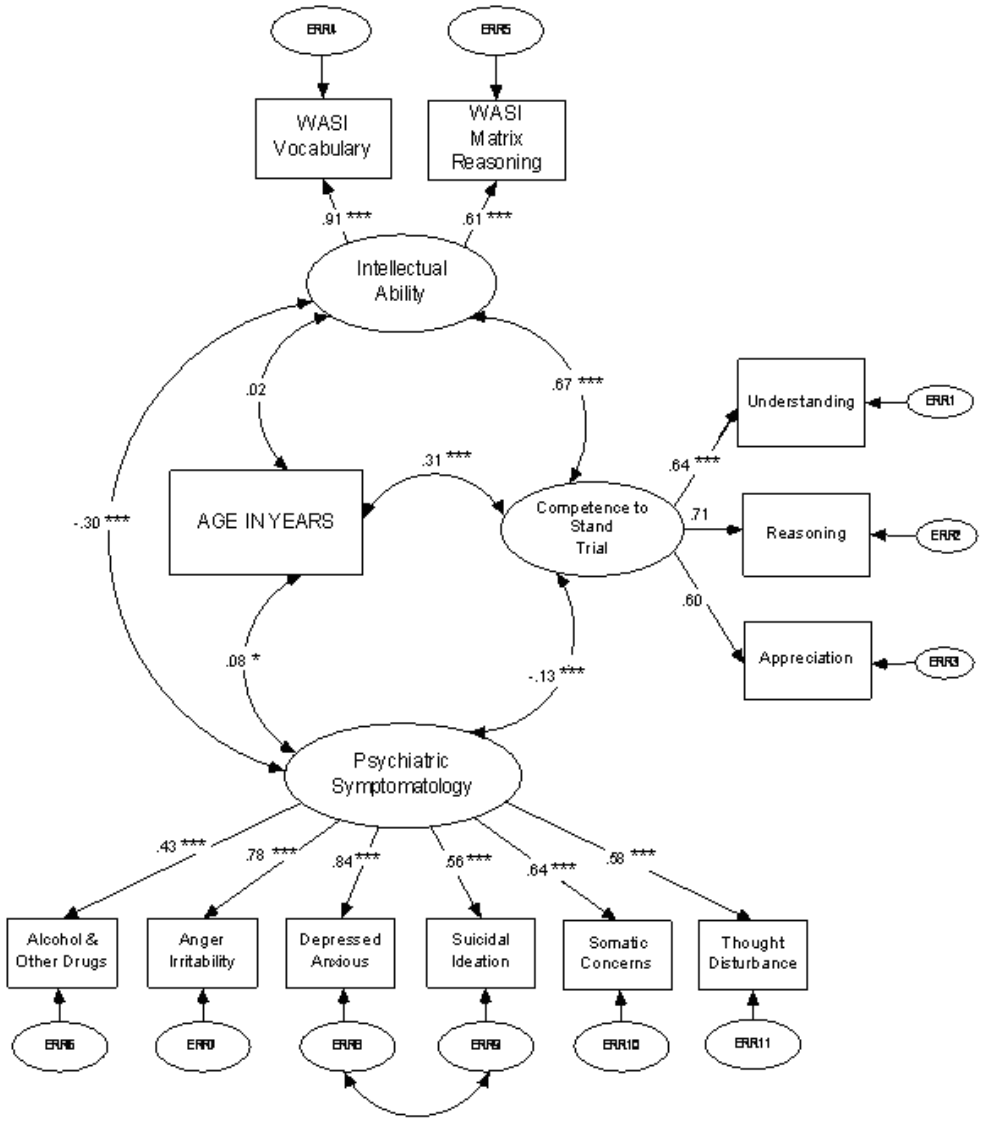

Figure 1. Effects of Age, Intellectual Ability, and Psychiatric Symptoms on Competence
Note. Estimates are standardized.
$*p < .05$, $**p < .01$, $***p < .001$

Appendix D

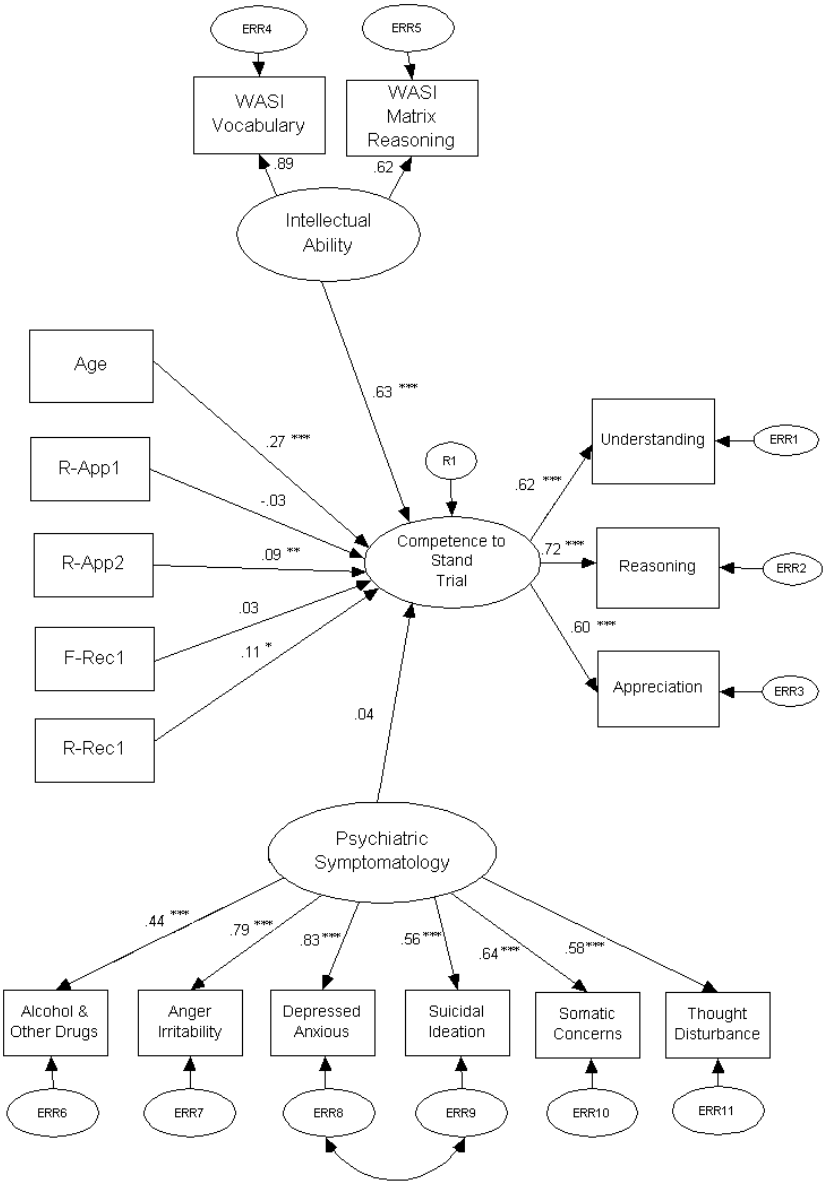

Figure 2. Effects of Psychosocial Maturity Variables on Competence
Note. Estimates are standardized. All covariance terms designated for this model have been omitted from this figure for graphical clarity.
$^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$

Appendix E

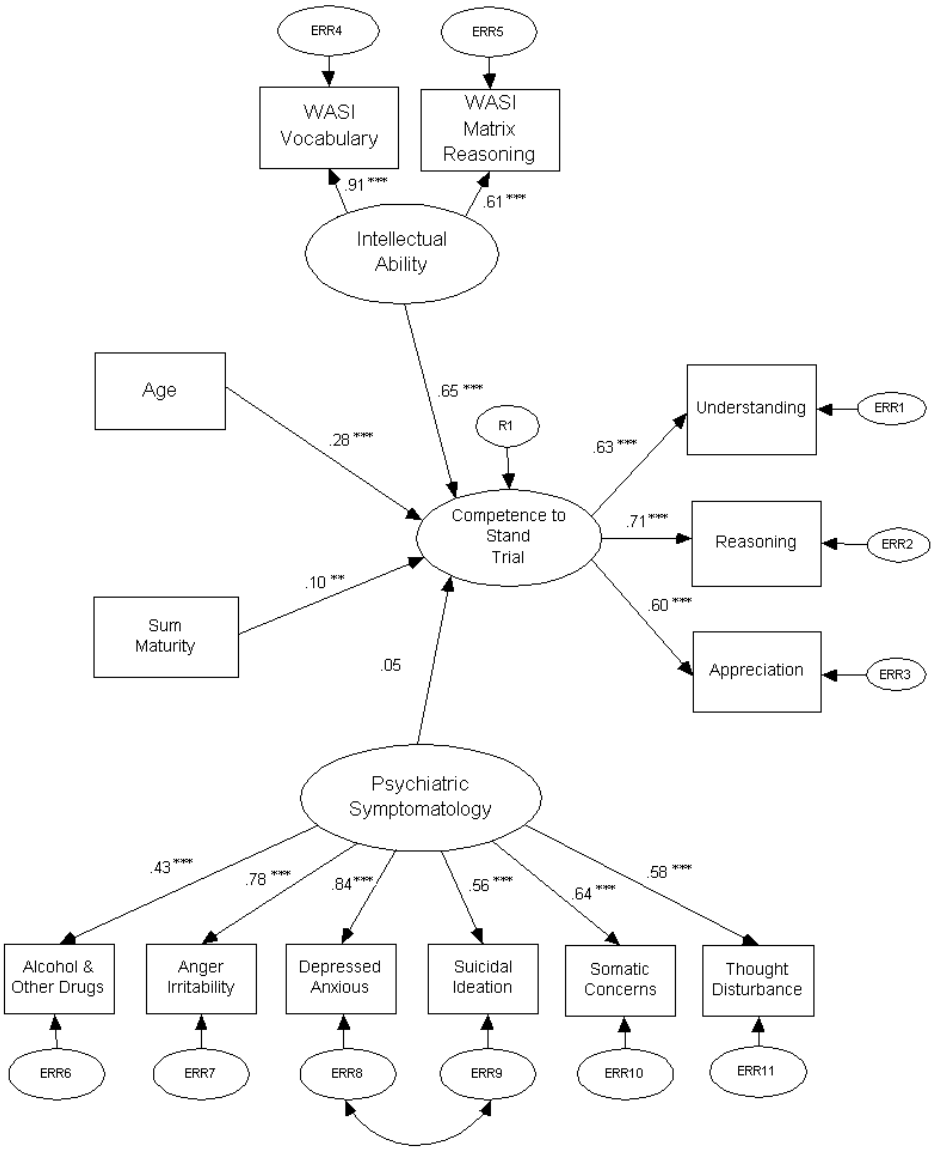

Figure 3. Effects of Sum-Maturity Variable on Competence
Note. Estimates are standardized. All covariance terms designated for this model have been omitted from this figure for graphical clarity.
$*p < .05$, $**p < .01$, $***p < .001$

Appendix F

Table 3. MacCAT-CA and JILC Performance by Age

	Detained				Community			
	Youth Age Groups				Youth Age Groups			
	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
Reasoning	10.62	11.88	12.29	11.85	11.73	12.35	13.23	12.57***
Appreciation	9.36	10.31	10.48	10.23	9.89	10.35	10.81	10.43
JILC								
FTP								
F-Rec1	3.78	4.00	4.24	4.06	4.10	4.33	4.62	4.40**
F-Rec2	71.07	67.45	66.04	67.44	68.93	71.82	68.67	69.79*
F-Rec3	1.46	1.44	1.37	1.41	1.51	1.47	1.44	1.47
RO								
R-Rec1	2.88	3.13	3.43	3.22	3.16	3.21	3.48	3.31
R-Rec2	52.76	52.27	53.18	52.74	51.18	52.80	52.39	52.23
R-App1	12.84	13.29	13.06	13.12	12.90	13.09	13.23	13.10
R-App2	14.45	14.54	15.10	14.76	14.66	14.68	14.98	14.80
RPI	2.14	2.05	1.84	1.98	2.17	2.08	2.14	2.13**

* < .05. ** < .01. *** < .001.

FTP = Future Time Perspective, F-Rec1 = Future Orientation-Recognition, F-Rec2 = Future Orientation-Relative Recognition, F-Rec3 = Future Orientation-Main Reason, RO = Risk Orientation, R-Rec1 = Risk Recognition, R-Rec2 = Relative Risk Recognition, R-App1 = Risk Likelihood, R-App2 = Risk Impact, RPI = Resistance to Peer Influence.

Appendix G

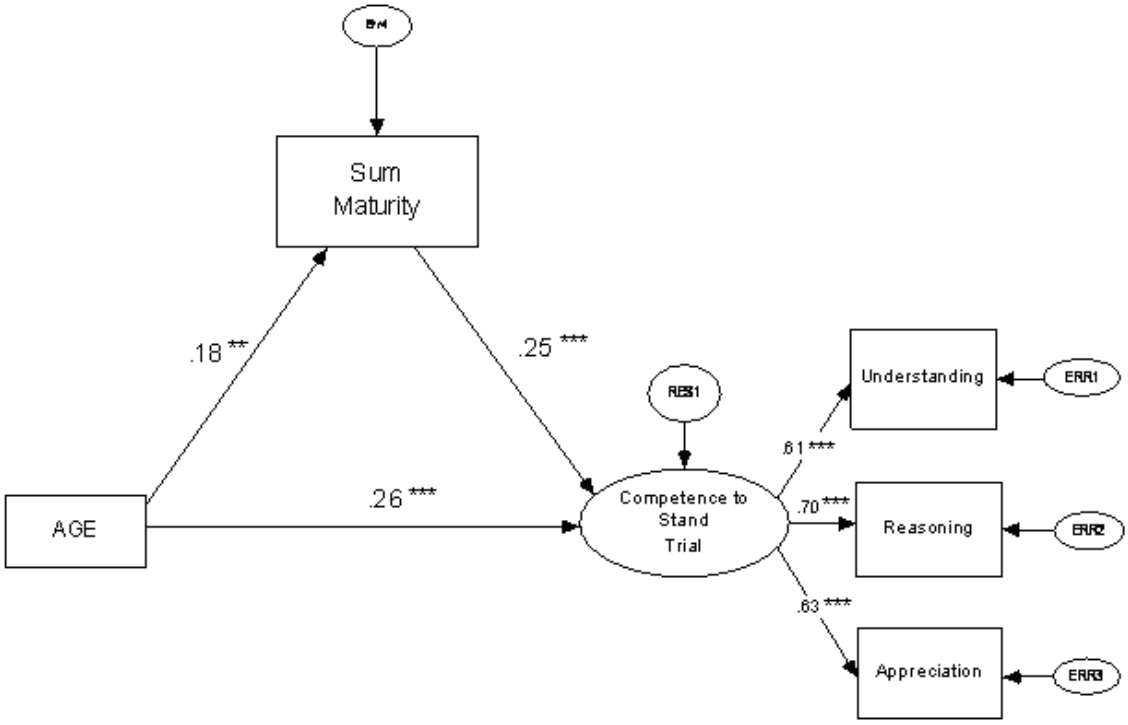

Figure 4. Test of Indirect Effects of Age on Competence through Sum-Maturity
Note. Estimates are standardized.
$*p < .05$, $**p < .01$, $***p < .001$

Appendix H

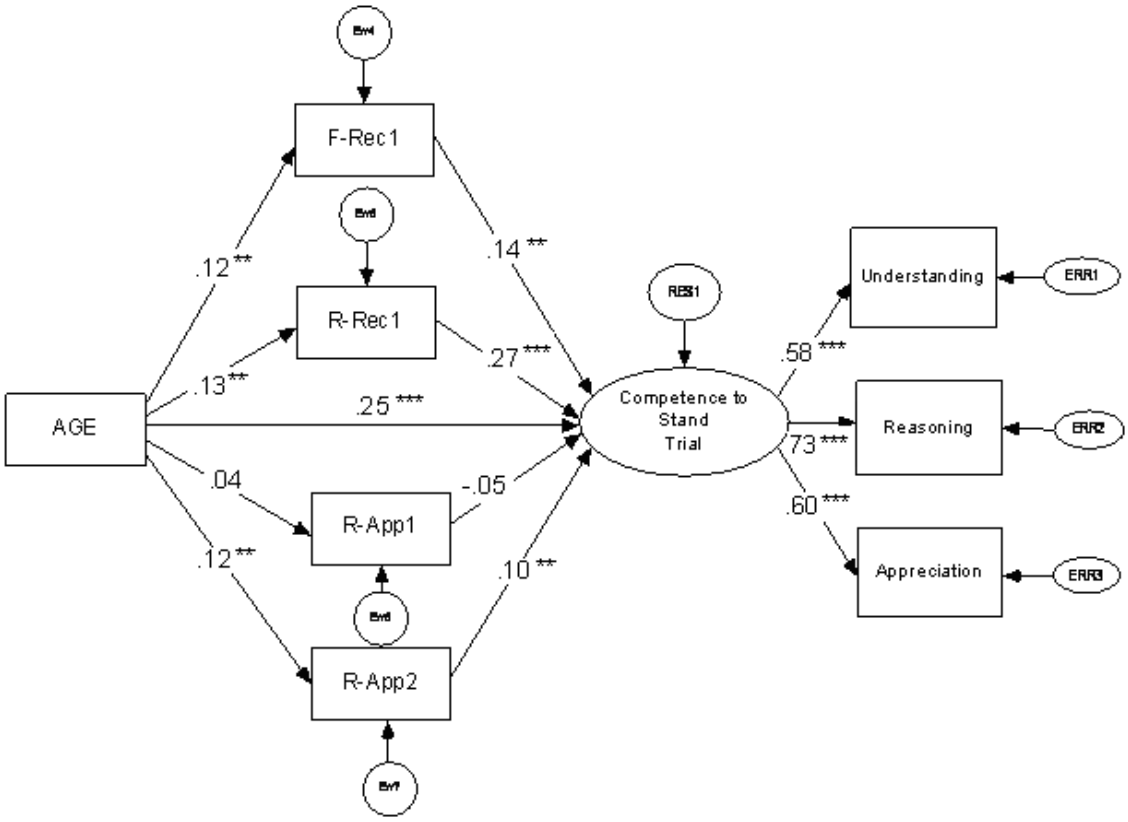

Figure 5. Test of Indirect Effects of Age on Competence through JILC Variables
Note. Estimates are standardized.
**p* < .05, ***p* < .01, ****p* < .001

Appendix I

Table 4. Goodness of Fit Tests of Invariance across R-App2 for MAYSI-2 Factors Loadings

Model Description	Comparative Model	χ^2	*df*	$\Delta\chi^2$	Δdf	Statistical Significance
Model 1	---------	139.56	80	-----	-----	------
All MAYSI-2 factor loadings constrained equal	Model 1	152.06	85	12.50	5	$p < .05$
A/I factor loading constrained equal	Model 1	142.01	81	2.45	1	NS
A/I and D/A factor loadings constrained equal	Model 1	142.03	82	.02	2	NS
A/I, D/A, and SI factor loadings constrained equal	Model 1	149.57	83	7.54	3	NS
A/I, D/A, SI, and SC factor loadings constrained equal	Model 1	150.85	84	1.28	4	NS
A/I, D/A, SI, SC, and TD factor loadings constrained equal	Model 1	152.06	85	1.21	5	NS

A/I = Anger/Irritability; D/A = Depressed/Anxious; SI = Suicide Ideation; SC = Somatic Concerns; TD = Thought Disturbance

Appendix J

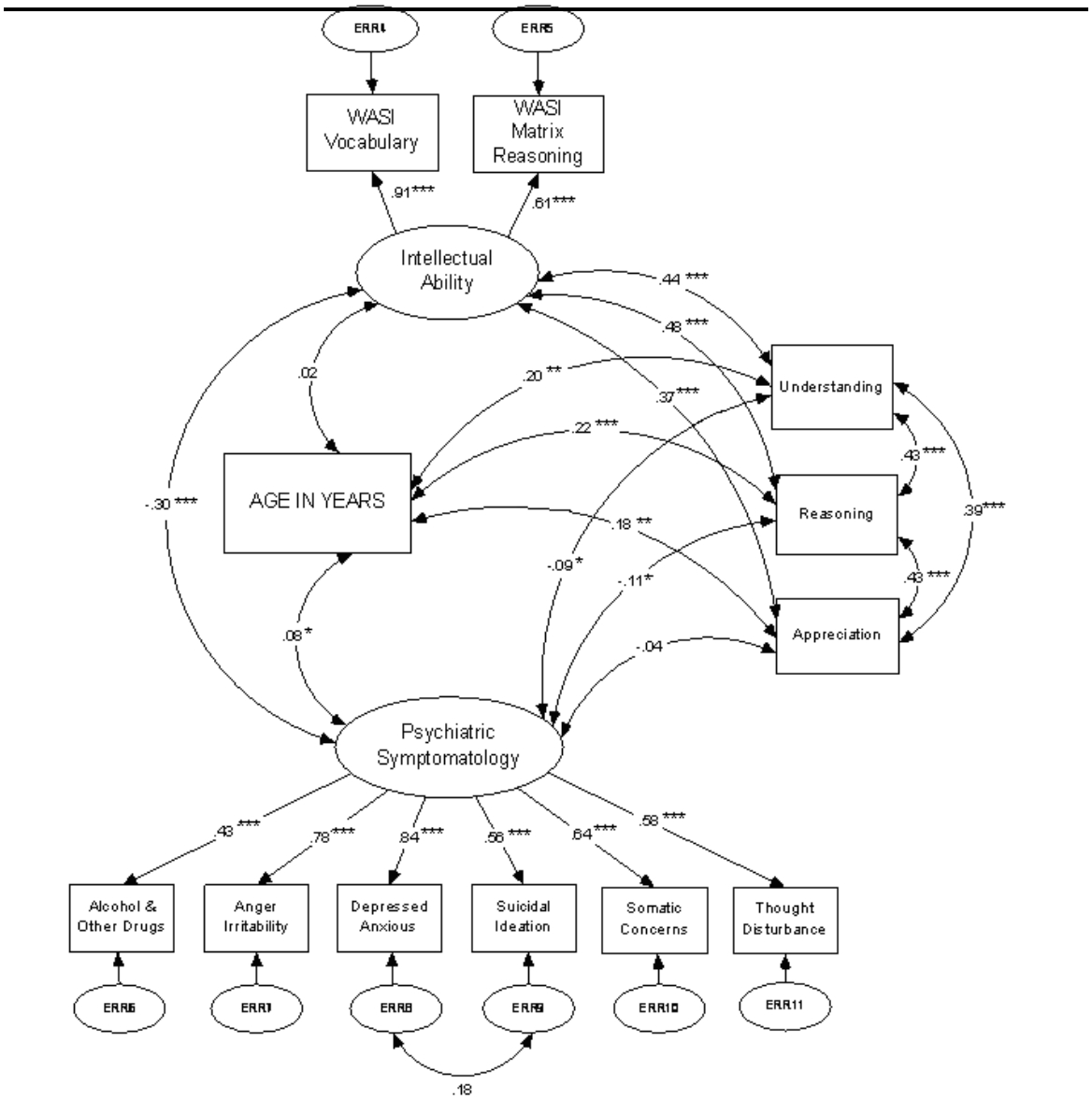

Figure 6. Effects of Age, Intellectual Ability, and Psychiatric Symptoms on MacCAT-CA Scales

Note. Estimates are standardized.

$^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$

Appendix K

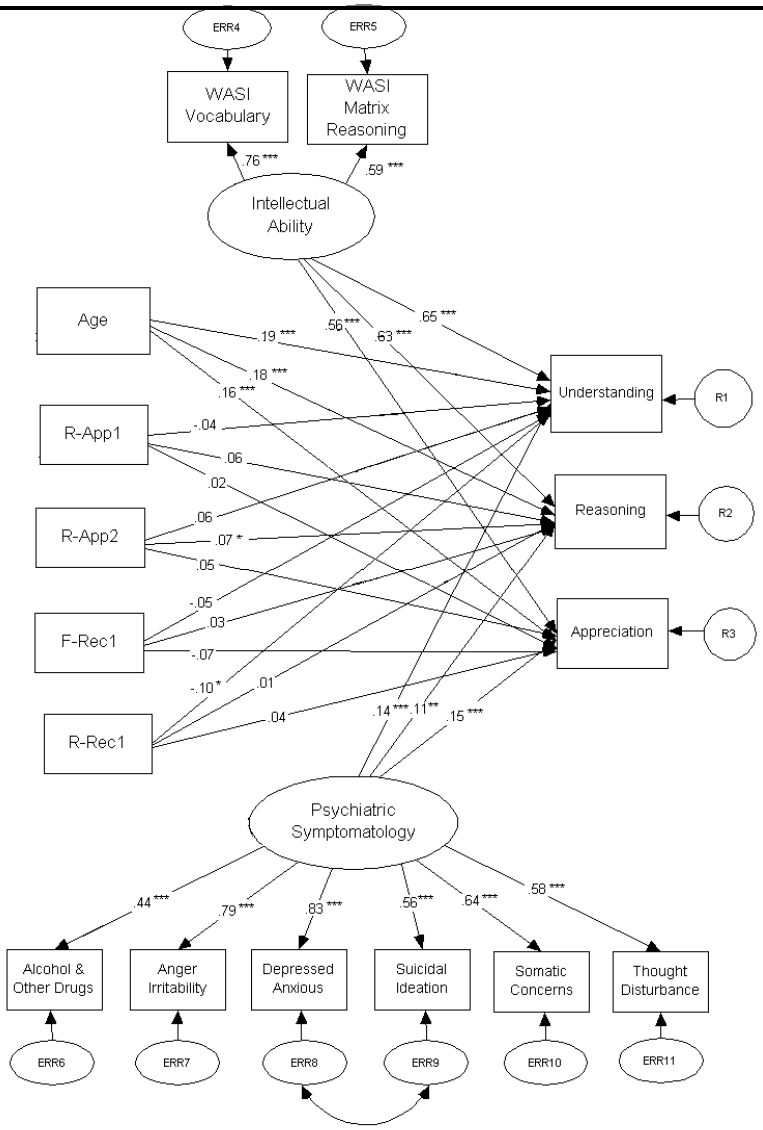

Figure 7. Effects of Psychosocial Maturity Variables on MacCAT-CA Scales
Note. Estimates are standardized. All covariance terms designated for this model have been omitted from this figure for graphical clarity.
$^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$

Appendix L

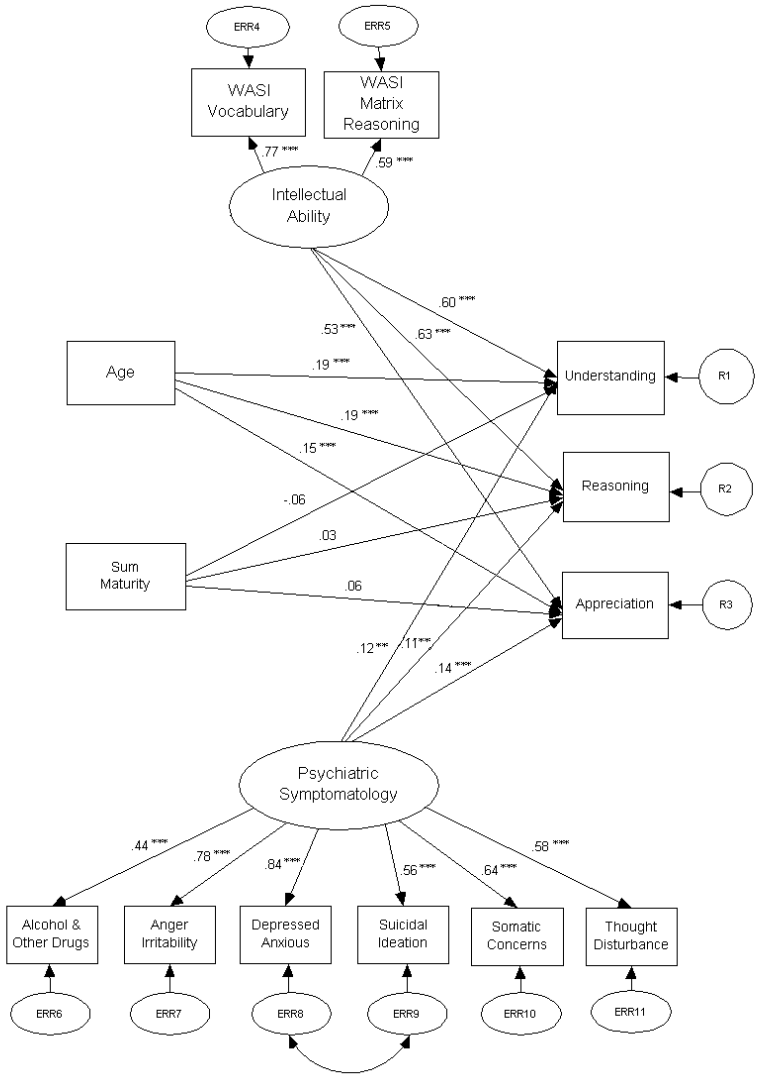

Figure 8. Effects of Sum-Maturity Variable on MacCAT-CA Scales
Note. Estimates are standardized. All covariance terms designated for this model have been omitted from this figure for graphical clarity.
**p* < .05, ***p* < .01, ****p* < .001

Appendix M

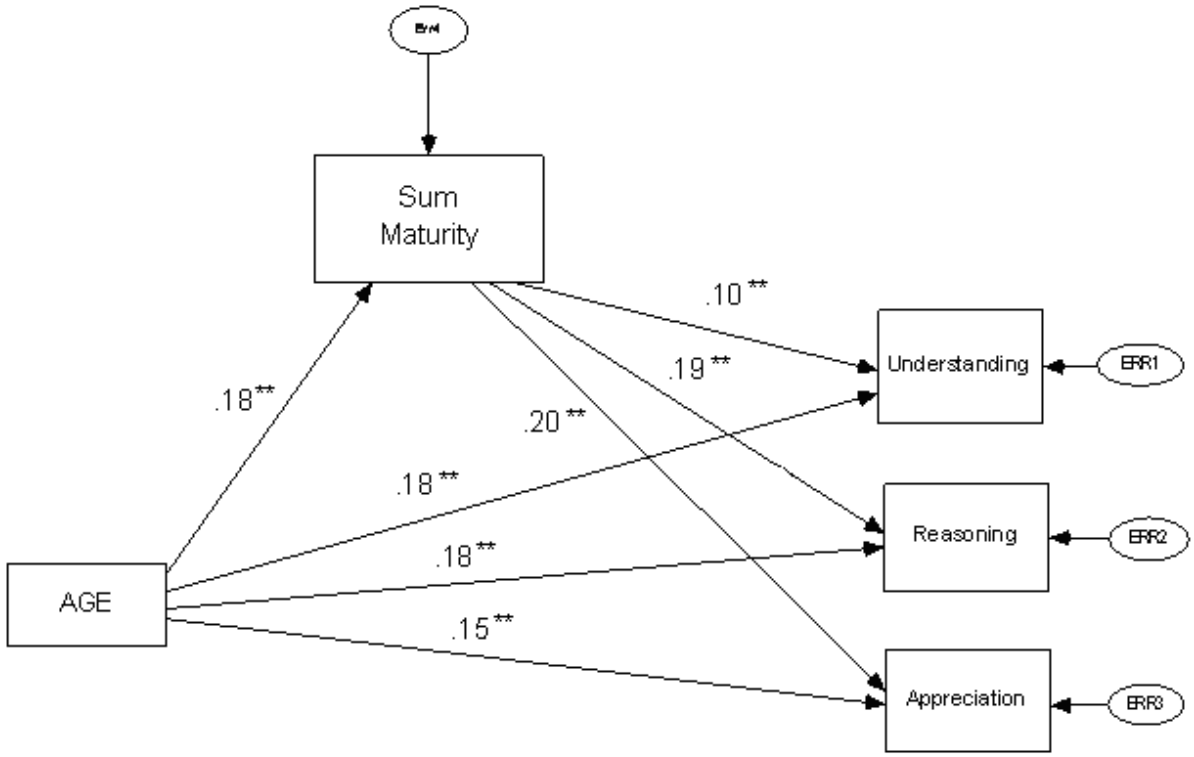

Figure 9. Tests of Indirect Effects of Age on MacCAT-CA scales through Sum-Maturity
Note. Estimates are standardized
$^{**}p < .01$

Appendix N

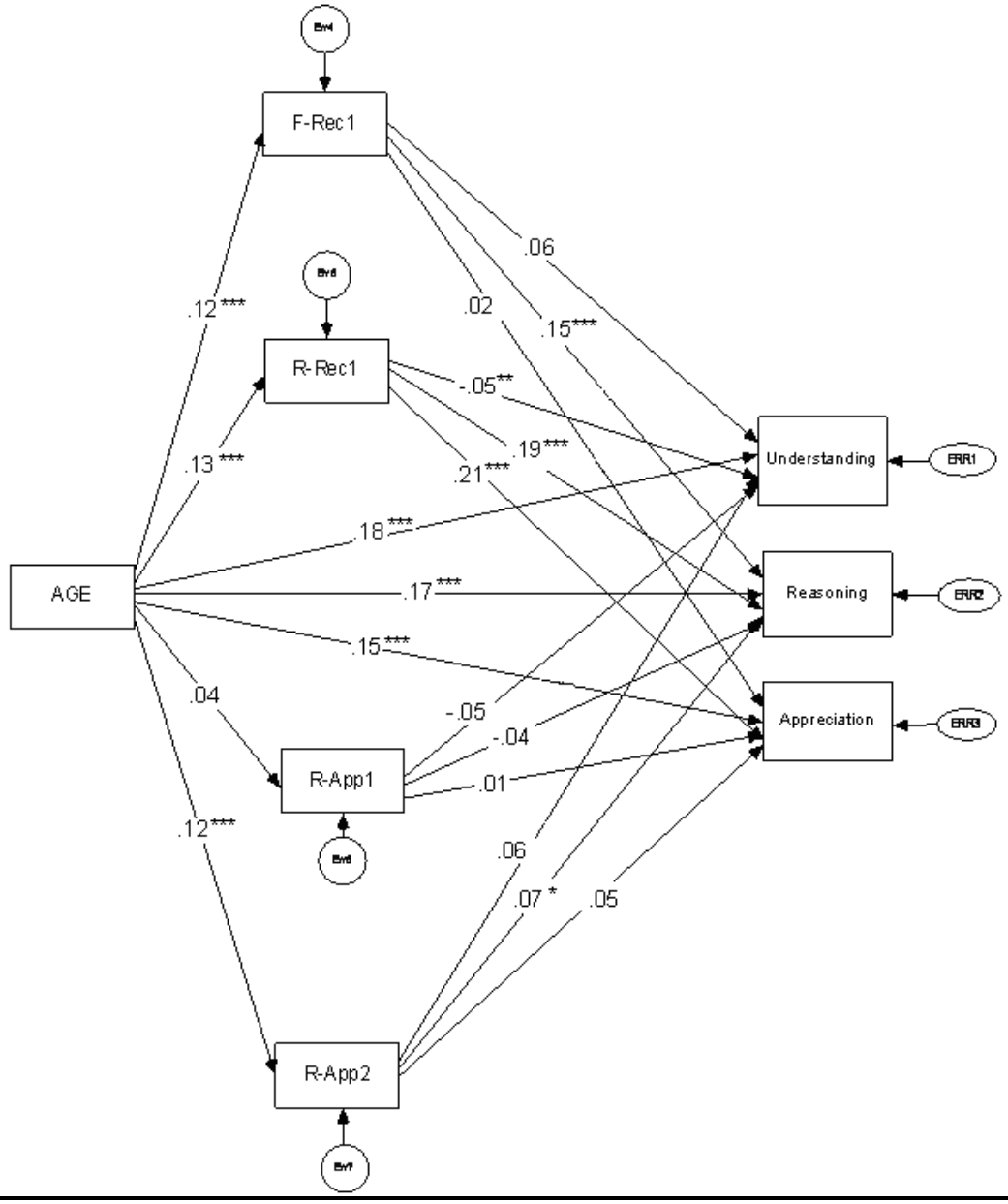

Figure 10. Tests of Indirect Effects of Age on MacCAT-CA scales through JILC Variables

Note. Estimates are standardized

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

Appendix O

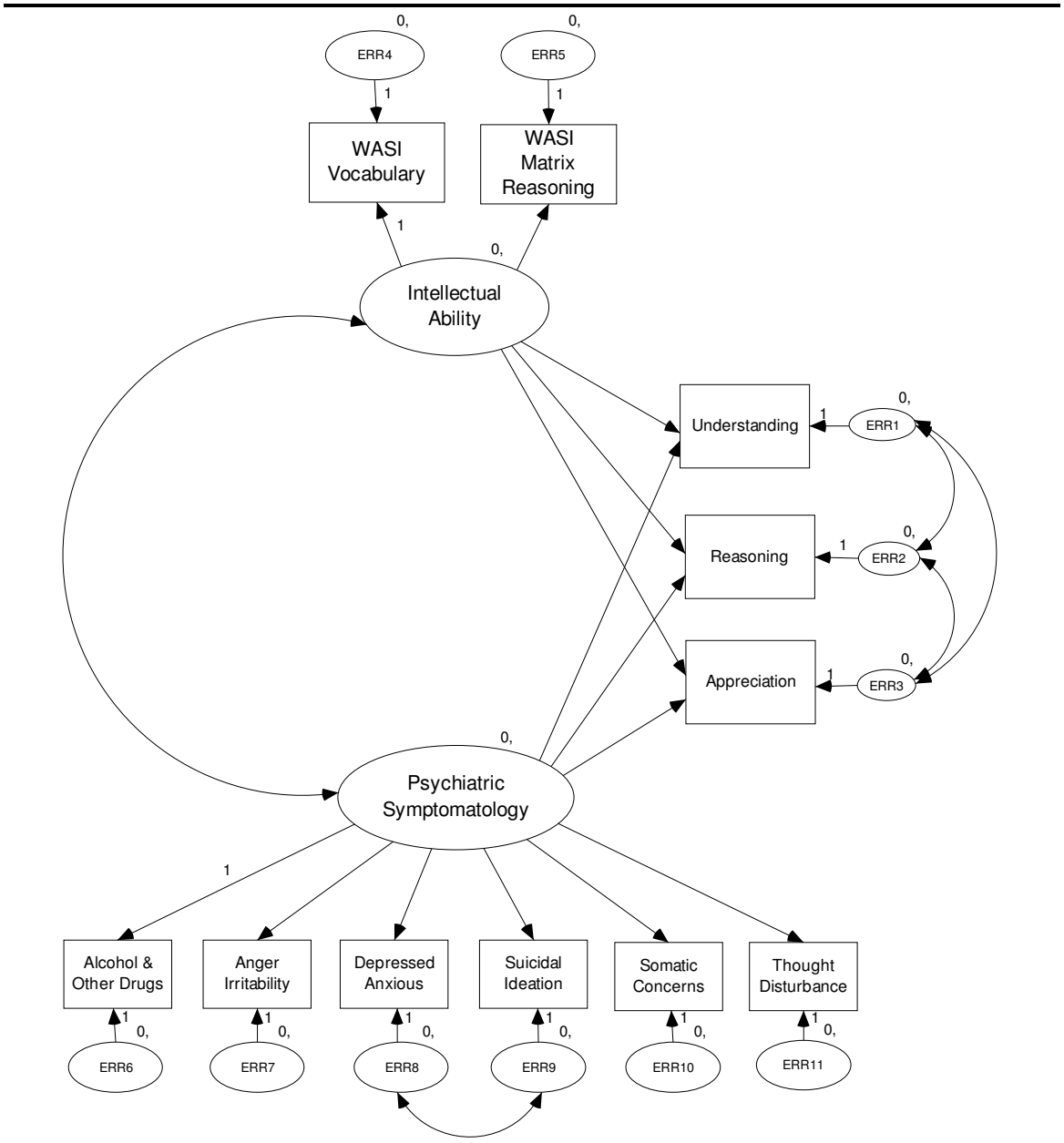

Figure 11. Post-hoc Tests of Invariance Across Levels of Psychosocial Maturity

Appendix P

Table 5. Goodness of Fit Tests of Invariance across R-App1 for Psychiatric Symptomatology to MacCAT-CA Paths

Model Description	Comparative Model	χ^2	*df*	$\Delta\chi^2$	Δdf	Statistical Significance
All MAYSI-2 factor loadings constrained equal (Model 1)	---------	133.52	77	-----	-----	------
Path from psychiatric symptomatology to understanding constrained equal	Model 1	133.90	78	.38	1	NS
Path from psychiatric symptomatology to understanding and reasoning constrained equal	Model 1	134.13	79	.23	2	NS
Path from psychiatric symptomatology to understanding, reasoning, and appreciation constrained equal	Model 1	143.19	80	9.06	3	$p < .05$

Appendix Q

Table 6. Post-hoc Goodness of Fit Tests of Invariance across R-App2 for MAYSI-2 Factors Loadings

Model Description	Comparative Model	χ^2	*df*	$\Delta\chi^2$	Δdf	Statistical Significance
Model 1	---------	133.73	72	-----	-----	------
All MAYSI-2 factor loadings constrained equal	Model 1	146.16	77	12.43	5	$p < .05$
A/I factor loading constrained equal	Model 1	136.17	73	2.44	1	NS
A/I and D/A factor loadings constrained equal	Model 1	136.79	74	.62	2	NS
A/I, D/A, and SI factor loadings constrained equal	Model 1	143.71	75	6.92	3	NS
A/I, D/A, SI, and SC factor loadings constrained equal	Model 1	144.97	76	1.26	4	NS
A/I, D/A, SI, SC, and TD factor loadings constrained equal	Model 1	146.16	77	1.19	5	NS

A/I = Anger/Irritability; D/A = Depressed/Anxious; SI = Suicide Ideation; SC = Somatic Concerns; TD = Thought Disturbance

Appendix R

Table 7. Post-hoc Goodness of Fit Tests of Invariance across Sum-Maturity from WASI to MacCAT-CA Paths

Model Description	Comparative Model	χ^2	*df*	$\Delta\ \chi^2$	Δdf	Statistical Significance
All WASI factor loadings constrained equal (Model 1)	---------	116.34	73	---------	---------	---------
Intellectual ability to understanding path constrained equal	Model 1	117.40	74	1.06	1	NS
Intellectual ability to understanding and reasoning paths constrained equal	Model 1	123.78	75	6.38	2	$p < .05$
Intellectual ability to understanding and appreciation paths constrained equal	Model 1	132.09	75	14.69	2	$p < .001$

Appendix S

Table 8. Post-hoc Goodness of Fit Tests of Invariance across F-Rec1 from WASI to MacCAT-CA Paths

Model Description	Comparative Model	χ^2	*df*	$\Delta\chi^2$	Δdf	Statistical Significance
All WASI factor loadings constrained equal (Model 1)	---------	132.46	73	---------	---------	---------
Intellectual ability to understanding path constrained equal	Model 1	133.26	74	.80	1	NS
Intellectual ability to understanding and reasoning paths constrained equal	Model 1	136.51	75	3.25	2	NS
Intellectual ability to understanding, reasoning and appreciation paths constrained equal	Model 1	149.08	76	12.57	3	$p < .01$

Appendix T

Table 9. Post-hoc Goodness of Fit Tests of Invariance across R-Rec1 from WASI to MacCAT-CA Paths

Model Description	Comparative Model	χ^2	*df*	$\Delta\chi^2$	Δdf	Statistical Significance
All WASI factor loadings constrained equal (Model 1)	---------	107.94	73	---------	---------	---------
Intellectual ability to understanding path constrained equal	Model 1	107.97	74	.03	1	NS
Intellectual ability to understanding and reasoning paths constrained equal	Model 1	113.81	75	5.84	2	$p = .05$
Intellectual ability to understanding and appreciation paths constrained equal	Model 1	124.56	75	16.59	2	$p < .001$

Appendix U

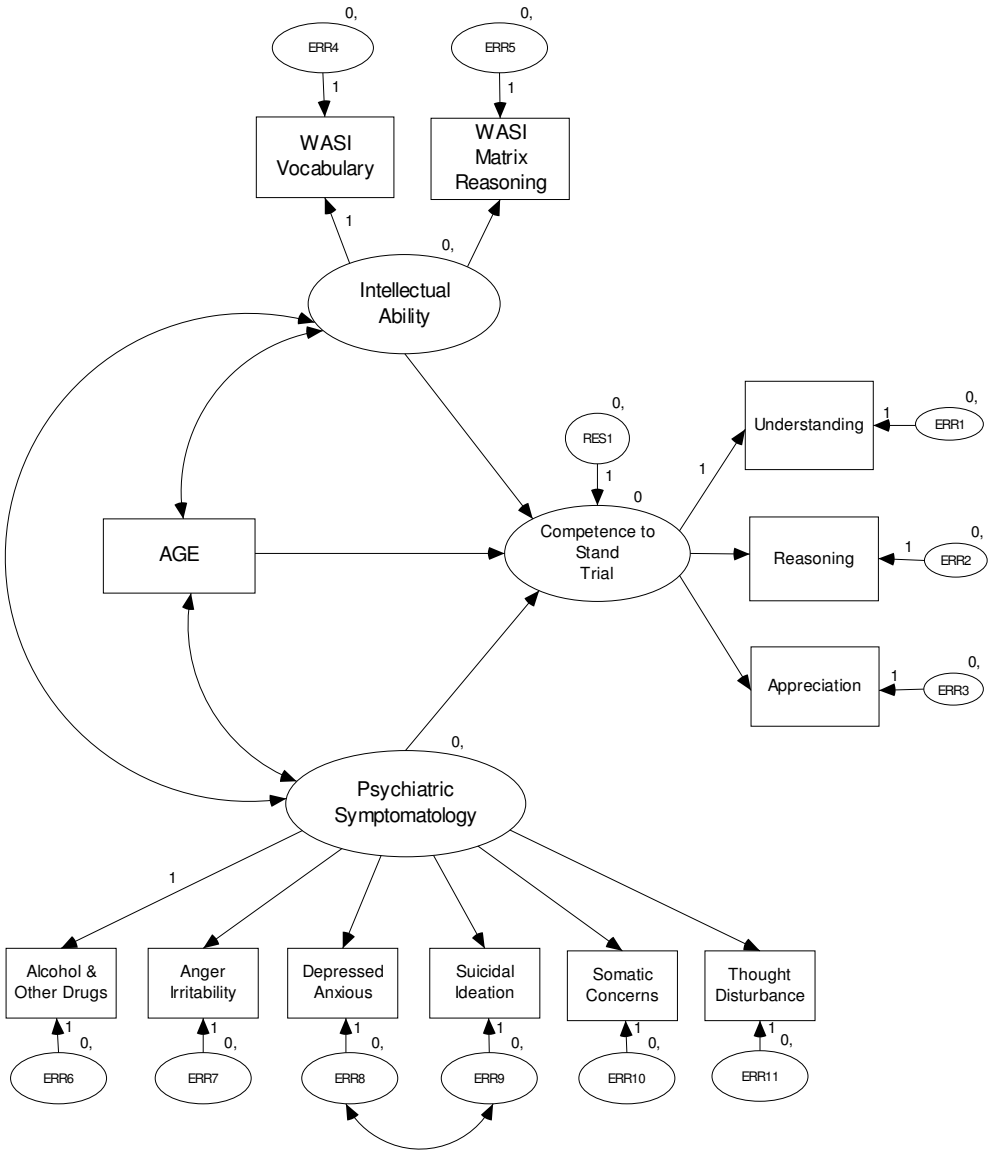

Figure 12. Test of Invariance of the Age-Competence Association across Psychosocial Maturity

Vita

Aaron Kivisto graduated from Augustana College in Rock Island, Illinois in 2004 and received a B.A. in psychology. In 2006 he entered the doctoral program in clinical psychology at the University of Tennessee, Knoxville. Since 2006 he has worked as a graduate student researcher under the supervision of Dr. Todd Moore studying interpersonal violence, juvenile competence to stand trial, substance abuse, and masculine gender role stress. In 2008 Aaron received his M.A. in clinical psychology from the University of Tennessee, Knoxville. In addition to his research pursuits, Aaron has worked as a graduate student clinician at the University of Tennessee Psychological Clinic from 2007-present and has worked as a clinical psychology associate with Cherokee Health Systems and as a psychological evaluator for the Knox County Juvenile Court.