COMPETENCE AND JUDGMENT IN SERIOUS JUVENILE OFFENDERS

REPORT TO THE OFFICE OF JUVENILE JUSTICE AND DELINQUENCY PREVENTION

PART I

DEVELOPMENTAL IMPLICATIONS FOR ADOLESCENT OFFENDERS

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BACKGROUND

Over the past twenty years, changes in the nature of juvenile crime and the functioning of the juvenile justice system have stimulated discussion of the relevance of adjudicative competence to the processing of youthful offenders. Despite overall decreases in violent crime in the United States, FBI crime statistics have documented increasing rates of juvenile crime in every major offense category between 1988 and 1992, suggesting that, given the size of the juvenile population in the United States, juveniles are committing disproportionately more violent crime than are adults (Snyder & Sickmund, 1995). Increases in the juvenile homicide rate (51%) have surpassed those of adults (20%), as have the increases in rates of juvenile aggravated assault (49% vs. 23% among adults) and juvenile robbery (50% vs. 13% for adults).

These trends in juvenile crime and juvenile processing have triggered statutory changes designed to satisfy societal concerns, increase the efficiency and impact of the juvenile justice system, and curb further growth in juvenile crime rates. Statutory changes to juvenile court have reflected a growing commitment to a retributive and punitive approach to juvenile offenders which stands in clear contrast to the principles of "parens patriae", rehabilitation, and individualized justice that were the philosophical foundations for the establishment of the juvenile court system in the late 1800's (Fagan & Deschenes, 1990; Forst & Blomquist, 1991). They have fostered adversarial and punitive juvenile court proceedings, the transfer of juveniles to adult court, and the use of determinate sentencing in juvenile court. The 1980's heralded the formal embrace of punitive approaches to juvenile offenders, as reflected in alterations to many states' juvenile code purpose clauses to focus on the philosophical goals of punishment alone (14 states) or punishment in concert

with diversion/treatment (11 states), and the formal recognition of the youthful offenders' statutory and constitutional rights while being adjudicated (Sanborn, 1994; Szymanski, 1991).

Changes in code purpose clauses have been complemented by changes in transfer statutes that have eased the waiver of jurisdiction to the adult criminal court. Juveniles can be tried as adults in all 50 states through three basic mechanisms -- judicial waiver or transfer, prosecutorial direct file, and statutory exclusion (Snyder & Sickmund, 1995). Many states have increased the pool of eligible juveniles by lowering the age requirement and expanding the list of transferable crimes (Sickmund, 1994). As a result, although transferred juveniles only represent approximately 2% of formally processed juveniles, the population is growing steadily (Feld, 1993). The number of cases transferred to criminal court increased 68% between 1988 and 1992, with the number of transferred person offense cases increasing 101%, drug offense cases increasing 91%, property offense cases increasing 90%, and public order offense cases increasing 42% (Butts et al., 1995). Many of the other transfer-related changes concern the factors to be considered in transfer decisions, and the requirements for automatic transfer to adult court. In Virginia, for example, recent changes in the transfer statute have allowed all children age 14 and over who commit a felony to be transferred, with the requirements that they are competent to stand trial, that probable cause can be demonstrated, that notice has been given to the juvenile's guardian, and that a preponderance of evidence suggests that the juvenile is not suitable for juvenile court. Virginia also permits prosecutors to move eligible juveniles to circuit court via direct file proceedings. These trends in Virginia parallel national trends in the processing of serious juvenile offenders. Research on the predictors of transfer is mixed. Recent studies indicate that, compared to juveniles retained in the juvenile justice system, transferred juveniles are primarily older, commit more serious crimes, and have more extensive delinquent backgrounds (e.g., Poulos & Orchowsky, 1994).

Knowledge of the impact of the increased use of transfer mechanisms on case processing and resource allocation is limited (Sanborn, 1994). In a single study, Bishop, Frazier, Lanza-Kaduce, and Winner (1996) studied the recidivism of 2,738 juveniles transferred to criminal court in Florida in 1987 compared with a matched sample of juveniles who were retained in the juvenile system. Using three measures of recidivism (i.e., rates of re-offending, seriousness of re-offending, and time to failure), they found that re-offending was greater among the transfers than among the matched controls. This type of limited empirical research as well as that which examines the use of different types of transfer mechanisms (e.g., Sanborn, 1994) however, provides little structure for examining the impact of changing transfer policies or guidance for new policy development (Coordinating Council on Juvenile Justice and Delinquency Prevention, 1996).

These legislative changes are based in part on concerns for public safety, but they also represent changing views on how "adult-like" certain juvenile offenders are. Practically speaking, a segment of the adolescent population has been redefined as adults. Contrary to the rehabilitative approach to the immature or developing adolescent, new policies suggest that, for certain youth and offenses, the juveniles are by definition *not* immature; or if they are, it is now irrelevant. Changes in the process of crime and punishment suggest that the nature and quality of adolescent participation in the justice system will become a fundamental concern for advocates, policymakers, and scholars alike.

Critical for psycholegal research is the notion that adult processing and penalties presume or confer adult-like capacities to understand and participate meaningfully in the adjudicative process. Many of these capacities are captured by the general notion of competence to stand trial (Dusky v. U.S., 1960), and include understanding the process, circumstances, and roles of various legal professionals (Grisso, Tomkins, & Casey, 1988). However, recent theories of

adolescent decision making hypothesize that developmental constructs that are not captured by traditional competence assessments may influence the nature of juveniles' understanding and participation (e.g., Grisso, 1996; Scott, Reppucci, & Woolard, 1995; Steinberg & Cauffman, 1996). It is quite possible that, for developmental reasons, the nature of juvenile's competence may be qualitatively and quantitatively different from that of adults. Reviewing developmental research under the auspices of judgment theory, several authors suggest that adolescents may differ from adults on a variety of dimensions, including cognitive capacities and socio-emotional factors, that could affect competence-related abilities (Scott et al., 1995). According to proponents of these theories, the role of such cognitive and socio-emotional factors should be investigated before presumptions of adult-like capacity are reified in legal policy and practice regarding adolescents.

The goal of the current study is to clarify the meaning of adolescent competence as a function of both adult competence factors and judgment factors. This study applies theoretical work on the development of judgment and decision making to issues of adjudicative competence. The next section outlines the existing research on adolescent decision-making in legal contexts, including competence to stand trial. It highlights the limitations of the existing research, and outlines a methodology to address some of the current gaps in knowledge.

Competence to Stand Trial

Although some scholars have characterized the question of competence to stand trial as "the most significant mental health inquiry pursued in the system of criminal law" (Stone, as cited in Cowden & McKee, 1995, p. 629), little legal or psychological research has focused on its relevance to juveniles. Discussion and understanding of legal issues around juvenile competence is

complicated by the absence of specific constitutional or case law regarding juvenile's roles in the legal process and their rights to competent and meaningful participation in this process. In the absence of these juvenile-specific legal standards, attorneys and legal scholars often refer to existing constitutional and case law which has defined adult's rights to competence and the legal standards of competence. According to this law, a defendant must have "sufficient present ability to consult with his attorney with a reasonable degree of rational understanding and a rational as well as factual understanding of the proceedings against him" (*Dusky v. U.S., 1960*) and as well as the "capacity to assist in preparing his defense" (*Drope v. Missouri, 1975*) in order to satisfy the legal standard for competence. Severe psychopathology or mental retardation are the common contributors to incompetence found among the 30% of criminal adult defendants referred for competence evaluations and deemed incompetent (Nicholson & Kugler, 1991; Roesch & Golding, 1980). Although the issues are complex, a number of defendants can be successfully restored to competence through some form of outpatient or inpatient treatment. In Virginia, for example, only 14% of criminal defendants classified as incompetent are thought by the evaluating clinical to be unrestorable, and in approximately 34% of the cases, restorability is thought to be "uncertain" (Warren, 1991).

Bonnie (1992) has proposed a theoretical reformulation of competence which emphasizes its meaning as a capacity matter rather than a state of knowledge, and attempts to define it in terms of the legal and social purposes it is designed to serve. According to this definition, a competent defendant possesses the emotional and cognitive capacities required to share the information and perform the behaviors necessary to planning and executing and defense strategy, as well as the cognitive and emotional abilities required for making informed and rational decisions (i.e., have understanding, reasoning, and appreciation), a context-specific task whose difficulty is shaped by

the nature of the case, court situation (juvenile v. adult), and penalty. Although this formulation has not been specifically tailored to juveniles, it clearly underscores the limitations of traditional standards of competence, which focus on rational understanding and communication and ignore the importance of decisional capacities.

Although the research on adult competence provides a solid foundation for empirical and clinical assessment, the research on juveniles is more tenuous. Thus far, only two empirical studies have examined the competence to stand trial of juvenile defendants. Using the McGarry Competence Screening Test, an adult competence instrument (Lipsitt, Lelos, & McGarry, 1971), Savitsky and Karras (1984) found that adolescents' average scores were significantly lower than the adult comparison group. Cowden & McKee (1995) most recently reviewed 144 juveniles aged nine to 16 years referred to the William S. Hall Psychiatric Institute in Columbia, South Carolina to determine whether the juveniles were competent to stand trial, minimally competent to stand trial despite significant cognitive or psychiatric deficits, or incompetent to stand trial. The competence assessments were conducted by a multi-disciplinary team of board-certified evaluators and included a pre-interview review of legal, medical, and school records, an interview with the juveniles' parents or adult family members; and a one to two hour interview of the juvenile which included a mental status examination and an assessment of competence to stand trial employing factors developed by McGarry, Curran, and Lipsitt (1973) and a semi-structured interview by Gutheil and Appelbaum (1982). Comparing the three groups on nine variables, (e.g., age, race, diagnosis, etc.) Cowden and McKee found that older adolescents were more competent than younger adolescents. While only 16% of juveniles age 12 or younger were judged to be competent, 79% of juveniles age 15-16 were judged to be competent. In addition to age, severe diagnosis and remedial education were found to differentiate between juveniles who were competent and those who were not.

Concerns about juvenile competence are not adequately addressed by these two preliminary studies, however. The instruments utilized fail to incorporate new theories of competence (e.g., Bonnie, 1992) and the studies lack any mechanism for addressing important developmental factors. Although it is important to determine how adolescents compare to adults on measures ordinarily used in adult criminal court, it is imperative that empirical research investigates the developmental implications of extending adult assessment standards to juveniles. In the criminal system, adults are presumed to be mature and to be finished developing their decisional capacities; as such, they are held accountable for their behavior unless severe mental impairment precludes their ability to be competent and they cannot be restored to competence through treatment. However, the juvenile justice system was based not only on ideas about adolescents' cognitive capacities, but also on ideas that their judgment and decision making is less mature[1]. It is quite possible that, for developmental reasons, the nature of juvenile competency may be qualitatively different from that of adults. There may be developmental constructs that are not captured by traditional competence assessments that influence the nature of juveniles' understanding and participation.

In light of the centrality of decisional capacity to adjudicative competence, researchers have begun to examine the relation between developmental differences in cognitive and decisional capacities and competence to stand trial. This effort has been guided by the presumed differences in adolescent and adult judgment and decision-making proficiency, and has produced findings which support the existence of such differences, especially in relation to decisions about medical treatment (e.g. Grisso & Vierling, 1978) and the waiver of *Miranda* rights (e.g. Grisso, 1981). These studies

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1 E.g., Bellotti v. Baird, 1979; Parham v. J.R., 1979. Lower courts have also justified the differential treatment of juveniles using developmental immaturity. "Because of their lack of mature judgment, minors are subject to the continuing control and supervision of parents or guardians until they become of age or are emancipated.", Bykofsky

have confirmed the existence of developmental differences in decisional capacities, have raised serious questions about the possibility of competent decision-making and participation among youths under age 14, and have underscored the task-specific nature of decisional capacities and participatory competence. A recent review of these literatures with respect to competence to stand trial (Grisso, in press) emphasizes the need to review developmental factors that may differentially influence competence-related capacities in juveniles.

In the next section we highlight some of these factors with respect to adolescent decision making.

Mature Decision Making and Judgment

Several authors have called for developmental research which examines adolescent choices in legal contexts (Grisso, 1996; Scott et al., 1995; Steinberg & Cauffman, 1996; Woolard, Reppucci, & Redding, 1996). Two frameworks have been used and/or proposed for the study of adolescent decision making in legal contexts - informed consent and judgment.

Informed Consent

Previous research on adolescent decision making and competent choices in the legal system generally has relied on the legal standard of informed consent. The informed consent doctrine holds that a competent decision is one that is made in a knowing, voluntary, and competent manner (Appelbaum & Grisso, 1988). Empirical studies of medical (e.g. Ambuel & Rappaport, 1992; Grisso & Vierling, 1978; Lewis, 1980; Weithorn & Campbell, 1982), and mental health (Belter & Grisso, 1984; Kaser-Boyd, Adelman, & Taylor, 1985; Kaser-Boyd, Adelman, Taylor, & Nelson, 1986) decision making suggest that adolescents over the age of 14

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v. Borough of Middletown, 401 F. Supp 1242, 1256-57 (M.D. Pa 1975), aff'd mem, 5335 F.2d 1245 (3d Cir.), *cert denied*, 429 U.S. 964 (1976), cited in Worrell (1985).

may be able to meet the legal standard of informed consent as well as adults. With two exceptions, most of these studies are not in the criminal or juvenile justice arenas, however.

Grisso (1980; 1981) evaluated juveniles' legal and psychological competence to waive their right to silence during a police interrogation (*Miranda* rights, Miranda v. Arizona, 1966). The series of analyses compared adolescents and adults involved in the legal system on their understanding and reasoning about the waiver decision, among other topics. The authors concluded that younger adolescents (ages 14 and below) were not competent to waive their rights to silence and counsel. Adolescents ages 15 and older with average intelligence were able to understand their *Miranda* rights as well as adults, but Grisso properly cautioned that understanding may not necessarily translate into assertion of those rights. He also pointed out that the similarities between adolescents and adults held only for those of average intelligence; those adolescents with below average IQ's did not perform as well as their adult counterparts. Based on these results, Grisso recommended legislation to provide automatic exclusion of confessions, or automatic appointment of counsel, for those juveniles ages 14 and younger.

Although their study did not use participants currently involved in the legal system, Peterson-Badali and Abramovitch (1993) tested community samples of adolescents and adults on their ability to reason about hypothetical decisions to accept or reject plea agreements. Varying the strength of the evidence held by the police and using recommendations from an expert sample of lawyers as a criterion, the authors concluded that younger adolescents think less strategically (in terms of legal reasoning) than older adolescents and adults about plea agreements.

It is conceivable that the corpus of informed consent research could be used to support the position that adolescents can be competent, just as some advocates and researchers have

relied on the informed consent research to support policies extending other legal rights to juveniles (e.g., Melton, 1983, 1984). Critics argue that the extant research on informed consent provides inadequate support for the policy argument that there are no differences between adolescents and adults (Gardner, Scherer, & Tester, 1989; Grisso, 1996; Scott et al., 1995; Steinberg & Cauffman, 1996). These criticisms can be classified as methodological and conceptual. The first group of criticisms identifies the methodological weaknesses in the measurement and evaluation of informed consent tenets. The main concern is that with few exceptions (see Ambuel & Rappaport, 1992; Grisso, 1980) informed consent studies were laboratory-based self-reports of white, middle class adolescents using hypothetical vignettes. This type of structured, unstressful, hypothetical environment may not generalize adequately to the real life stress of decision making in legal contexts. Although some of these studies do shed light on adolescent and adult performance under certain situational constraints, their data demonstrating "no differences" between adolescents and adults provide a shaky empirical foundation upon which to build policy.

The second concern with the informed consent literature is primarily conceptual. Even if the methodological weaknesses in the empirical studies of informed consent were rectified, reliance on the informed consent framework as the ultimate test of adolescent capacity may be unwise. Scott et al. (1995) argue that policy relevant research must move beyond the narrow confines of the informed consent framework to examine the characteristics and constructs that are relevant to legal decisions. The traditional view of minors as incompetent and warranting special legal protections relies not only on assumptions about their cognitive capacities, but also on their decision making or judgment. That is, because of their developmental status,

adolescents are considered to be less capable than adults of making wise or mature decisions. Thus, studies of adolescent decision making must incorporate this concept of judgment.

Adolescent Judgment

Supporters of an expanded research framework suggest that the juvenile justice system is based not only on assessments of adolescents' cognitive capacities, but also on the notion that, for developmental reasons, adolescents' decisional capacities may differ from adults. The judgment model proposed by Scott et al. (1995) is comprised of three components that may influence adolescent decision-making process and outcome differently from adults -- peer and parental influence, temporal perspective, and risk perception. Their review of developmental research on these three components suggests that each may change across adolescence and may affect decision-making process and outcome. Adolescents may be more receptive to the influence of peers in making a wide variety of decisions, including decisions which may ultimately result in delinquent or criminal behavior (Berndt, 1979; Steinberg & Silverberg, 1986). The salience of peers during the adolescent years may mean that adolescents' decisions or choices are not always made in the same independent, autonomous way that the legal system considers adults' decision making. Likewise, the competing goals of attachment to and autonomy from parents can create risk for problem behaviors, including delinquency (Allen, Aber, & Leadbeater, 1990; Hill & Holmbeck, 1986).

Lack of life experience and uncertainty about the future may contribute to an adolescent tendency to focus on short term consequences to the exclusion of long term ramifications of decisions (Greene, 1986; Nurmi, 1991). In some situations, adolescents may be relatively uncertain about their own future and thus focus on more imminent consequences (Allen,

Leadbeater, & Aber, 1994). Effects of temporal perspective also relate to risk perception. Research indicates that adolescents may have a different risk-benefit calculus than adults, in that they focus more on the possibility of gains and pay less attention to potential losses (Benthin, Slovic, & Severson, 1993; Gardner, 1992). Moreover, the value or meaning attached to potential consequences may change over development (Beyth-Marom, Austin, Fischoff, Palmgren, & Quadrel, 1992; Furby & Beyth-Marom, 1990).

Building on the judgment framework, Steinberg & Cauffman (1996) concur that judgments are a result of interactions between cognitive and psychosocial factors. They argue that psychosocial factors which affect decision-making fall into three broad categories - responsibility, temperance, and perspective. They also acknowledge, as do Scott et al. (1995), that performance on these three factors may vary according to situational constraints, although developmental trends may still be discernible and useful. The responsibility dimension encompasses autonomy and independence, sense of identity, and ego development. With temperance, defined as the ability to avoid extremes, limit impulsivity, and evaluate a situation thoroughly, important sources of potential differences between adolescents and adults may be non-cognitive. Relevant theories have examined sensation seeking, hormonal and physiological changes, and emotion and mood. Their review suggests that generally adolescents probably are less able to control impulses than adults, but links to judgment and legal decision making are unclear. Perspective encompasses constructs of egocentrism, social perspective taking, moral development, and future time perspective. Research on perspective suggests growth until about mid adolescence, and then a leveling off. Research indicates future time perspective continues to develop into young adulthood.

These judgment factors can be critical both in terms of decision process and outcome (Scott et al., 1995). It may be that adolescents make different choices when faced with decisions in legal contexts. This view is supported by Grisso's (1980) study of *Miranda* waivers, in which archival court data indicated that less than 10% of juveniles exerted their right to remain silent, as compared to 42% of adults from an earlier study. Peterson-Badali and Abramovitch (1993) also found grade-related changes in the percentages of participants who recommended guilty pleas under conditions varying the crime and strength of evidence.

Separate but related to differences in decision choices or outcomes, the process by which adolescents make decisions may be different from adults. The decision making process generally refers to the reasons why an individual makes a particular choice or decision outcome. Although not focused specifically on the judgment factors enumerated above, some prior research on decision making in legal contexts indicates that adolescents' reasoning about legal decisions differs from that of adults (Grisso, 1980; Peterson-Badali & Abramovitch, 1993).

Scott et al. (1995) note that existing developmental studies, while providing evidence that peer influence, temporal perspective and risk perception may affect adolescent decision making differently than that of adults, suffer from two major weaknesses. First, they do not adequately examine the role of these factors in legally relevant contexts. Context can be critical, both in terms of the type of decisions that adolescents face as well as the psychosocial and situational influences that come into play. Critical legal contexts include the decision to talk with police (as initially studied by Grisso, 1981), to consult with attorneys, and to evaluate a plea bargain offer, among others (Grisso, 1997). The two best studies on adolescent decision making in legal contexts were conducted before the judgment framework was developed (Grisso, 1980; Peterson-Badali & Abramovitch, 1993). Comprehensive studies of judgment in legal context should

incorporate both context-specific assessments of judgment as well as the more general developmental assessments to examine the relationship between noncontextual assessments of judgment and legally relevant decision process and outcome.

Second, many studies do not include developmentally and policy-relevant comparison groups (Woolard et al., 1996). Given the potential impact of developmental phenomena on adolescents' performance, age is naturally a salient factor. If capacities are changing, performance cannot necessarily be attributed to the child's stable, unchanging characteristics or individual traits. Cross-sectional research without older comparison groups may mask the possibility that a child may "age out" of a particular behavior or cognitive level. The legal system's presumptions about adolescents' capacities being treated as adults' suggests an important comparison group - legal adults.

Thus this new theoretical approach to assumptions about adolescent capacities broadens the scope of previous research to include other cognitive and psychosocial factors. The judgment theory hypothesizes that developmental factors excluded from traditional assessments of adjudicative competence may be related to decision-making processes and outcomes. Some of these factors may map onto criteria already considered by the justice system in decisions about juveniles (e.g., criteria in transfer decisions). The ability of these developmental theories to affect law and policy, however, depends on sound empirical research which, for the most part, has yet to be conducted.

Thus, the default extension of adult assessment standards to juveniles without empirical testing of adult assessment tools and the importance of decisional capacity raises a serious problem - - juvenile competence depends on capacities which have not been measured in juvenile populations. In the criminal system, adults are presumed to be mature and have finished developing their

decisional capacities; as such, they are held accountable for their behavior unless severe mental impairment precludes their ability to be competent and they cannot be restored to competence through treatment. The transfer of younger juveniles raises serious questions about the contributors to incompetence - that is, youthful defendants may not have developed the capacities necessary to be competent, and this lack of capacity may be compounded by psychopathology. Moreover, if a youth is incompetent due to immature capacity, the implications for restoration of competence are unclear, e.g., can a youth be held until he "grows up" or his competence-related capacities have matured?

Current practice with juveniles has focused on adult-oriented legal standards and assessment modalities and has failed to consider the psychiatric, cognitive, emotional, and environmental factors that may uniquely characterize and/or constrain adolescent competence in legal contexts. The dearth of research designed to explore the impact of developmentally determined differences in competence jeopardizes the dignity and reliability of proceedings, threatens the due process rights guaranteed to juvenile defendants, and complicates the work of forensic evaluators. Until adjudicative competence is investigated in juveniles, it is unclear whether juveniles as a class have adequately developed competence-related abilities and how those abilities can be assessed effectively by mental health and justice system practitioners.

Goals and Objectives

This project on adjudicative competence represents an emerging juvenile justice issue for practitioners. We have recognized that the processing of increasing numbers of juveniles in criminal courts raises critical competence questions that require the integration of research expertise

in law, delinquency, developmental psychology, and clinical assessment with the practical expertise and experience of field-based practitioners. With this background, we developed two goals:

Goal 1: *Investigate how juveniles compare to adults on state-of-the-art assessments of competence-related abilities that are increasingly used with adult defendants.*
Goal 2: *Examine how the development of decisional capacity and judgment may differentially impact a juvenile's competence-related abilities compared to adults.*

These objectives improve the existing limited research on competence in several ways. First, the study assesses juvenile adjudicative competence using the MacArthur Competence Assessment Tool - Criminal Adjudication (MacCAT-CA), a structured, standardized instrument designed to measure the theoretical formulation of competence developed by Bonnie (1992). As discussed, this formulation emphasizes not only the use of information for planning and executing a defense strategy but also the cognitive and emotional abilities required for making informed and rational decisions (i.e., understanding, reasoning, and appreciation). This type of inquiry which emphasizes both dimensions of competence -- the ability to assist counsel and decisional capacity -- has not yet been used with juveniles, although it represents state-of-the-art inquiry in the field of competence research as it applies to adult criminal defendants.

Second, this study examines maturity and judgment with adolescents and adults using measures specific to legal contexts as well as measures that are standard developmental assessment instruments. If, as recent theory suggests, there are developmental differences in maturity and judgment that differentially impact juveniles' multi-dimensional legal capacity,

reliance on adult-oriented competence measures may be portraying an inaccurate picture of juveniles' competence-related abilities.

To meet these goals, we developed four specific research aims:

(a) Examine adjudicative competence in adolescents and adults using traditional adult measures;

(b) Examine judgment factors as a function of age and other demographic characteristics;

(c) Examine context-specific decision making as a function of age and other demographic characteristics;

(d) Explain decision outcomes as a function of demographics, adjudicative competence and judgment

RECRUITMENT PROCEDURES AND SAMPLE CHARACTERISTICS

Data were collected from 100 males aged 15 and younger, 100 males between 16 and 17 years old, and 115 males between 19 and 35 years old. The juvenile samples were recruited from two juvenile detention facilities that serve large counties and medium sized cities in Virginia. The adults were recruited from one regional jail serving a large county and small city in Virginia. Participants were selected for inclusion based upon their gender, age and pretrial detention status. Males were recruited because research suggests that males predominantly commit crime, particularly serious and violent crime (Elliott, 1994; Snyder & Sickmund, 1995). Each of the age groups encompasses important comparisons for both research and policy. The juvenile categories approximate those included in previous research on adolescent cognitive capacity and competence, represent the general emergence of abstract thinking abilities (e.g.,

Cowden & McKee, 1995; Grisso, 1981; Grisso & Vierling, 1987), and reflect general patterns of age categories in state transfer statutes (Snyder & Sickmund, 1995). Legal adults (over age 18) are included because adults have been the primary group for which competence has traditionally been an issue in criminal justice system, and are presumed to have adequate competence-related abilities except under specific circumstances (e.g., mental illness or retardation). Finally, to maximize the salience of competence-related issues and to ensure that all participants were in a similar stage of justice system processing, only those participants awaiting trial were recruited.

Ethics and Confidentiality

Even before participants were recruited, ethical issues involved in working with incarcerated populations, particularly adolescents, were addressed. One main concern was the confidentiality of the data. Although the protocol was not designed to elicit information about the specific crimes that were alleged to have been committed by our participants, we recognized that general discussions of the justice system and current functioning could result in private and/or case-specific details being communicated to interviewers. In addition to the data protections afforded by conducting research under the funding auspices of OJJDP, we also obtained a National Institutes of Health Certificate of Confidentiality. This certificate provided additional federal protection of our data from subpoena by a third party. The NIH Certificate does require exceptions to the confidentiality when there are concerns regarding child abuse or potential danger to self or others; these exceptions were made clear to all participants in the informed consent procedures (see below).

Institutional Approval

Two sets of approvals were required for this study. First, the research protocol was reviewed and approved by the University of Virginia Committee for the Protection of Human Subjects, in accordance with state and federal regulations. Second, the project was reviewed and approved by the directors of the detention centers and jails in which we worked. Throughout the study, participants were treated in accordance with the American Psychological Association's Guidelines for Research with Human Participants.

Recruitment Procedures and Informed Consent

The recruitment procedures varied slightly for the juvenile and adult samples. Each are discussed separately.

Juvenile Samples

As mentioned above, the juvenile samples were comprised of male adolescents in two age groups that were held in a secure pretrial detention facility. Approximately one week prior to a data collection trip, project staff contacted the detention center staff and obtained mailing information for those juveniles who met the eligibility criteria for participation. A letter was sent to each parent or guardian that provided a brief overview of the project, the research team, and contacts for further information. The bulk of the letter provided all information required for informed consent by the University of Virginia Committee for the Protection of Human Subjects. Because of the special circumstances surrounding work with institutionalized populations, a passive consent procedure was used. As such, the parent/guardian letter requested that the researchers be contacted only if parents/guardians did not want their adolescent to participate in

the study. The consent letter provided several methods for discussing or denying consent; (1) a name and local phone number for the detention center contact (superintendent or mental health personnel); (2) a name and phone number for the project director at the research laboratory; and (3) a self-addressed, stamped postcard that could be filled out and returned by mail to the project director.

On the day of data collection, project staff worked with the detention center staff to identify a list of eligible juveniles who were still in detention and did not have permission denied by the parent/guardian. Any juveniles who were deemed ineligible by the detention supervisor for safety or other health concerns were also eliminated from the list.2 Once the eligible juveniles had been identified, project staff visited each of the living units, made a brief presentation to the juveniles, asked for volunteers, and scheduled interview appointments. When a juvenile was brought to the interview room for an individual meeting, project staff described the study again and obtained active consent from those juveniles willing to participate.

Adult Sample

Project staff worked with the Record Department of the jail to identify eligible inmates. A brief letter describing the project was delivered to each inmate. The list of eligible inmates was ordered randomly, and inmates who were interested in volunteering for the study were brought to the interview room. Project staff described the study and obtained informed consent from those inmates who volunteered to participate in the interview.

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2 Few juveniles were excluded from eligibility due to safety or health concerns. Reasons for exclusion were current placement in some form of lockdown due to aggressive or violent behavior that had occurred on the unit that morning prior to the research team's arrival.

Interviewers made clear to both adult and adolescent participants that the project operated independently of the correctional setting and that there would be no negative consequences if they decided not to participate.

Sample Characteristics

The demographic characteristics of the three samples are listed in Table 1.

Younger Juveniles

The young juveniles ranged in age from 12 to 15 with an average age of 14.2 years. The sample was primarily African American and Caucasian with small percentages of Hispanic and Asian juveniles. The nature of the committing offense was split across the major categories of person (e.g., assault and battery, malicious wounding, robbery) and property offenses (e.g., larceny, burglary), and court order violations (e.g., probation violation, failure to appear in court). The average percentile rank on the KBIT was 36.6 (sd = 26.7), with 66% of the sample scoring in the average or above average categories. Even so, half of the sample had difficulty in school with a history of grade retention and/or special education placements. Over 69% of the sample reported a prior detention placement.

Older Juveniles

The average age of the older juvenile group was 16.7 years with a range of 16 to 17 years old. More than 40 percent of the older juveniles were Caucasian, approximately one-third were African American, and the rest Hispanic and Asian. About 40 percent were committed to detention because of a court order violation, and 20 percent each for person and property offenses. This sample obtained an average percentile score of 39.5 (sd 27.4) on the KBIT and

about 75% scoring at average or above average levels. Over sixty percent report a history of grade retention and 43% report some prior special education placement in school. Almost three-quarters of the sample had been placed in detention before their current confinement.

Table 1. Demographic characteristics of the three samples.

	Young Juveniles (N=102)		Older Juveniles (N=103)		Adults (N=115)	
	N	%	N	%	N	%
Race/Ethnicity						
African American	42	41.2	30	29.1	67	58.3
Caucasian	36	35.3	44	42.7	38	33.0
Hispanic	13	12.7	19	18.4	1	1.0
Asian	8	7.8	8	7.8		
Other/Unknown	3	3.0	12	1.9	9	7.8
Committing Offense						
Person	29	28.4	22	21.3	32	27.8
Property	26	25.5	22	21.3	25	21.7
Court Order	42	41.1	44	42.7	17	14.8
Other			6	5.8	31	27.0
Missing	5	4.9	9	8.7	10	8.7
KBIT IQ Category						
Lower Extreme	8	7.8	7	6.8	12	10.4
Well Below Average	11	10.8	10	9.7	22	19.1
Below Average	15	14.7	15	14.6	21	18.3
Average	53	52.0	57	55.3	53	46.1
Above Average	13	12.7	9	8.7		
Well Above Average			4	3.9	1	0.9
Missing	2	2.0	1	1.0	6	5.2
History of Grade Retention	51	50.0	64	62.1	41	35.7
History of Special Education	51	50.0	43	42.6	31	28.7
History of Prior Detention	68	69.4	73	72.3	84	73.0

Adults

The average age of the adult participants was 27.1 with a range from 19 to 35. Consistent with the larger jail population, our sample was predominantly African American (58%) with the remaining participants primarily Caucasian (33%). Because the adults were likely to be detained for multiple offenses, the most serious offense was used as the committing offense category.

The sample was relatively evenly split between person, property, and other offenses. The average percentile score on the KBIT was 24.5 (sd 20.8) with almost half of the sample scoring in the average category. Thirty-six percent reported a history of grade retention and almost 29% reported special education placements while enrolled in school. Approximately three-quarters of the sample had been detained before.

Chi-square analyses indicated no significant differences between the samples in racial composition, coded as Caucasian/minority [$\chi^2(2, \underline{N} = 304) = 1.44$, NS]. The samples differed on IQ scores, coded as below average versus average/above average [$\chi^2(2, \underline{N} = 315) = 9.90$, $\underline{p} < .01$]. Over half of the adult sample scored below average on the IQ test, compared to 33% of the young juveniles and 31 % of the older juveniles. The samples also differed on the type of offense for which they were being held in detention [$\chi^2(6, \underline{N} = 305) = 51.01$, $\underline{p} < .001$]. Inspection of the percentages indicates a larger proportion of both juvenile samples than adults were held for court order violations. The samples did not differ on whether they had a history of prior detention.

Measures

Context-Specific Judgment and Decision Making

Legally relevant decision making is measured using the Judgment Assessment Tool - Adolescents/Adults (JATA; Woolard, Reppucci, & Scott, 1996). Developed specifically for this study, the JATA is a three part interview which describes a male who has committed a robbery and faces a series of decisions: (1) talking with police; (2) consulting with an attorney; and (3) considering a plea bargain in the context of transfer to criminal court (see Appendix A for a copy

of all measures in the interview protocol). Two categories of information are collected from respondents - a series of *decision choices* based on the information given, and the *decision consequences* that may follow from each choice.

Four decision choices are solicited after the initial story is read and participants are asked to report (1) the *decision options* available and a recommendation for the character's *decision choice*; (2) what the character's parents or peers would recommend; (3) what the participants would recommend in light of a parent/peer recommendation that contradicts the participant's own recommendation in decision (1); and (4) what the participant himself would do if facing a similar situation.

Following the initial decision choice, participants are asked to generate all the possible *consequences* of three decision options - admitting involvement, denying involvement, and remaining silent/refusing to talk[3]. The measurement of consequences is designed to elicit information about the respondent's thinking - what they believe may happen as an indicator of what they consider during their reasoning and decision processes.

Because of sample cell sizes and the length of the measure, a fully-crossed design is not used. Instead, two fixed variations of the parent and peer questions are used (see Table 2).

Table 2. Variations of parent and peer questions in the JATA.

	Talk with police	Consult with attorney	Consider plea bargain
Version A	parent	peer	parent
Version B	peer	parent	peer

3 Pilot testing of the plea bargain vignette indicated that most participants had difficulty comprehending why denying involvement in the crime at the plea bargain stage was an option, so it was eliminated from the vignette

Slight modifications are made for the adult version (1) to make the vignette character an appropriate age, and (2) to modify the third vignette to represent a typical criminal court plea bargain, rather than a plea bargain regarding transfer to criminal court (which is inappropriate for adults).

The JAT-A is scored in two parts. First, for each vignette, decision outcomes are coded for the subject's recommendation to the character Joe, the recommendation under conditions of parent/peer influence, and the response that the subject would give if he were under similar circumstances himself. The coding categories are Talk/Admit, Deny Involvement, Refuse to Talk/Take Bargain, and Other. Second, the decision options and consequences are coded on several dimensions using modifications of the rating schemes developed by Grisso (1981). Each consequence is coded into a content category (see Appendix B), a valence category (whether it represents a positive or negative consequence - related to risks and benefits), and a time perspective category (whether it represents a short-term or long-term consequence - related to time perspective). Two coders independently classified all the consequences, and disagreements were resolved through discussion and consensus.

For the purposes of this study, we focus on two of the three vignettes - talking with police and considering a plea bargain. These vignettes were chosen because they represent the two decision points that (1) could result in the serious consequences of immediate (confession to police) or extended (sentence after pleading guilty) confinement, and (2) have been the subject of prior research on juvenile decision making and competence (e.g., Grisso, 1980; Peterson-Badali & Abramovitch, 1993), but the research has not included competence factors and judgment factors

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questions. Recognition of the deny option was still coded in the initial vignette question asking participants to identify available options.

Adjudicative Competence

Developed for use in the criminal justice system, the MacArthur Competence Assessment Tool - Criminal Adjudication (MacCAT; Poythress, Hoge, Bonnie, & Monahan, 1996) consists of 22 questions administered in interview format. Responses are rated and summed to generate three subscale scores of Understanding, Reasoning, and Appreciation. Preliminary analyses of data on 120 criminal defendants indicate the MacCAT-CA demonstrates good internal consistency with adult populations (Eisenberg, personal communication). No data on juvenile defendants are available. The MacCAT does require adequate interrater reliability for administration. As a part of training, interviewers completed 20 training protocols and obtained adequate reliability scores (kappa > .80).

Noncontextual Measures of Judgment

Parent and Peer Influence. The Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987) is used to index the quality of relationships with parents and peers. Twenty-five questions regarding the quality of relationships with parents and peers are rated on a five point Likert scale. Total scores are used to index the quality of relationship. These scores are used as a representation of the importance and potential influence of parents and peers in an individual's life. Respondents complete the IPPA for the parent they feel they are closest to or who knows them best. If respondents do not have one or both parents, the measure asks them to substitute a person who has served a similar type of function for them. Questions about parents will be used for both adolescents and adults because previous studies have demonstrated that legal adults' decisions under certain circumstances can be shaped in part by perceptions of their

parents' wishes (e.g., Scherer, 1991; Scherer & Reppucci, 1988). The measure has adequate test-retest reliability (>.85; Armsden & Greenberg, 1987). Parent and peer attachment scores have demonstrated associations with measures of family conflict, social self-concept, and other traits (Armsden & Greenberg, 1987).

Risk Perception. The Arnett Inventory of Sensation Seeking (AISS; Arnett, 1994) indexes the degree of sensation seeking or risk proclivity on two subscales - Intensity and Novelty. Participants are asked to rate 20 items on a 4 point Likert scale denoting the degree to which items describe the participant. The AISS has adequate internal reliability and correlates with participation in reckless behavior among adolescents.

Temperance and Responsibility. The Weinberger Adjustment Inventory (WAI; Weinberger & Schwartz, 1990) consists of 11 subscales designed to measure various aspects of personal adjustment. In order to quantify decisional temperance, the Suppression of Aggression (7 items) and Impulse Control (8 items) subscales are used. Responsibility is assessed using the Responsibility (8 items) subscale. These subscales involve 5 point Likert-type ratings of self-statements such as "I pick on people I don't like", and "I do things without giving them any thought" with higher scores representing higher levels of endorsement. The WAI has been administered to adult and child (ranging from age 10-64) outpatients at community and child guidance clinics, as well as adolescent and adult non-clinic samples. This research highlights the test-retest reliability (average 7 month correlation is .76) and internal consistency (alpha reliability coefficients range from .69 to .87) of the three subscales of the WAI. Given the high correlation between the scales in this study (r=.55), the two subscales are aggregated to create a 15 item temperance score.

Perspective. The Life Orientation Test (LOT; Scheier & Carver, 1985) is a 12-item measure that documents an individual's optimistic beliefs about the future defined in terms of outcome expectancy. The LOT has been used with subjects as young as nine years old. Previous studies have documented adequate internal consistency (alpha = .76) and test-retest reliability (.79). Validity tests have confirmed predictive relationships with assessments of locus of control, self-esteem, and depression (Scheier & Carver, 1985). Perspective is also measured using the Consideration of Others subscale of the WAI (Weinberger & Schwartz, 1990), which is comprised of seven items such as "I go out of my way to do things for other people." This subscale has shown adequate reliability coefficients in clinic (alpha=.69 for adolescents and adults) and non-clinic (alpha=.79 for adolescents and adults) samples (Weinberger & Schwartz, 1990). Although Steinberg and Cauffman (1996) include both dimensions of time perspective and social perspective taking under a larger construct of perspective, the low correlation between these two scales in the current study (r=-.13) indicates the two perspective dimensions should remain separate.

Intellectual Functioning

The Kaufman Brief Intelligence Test (K-BIT; Kaufman & Kaufman, 1990) is comprised of Vocabulary (V) and Matrices (M) subscales, representing verbal and nonverbal or performance abilities, respectively. Appropriate for ages four to 90, the K-BIT national norming data demonstrate adequate split-half reliability (average alpha coefficients range between .87 and .92) and test-retest reliability (average 21 day correlation is .94). Validity analyses indicate the K-BIT score distributions generally are comparable, but slightly higher, than those of the WISC-R and WAIS-R full IQ distributions (Naugle, Cheluma, & Decker, 1993; Parker, 1993).

Research using male juvenile delinquents (mean age=15.75 years found no significant differences between K-BIT and WISC-R scores (Prewitt, 1992). Thus, the K-BIT appears to be a promising brief measure of intellectual ability.

Procedure

Passive informed consent was obtained from parents/guardians of the juveniles and active informed consent was obtained from all participants[4]. The protocol was administered during a one to two-hour interview session with volunteer participants at the detention center or jail facility. Because of literacy concerns, all instruments were read to participants. All participants were interviewed individually and the confidentiality of the information was emphasized, including the protection provided by a Federal Certificate of Confidentiality obtained from the National Institute of Mental Health, which prevents access to the information by any third party. The only exceptions to the confidentiality were if the participant indicated that he was planning to hurt himself or someone else; these exceptions were made clear in the informed consent procedure.

Analysis Plan

The analysis consisted of several stages. First, preliminary descriptive analyses were conducted to examine the underlying distributions of the data and evaluate assumptions of normality and linearity that are required for multivariate analyses.

The first set of analyses focused on the MacCAT-CA, the assessment of competence to stand trial. Summary statistics and correlations were used to examine the relationship between

MacCAT scores and the demographic, education, and system experience variables. MANOVA techniques were used to test for differences in average MacCAT subscale scores across these variables. Then, chi-square analyses were used to examine the difference between existing knowledge and capacity in the Understanding subscale.

The second set of major analyses examined how well demographic factors predicted scores on the general noncontextual measures of judgment factors. Multivariate analysis of variance (MANOVA) was used to examine the relationship between demographic variables and the noncontextual judgment factors. Age (coded as young juvenile, older juvenile, and adult), race (coded as Caucasian and minority), IQ (coded as below average and average/above average), prior detention status (coded as any prior detention and none), and committing offense (coded as person, property, court order violation, and other) were entered as independent variables.

Next, analyses examined the decision-making rationales and outcomes. Responses on two vignettes in the JATA, talking to police and considering a plea bargain, were used as the dependent variables in this set of analyses. For each vignette, subjects were asked to make decisions at four points: for the vignette character after the initial story, for the vignette character's parents/friends (depending on the instrument version), for the vignette character after talking with parents/friends, and for the subject himself if he were in a similar situation. Chi-square analyses tested differences in the proportion of participants identifying options and selecting decision choices.

The final set of analyses examined the relationship between judgment, competence, and decision making. Logistic regression was used to predict the three decision outcomes in each

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4 Passive consent procedures required waiting seven days to allow time for parents to receive the information and contact the investigators if they did not wish their child to participate. Thus, all participants had been detained at

vignette. Sets of independent variables, including demographics, competence scores from the MacCAT, noncontextual judgment scores, and JATA judgment factors were used in a series of regression analyses to identify significant predictors of decision outcomes. Then the significant predictors were combined to test a final regression model for each decision point.

RESULTS

Adjudicative Competence

Table 3 provides the means and standard deviations by age groups for the subscales of the MacCAT-CA.

Table 3. Age group-specific performance on the MacCAT-CA.

Variable	Sample N	Mean (SD)	Range
MacCAT-Understanding			
Young Adolescent	101	11.3 (2.8)	5 - 16
Older Adolescent	103	12.1 (3.0)	5 - 16
Adult	111	11.9 (2.8)	4 - 16
MacCAT-Reasoning			
Young Adolescent	101	12.1 (2.5)	6 - 16
Older Adolescent	103	13.3 (2.3)	7 - 16
Adult	111	12.9 (2.6)	5 - 16
MacCAT-Appreciation			
Young Adolescent	101	10.8 (1.9)	3 - 12
Older Adolescent	103	10.8 (1.9)	3 - 12
Adult	111	10.8 (2.0)	0 - 12

When examining the relationships between MacCAT scores and the demographic, education, and system experience variables, several patterns emerge. Overall, IQ has a strong, consistent, positive relationship with MacCAT scores across subscales and across the age samples (see Table 4). In each case, higher IQ Percentile scores are associated with higher

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least seven days prior to the interview.

scores on the MacCAT (except for the Adult Appreciation score, which fails to reach significance).

Table 4. Correlations between MacCAT scores and the demographic and system experience variables by age.

	Understanding			Reasoning			Appreciation		
	Young	Older	Adult	Young	Older	Adult	Young	Older	Adult
IQ Percentile	.44**	.45**	.25*	.32**	.22+	.33*	.22+	.29*	.14
Race	.26*	.14	.01	.11	.11	.18	.19	.29*	.13
Offense	-.13	.22+	-.04	-.09	.13	.02	.01	.12	.05
Detention History	.05	-.14	.03	.21+	-.24+	.00	.09	-.09	.02
Court History	.19	.05	.05	.12	-.01	.13	.02	.16	.01

Note: **p<.001, *p<.01, +p<.05

Inspection of the IQ measure subscale scores reveals that the Vocabulary scores are significantly related to the MacCAT for all three age groups. The Matrices scores, which represent the performance dimension of intellectual ability, are correlated with Understanding and Reasoning for all three age groups, but with Appreciation scores only for the older adolescent group (see table 5).

Table 5. Correlations between MacCAT subscales and measures of intellectual and educational functioning by age group.

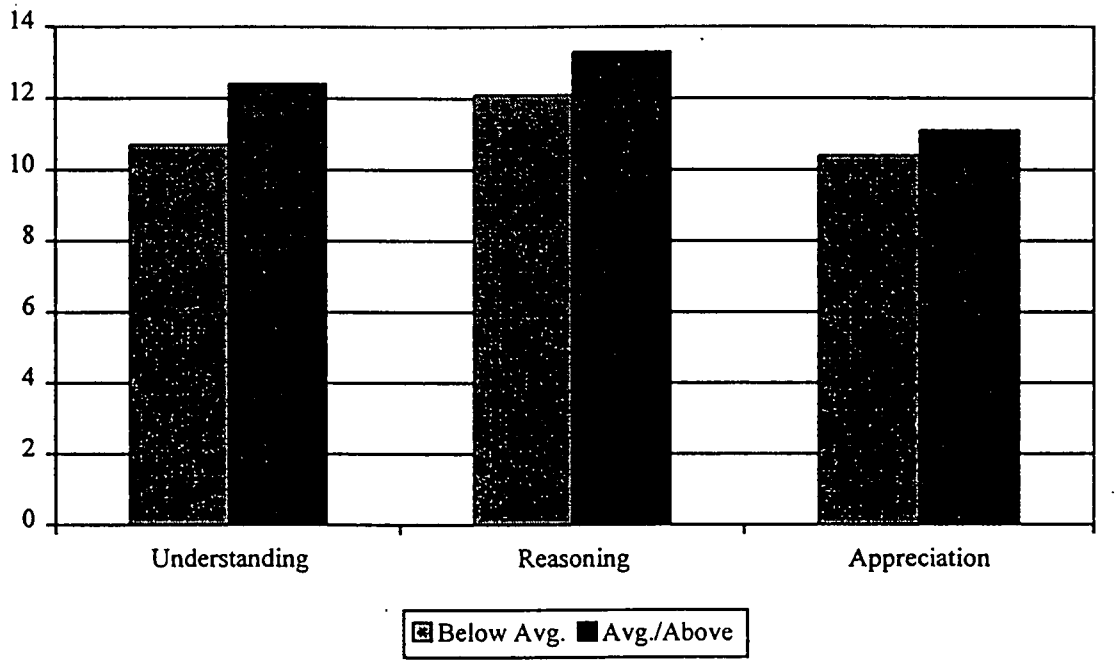
	Understanding			Reasoning			Appreciation		
	Young	Older	Adult	Young	Older	Adult	Young	Older	Adult
KBIT Vocab	.43**	.48*	.31**	.43**	.20+	.41**	.28*	.37**	.18
KBIT Matrices	.36**	.37**	.35**	.20+	.23+	.37**	.02	.25*	.15
KBIT Composite	.45**	.39**	.30**	.36**	.12	.40**	.16	.30*	.12
V/M Split	-.17	-.10	-.16	-.20+	-.14	-.12	-.21+	.06	-.02
Grade Attainment	.11	.14	.01	.05	.04	-.12	.26+	.09	-.01
Grade Retention	.11	.11	.09	.12	.08	.03	.17	-.04	.04
Special Education Placement	.08	.18	.14	.13	.06	.14	.03	.08	.23*

Note: **p<.001, *p<.01, +p<.05

The next set analyses used Multivariate Analysis of Variance MANOVA techniques to test for differences in average MacCAT subscale scores across, demographic, educational, and system experience variables. Because the age-based samples differed in the distribution of IQ scores, the first analysis examined age, race, and IQ variables together. Significant overall effects of Age [$F(6,584)=2.5$, $p<.05$, Wilks=.95] and IQ [$F(3, 292)=8.62$, $p<.0001$, Wilks=.92] and an Age by IQ interaction [$F(6, 584)=2.15$, $p<.05$, Wilks=.96) were found. No main effect for Race or other interaction terms were significant. Univariate analyses on Age indicate that the main effect was significant for the Reasoning subscale [$F(2, 294)=6.84$, $p<.001$]. Young adolescents (mean=12.1) scored significantly lower than older adolescents (mean=13.3), but were not

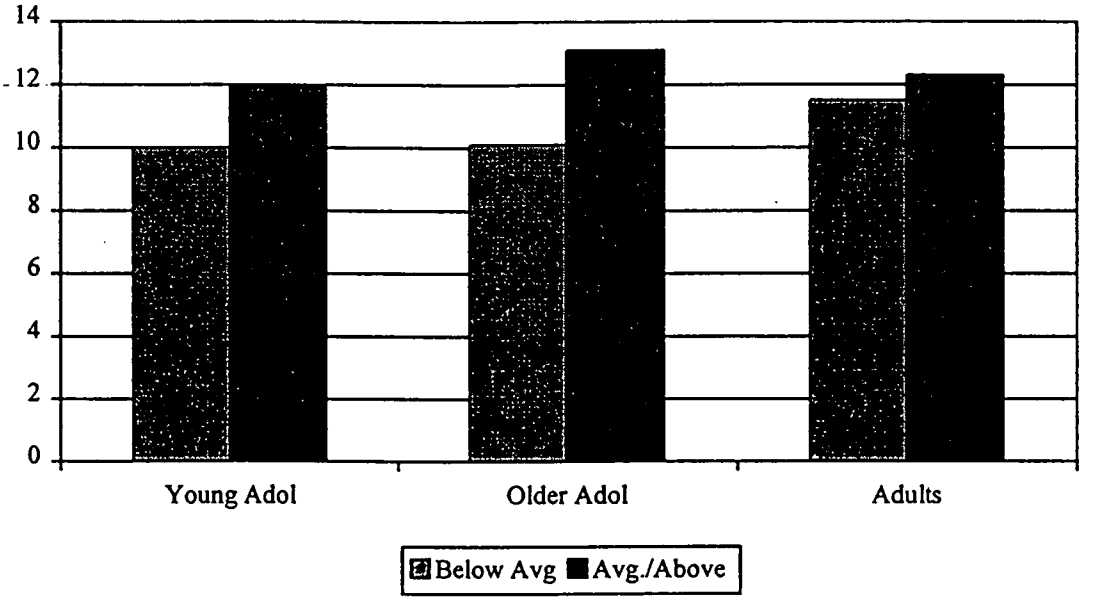
significantly different from the adults (mean=12.9). Significant IQ effects were found for all three subscales in expected directions (see Figure 1).

Figure 1. Average MacCAT Subscale Scores by IQ



Participants with below average IQ scored significantly lower than those with average or above average IQ on Understanding, Reasoning, and Appreciation. The Age by IQ interaction was only significant for the Understanding subscale [$F(2, 294)=3.50$, $p<.05$] (See Figure 2).

Figure 2. MacCAT Understanding Subscale Scores by Age and IQ



One advantage of the MacCAT-CA over other competence assessments is its ability to assess both knowledge and capacity. Many of the Understanding subscale items are multi-part questions that first test a participant's existing or current knowledge about the legal system. If the participant exhibits a deficit, the second part of the item provides a "disclosure" of the appropriate information, and then tests the participant's *capacity* to understand and retain that information. Although the Understanding subscale score incorporates post-disclosure performance, a specific examination of the pre-disclosure scores provides a window into the knowledge that various defendants bring to the system initially.

Six of the eight Understanding subscale items use this current knowledge/capacity format:

Item 1: Jobs of the defense attorney and prosecutor

Item 4: Jobs of the jury

Item 5: Jobs of the judge

Item 6: If found guilty, what happens next

Item 7: If plead guilty, what will admit

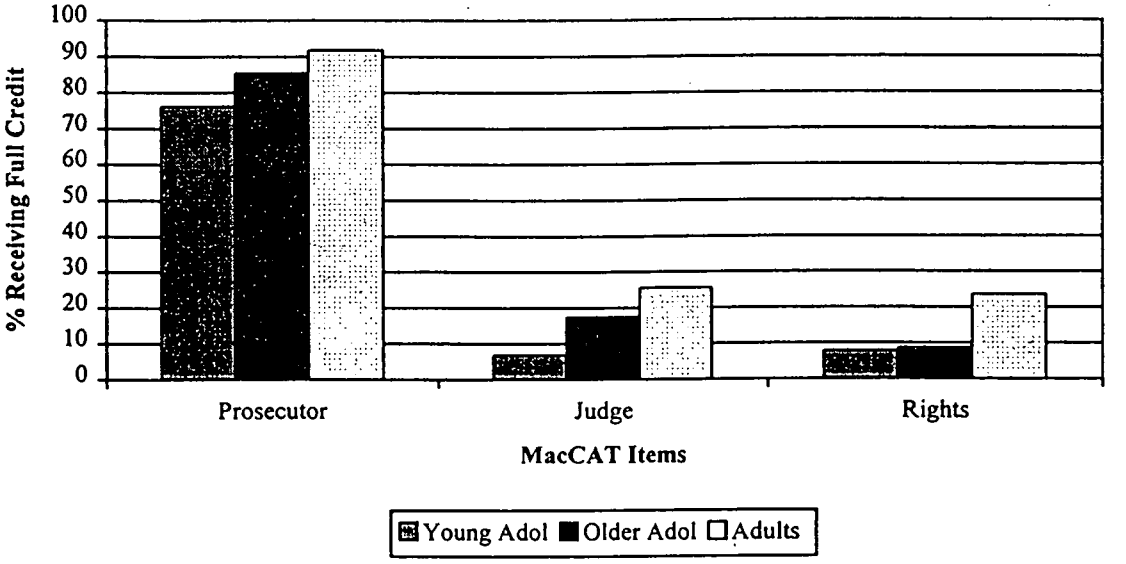
Item 8: If plead guilty, what rights will he give up

A set of Chi-square analyses compared the percentage of respondents who received full credit for their existing knowledge (and therefore did not need the disclosure and capacity test) with the percentage that received partial or no credit for their responses (and therefore needed the disclosure and capacity test). To reduce the likelihood of chance findings, a significance criterion of $p < .01$ was used to test for effects of age, IQ, and justice system experience.

Significant age differences in the proportions were found for three of the six items. For the items regarding the jobs of the prosecutor (Item 1), the jobs of the judge (Item 5), and the rights that are given up with a guilty plea (Item 8), the percentage of respondents for got full credit for the item based on their existing knowledge increase with age (see Figure 3).

Because IQ was differentially associated with age in our samples, we examined the effects of IQ on these variables while holding age constant, and found several significant differences. Each of the differences was in the expected direction - higher percentages of the sample with average or above average IQ's received full credit for their existing knowledge than

Figure 3. Existing Knowledge on MacCAT Understanding by Age



those with below average IQ, and the difference in percentages were quite striking in some cases. For the question about the jobs of the jury, higher proportions of the average/above average IQ samples of the older adolescent group (53.6%) received full credit as compared to their below average counterparts (45.5%, $p<.01$).

No other main effects of demographic or experience variables were found.

Noncontextual Measures of Judgment

Table 6 provides the means and standard deviations by age groups for the noncontextual measures of judgment. The first major question was whether demographic variables predicted differences in the noncontextual measures of judgment. Two MANOVAs were conducted to test for effects of background variables (age, race/ethnicity, and IQ) and justice system involvement

(detention history and committing offense). The dependent variables were significantly related to age [$F(14, 552) = 5.28$, $p < .0001$].

Table 6. Scores on noncontextual judgment measures by age group.

	AGE					
	Young Juveniles		Older Juveniles		Adults	
	M	SD	M	SD	M	SD
Temperance						
Temperance[a]	42.9	(11.4)	41.9	(11.1)	47.4	(12.1)
Perspective						
LOT Score	18.4	(5.1)	17.7	(5.6)	17.3	(5.3)
Consideration of Others[a]	23.2	(4.8)	23.6	(4.9)	25.6	(4.9)
Responsibility						
Responsibility[a]	24.9	(6.8)	23.8	(6.7)	28.5	(7.0)
Parental influence						
Parent Attachment	96.9	(16.3)	95.3	(18.2)	99.5	(15.7)
Peer influence						
Peer Attachment[a]	93.8	(13.4)	97.2	(15.6)	84.0	(18.4)
Risk Perception						
Sensation Seeking[b]	55.6	(7.4)	58.4	(6.6)	54.0	(8.3)

[a] Young adolescents and Older adolescents differ from Adults at $p < .05$ using Scheffe comparison.
[b] Young adolescents and Adults differ from Older Adolescents at $p<.05$ using Scheffe comparison.

Univariate analyses indicated significant effects of age on Temperance [$F(2, 282) = 6.94$, $p<.001$], Consideration of Others [$F(2, 282) = 6.52$, $p <.01$], Responsibility [$F(2, 282) = 16.88$, $p<.0001$], Peer Attachment [$F(2, 282) = 13.69$, $p <.0001$] and Sensation Seeking [$F(2, 282) = 4.65$, $p<.01$]. Table 6 notes the significant differences between age groups on these variables using post-hoc tests with Scheffe's correction. With the exception of Sensation Seeking, in which the older adolescent sample was different from the other two groups, on all other variables the two juvenile samples were significantly different from the adult sample.

No other significant main effects or interactions with age were found.

Decision Options

For each vignette's initial decision point, respondents were asked to identify all of the character's options. In both the police and plea bargain vignettes, answers were coded into three

categories - talking and admitting the offense (TALK), denying involvement in the offense/lying about involvement (DENY), refusing to talk/remaining silent (REFUSE). Although asking for/mentioning a lawyer when being questioned by police (LAWYER) is not an actual decision (it usually coincides with remaining silent), the mention was coded for the police vignette to evaluate how many participants acknowledged the right to have an attorney present during questioning. Chi-square tests were used to test for demographic differences in the percentage of respondents identifying each of the four options. For each decision option, separate chi-square tests were conducted for each demographic variable. To reduce the likelihood of a Type I error, significance levels were set at $p < .01$.

Police Vignette

Significant differences in identifying the option of talking to police (TALK) were found for RACE [$\chi^2(1, N = 302) = 8.52, p < .01$] and IQ [$\chi^2(1, N = 317) = 19.43, p < .001$] with a higher percentage of Caucasians (74.4%) than minorities (57.8%) and those with average/above average IQ (73.2%) than below average (57.8%) identifying the TALK option. When controlling for IQ, the significant difference for race disappears.

Significant differences in identifying the option of denying involvement or lying to police (DENY) were found for AGE [$\chi^2(2, N = 317) = 18.45, p < .001$] and IQ [$\chi^2(1, N = 317) = 13.03, p < .001$]. Table 7 provides the age breakdowns in which a higher percentage of younger juveniles (28.4%) and older juveniles (26.2%) identified DENY than adults (7.1%). More participants with average/above average IQ scores identified the option (26.8%) than below average scorers (10.2%). When controlling for IQ, the significant age differences remain for the average/above average group (Fisher's exact test = .01) but not the below average group.

Table 7. Number recognizing decision option by age for police vignette (% in parentheses)

	Young Juveniles n=102	Older Juveniles n=103	Adults n=112	χ^2 (2, N = 317)
Talk	67 (65.7%)	69 (67.0%)	65 (58.0%)	2.19
Deny	29(28.4%)	27 (26.2%)	8 (7.1%)	18.45***
Refuse	81 (79.4%)	91 (88.4%)	90 (80.4%)	3.49
Lawyer	77 (75.5%)	74 (71.8%)	85 (75.9%)	0.55

Note. **p < .01 *** p <.001

Significant effects of IQ were also found in identifying the option to refuse to talk to the police. Again, a lower percentage of those with below average IQ (66.9%) than average/above IQ (79.5% identified this option. No demographic differences were found for requesting or identifying the right to a lawyer. Over 70% of the entire sample mentioned something about obtaining or waiting for counsel.

Plea Bargain Vignette

Significant age differences were found for providing information to the prosecutor and taking the bargain, and denying involvement/lying about the information. Table 8 provides the percentages of each age group that identified the options.

Table 8. Number recognizing decision option by age (% in parentheses)

	Young Juveniles n=102	Older Juveniles n=103	Adults n=113	χ^2 (2, N = 317)
Talk	90 (88.2%)	102 (99.0%)	99 (88.4%)	10.60**
Deny	16 (15.7%)	14 (32.5%)	3 (1.0%)	11.34**
Refuse	63 (61.8%)	77 (74.8%)	77 (68.8%)	4.01

Note. **p < .01

Older juveniles had the highest proportion identify the talk and deny options. Significant effects of race [χ^2(1, N=302) = 8.48, p < .01] were found for the REFUSE option. The option was identified by larger percentages of Caucasians (78.6%) than minorities (62.7%). When

controlling for IQ, however, the effects of age and race disappeared. No significant effects were found for IQ, detention status or committing offense.

Decision Outcomes

For each vignette, participants are asked to make decision choices at four points: what the vignette character should do after the initial story (immediately following the identification of options reviewed above); what the character's parents or peers would want him to do (depending on the instrument version); what the vignette character should do after hearing the parent/peer recommendation; and what the participant would do if he was in a similar situation. For each vignette, one-half of the respondents were asked about peers and one-half were asked about parents. The decision choices were coded as talking/admitting information, denying/lying about information, remaining silent/refusing plea bargain, or other. Because a proportion of the cells contained less than five respondents, Fisher's Exact Test was used instead of the standard Chi-Square test. Separate tests were conducted for each of the four decision points and a significance level of $p < .01$ was used.

Police Vignette

Table 9 provides the choices by decision point and age group. Significant differences in choices were found for the initial decision point and what the participant would do if in a similar situation. It is clear that the majority of respondents in each age group recommended and chose remaining silent for both decisions. However, for both these decision points, the percentage of respondents who chose ADMIT generally decreased with age and the percentage that chose REFUSE increased with age. Almost no adults chose the DENY option but a percentage of both young and older juveniles made that selection.

Table 9. Number of respondents selecting choices at four decision points in police vignette by age.

	Young Juveniles N=100	Older Juveniles N=103	Adults N=105	Chi Square
Joe should do				$p < .01$
Talk	12 (12.0%)	7 (6.8%)	9 (8.6%)	
Deny	17 (17.0%)	10 (9.7%)	2 (1.9%)	
Remain silent	70 (70.0%)	85 (82.5%)	90 (85.7%)	
Other	1 (1.0%)	1 (1.0%)	4 (3.8%)	
Parents would want				
Talk	39 (75.0%)	32 (61.5%)	23 (42.6%)	NS
Deny	0 (0.0%)	2 (3.9%)	1 (1.9%)	
Remain silent	10 (19.2%)	14 (26.9%)	24 (44.4%)	
Other	3 (5.8%)	4 (7.7%)	6 (11.1%)	
Peers would want				NS
Talk	4 (8.5%)	7 (13.7%)	7 (14.6%)	
Deny	7 (14.9%)	12 (23.5%)	6 (12.5%)	
Remain silent	35 (74.5%)	32 (62.8%)	31 (64.6%)	
Other	1 (2.1%)	0 (0.0%)	4 (8.3%)	
Joe should do (post parent/peer recommendation)				NS
Talk	27 (27.2%)	26 (25.5%)	24 (22.9%)	
Deny	0 (0.0%)	3 (3.0%)	0 (0.0%)	
Remain silent	72 (72.7%)	73 (71.6%)	80 (76.2%)	
Other	0 (0.0%)	0 (0.0%)	1 (1.0%)	
Participant would do				$p < .01$
Talk	28 (28.3%)	20 (19.6%)	17 (16.2%)	
Deny	12 (12.1%)	11 (10.9%)	2 (1.9%)	
Remain silent	56 (56.6%)	64 (62.8%)	72 (68.6%)	
Other	3 (3.0%)	7 (6.9%)	14 (13.3%)	

Note. Percentages within age categories in parentheses. Numbers for the parent and peer recommendation categories include half the sample.

No effects were found for race, IQ, detention history or committing offense. These findings suggest that the decision to talk to police or remain silent may vary with age, but not by other demographic or justice system involvement variables.

To check for age differences in the perception of what parents and peers may recommend, Fisher's exact test was used to examine the effect of protocol version (asking for a parent's recommendation versus a peer's recommendation) on decision choice while controlling for age. A significant effect for version was found for both sets of juveniles (Fisher's=.001) as well as the adults (Fisher's=.01). These results indicate that each sample reported a pattern of parent's recommendations (predominantly TALK - over 60% for both juvenile samples, over

40% for adults) that differed from their pattern of peer's recommendations (predominantly remain silent - over 60%). Moreover, if the categories are collapsed into ADMIT/OTHER, there is a significant effect of age on the parents vignette [X^2 (2, N=158) = 11.68, $p < .01$]. Three-quarters of the young juveniles believed that parents would want the vignette character to admit, whereas less than half of the adult sample did. No differences were found for the peer vignette using this ADMIT/OTHER dichotomy.

Plea Bargain Vignette

A slightly different pattern of results was found for decision choices in the plea bargain-vignette. Table 10 provides the age breakdowns of choices by decision point. A significant effect of age was found only for the decision describing what the vignette character should do. It appears a higher percentage of adults reported that the character should provide the information and take the plea bargain, rather than refuse the bargain and go forward with a trial. No significant results were found for any of the other demographic and justice system experience variables.

As with the police vignette, Fisher's Exact Test was used to check the hypothesis of age differences in the perceived recommendations of peers and parents. Significant differences in the reported choices between the parent and peer versions were found for all three age groups (Fisher's = .0001).

Table 10. Number of respondents selecting choices at four decision points in plea bargain vignette by age.

	Young Juveniles	Older Juveniles	Adults	Fisher's exact test
Joe should do				p<.01
Talk/Take Bargain	58 (58.6%)	62 (60.8%)	77 (71.3%)	
Deny	18 (18.2%)	11 (10.8%)	2 (1.9%)	
Remain silent/Refuse	21 (21.2%)	28 (27.4%)	24 (22.2%)	
Other	2 (2.0%)	1 (1.0%)	5 (4.6%)	
Parents would want				
Talk/Take Bargain	45 (86.5%)	48 (92.3%)	45 (86.5%)	NS
Deny				
Remain silent/Refuse	3 (5.8%)	2 (3.9%)	3 (5.8%)	
Other	4 (7.7%)	2 (3.9%)	4 (7.7%)	
Peers would want				NS
Talk/Take Bargain	11 (25.0%)	12 (23.5%)	23 (45.1%)	
Deny				
Remain silent/Refuse	31 (70.5%)	37 (72.6%)	22 (43.1%)	
Other	2 (4.6%)	2 (3.9%)	6 (11.8%)	
Joe should do				NS
(post par/peer rec)				
Talk/Take Bargain	55 (57.2%)	54 (57.3%)	67 (62.0%)	
Deny				
Remain silent/Refuse	41 (42.7%)	46 (45.5%)	40 (37.0%)	
Other	0 (0.0%)	1 (1.0%)	1 (0.9%)	
Subject would do				NS
Talk/Take Bargain	54 (56.8%)	59 (58.4%)	68 (63.6%)	
Deny				
Remain silent/Refuse	33 (34.7%)	37 (36.6%)	24 (22.4%)	
Other	8 (8.4%)	5 (5.0%)	15 (14.0%)	

Note. The Deny option was not presented in the plea bargain vignette (see Footnote 2, p. 21).

These results indicate that a few age differences in decision choices do exist. Even though the majority of respondents recommended remaining silent in the wake of police questioning, the percentage of juvenile respondents recommending that the character admit to police, and that they themselves would admit to police, is higher than that of adults. In the plea bargain vignettes, higher proportions of adults that juveniles recommended that the character take the bargain.

Decision Consequences[5]

The first step in the analysis of decision consequences was simply to determine how many and what types of consequences participants mention in response to the question "What are all the things that might happen if Joe decides to" admit, deny, and refuse to talk. A MANOVA was used to evaluate demographic differences in the total number of consequences mentioned and the total number of different consequence categories mentioned across all three decision options within a vignette. Table 11 presents the means for each age group.

For the police vignette, only a main effect of AGE [$F(4, 340) = 3.30$, $p < .01$] was found; no other demographic or justice system experience variable was significant. Univariate tests indicate significant effects both for the total number of consequences mentioned [$F(2, 171) = 5.31$, $p < .006$] and the number of consequence categories used [$F(2, 171) = 5.85$, $p < .004$].

Table 11. Mean number of consequences and consequence types by age for police vignette

Consequence	Young Juveniles	Older Juveniles	Adults
Total Number	6.13^{a} (2.27)	6.80^{a} (2.77)	4.92^{b} (1.79)
Total Categories	$4.02^{c,d}$ (1.48)	4.50^{c} (1.59)	3.38^{d} (1.28)

Note. Standard deviations in parentheses. Means with the same letter in a row are not significantly different.

For the plea-bargain vignette, only a main effect of IQ was found [$F(2, 170) = 8.32$, $p < .0004$] and univariate tests indicate it was significant for the total number of consequences generated [$F(2, 171) = 14.42$, $p < .0002$]. Participants with below average IQ mentioned less

5 Because of the time intensity of coding the contextual judgment factors in the JATA (decision consequence measures), initial coding and reliability analyses are ongoing. The data on contextual judgment factors for this report is based on approximately 60% of the entire sample (n=182), which includes 60% for each of the three age groups: young adolescent, older adolescent, and adult. Further analyses on the entire sample will be forthcoming.

consequences ($\underline{m}$ = 3.45) than those with average and above IQ scores ($\underline{m}$ = 4.83). No other demographic variables were significant.

Consequences by Content Category

The next set of analyses tested the effects of demographic and justice system experience variables on the number of consequences mentioned for each content category. Separate MANOVAs were run for each demographic variable within the two vignettes.

Police vignette. Table 12 presents the mean number of mentions per content category by age group. The MANOVA indicated significant effects for age on mean number of consequences by context categories [$F(28, 328) = 1.87$, $\underline{p} < .006$]. Significant differences were found for assumption of innocence/guilt, disposition, and prosecutor deal. No other demographic variables were significant at the $\underline{p} < .01$ level. Older juveniles had significantly more mentions of the assumption of guilt/innocence than adults did. Both samples of juveniles had more mentions of disposition consequences than adults. Finally, older juveniles mentioned aspects of dealing with prosecutors significantly more often than younger juveniles.

Table 12. Mean number of consequence mentions in police vignette by content category and age.

	Young Juvenile		Older Juvenile		Adult	
	M	SD	M	SD	M	SD
Anger produced/avoided	0.07	0.25	0.17	0.42	0.17	0.42
Questioning pursued/curtailed	0.65	0.84	0.62	0.80	0.72	0.78
Freedom/temporary detainment	1.50	1.27	1.73	1.30	1.22	1.19
Assumption of innocence/guilt**	$0.30^{a,b}$	0.46	0.38^{a}	0.69	0.08^{b}	0.28
Leniency/harshness	0.75	0.99	0.75	0.89	0.92	0.98
Counsel provided/withheld	0.32	0.62	0.28	0.52	0.10	0.30
Investigative action pursued/avoided	0.32	0.54	0.35	0.61	0.28	0.52
Disposition**	0.90^{c}	0.97	0.85^{c}	0.97	0.42^{d}	0.77
Court proceedings initiated/avoided	1.00	1.22	1.12	1.03	0.78	0.94
Lawyer assistance	0.02	0.13	0.03	0.18	0.02	0.13
Prosecutor deal*	0.02^{e}	0.13	0.13^{f}	0.34	$0.03^{e,f}$	0.18
Parent assistance	0.05	0.29	0.00	0.00	0.00	0.00
Friend impact	0.15	0.40	0.28	0.56	0.10	0.44
Other	0.10	0.30	0.10	0.30	0.08	0.28

Note. Means with the same letter in a row are not significantly different. *$p<.05$. **$p < .01$

As a second method of evaluating category use, the frequency with which a participant used each category was rank ordered. So, the content category mentioned most frequently was given a rank of one, and the least frequently used (or never used) was ranked fourteenth. Then, a MANOVA was used to test each demographic variable's relationship to the rank ordering of content categories. The mean ranks for the significant age effects [$F(28, 334) = 2.21$, $p <.0005$] on six consequence categories are presented in Table 13.

Table 13. Significant age differences in mean rank of consequence category.

	Young Juvenile		Older Juvenile		Adult	
	M	SD	M	SD	M	SD
Freedom/temporary detainment***	4.65[a,b]	5.48	3.22[a]	4.31	5.78[b]	6.10
Assumption of innocence/guilt**	10.53[c]	5.37	10.63[c]	5.43	12.95[d]	3.51
Counsel provided/withheld*	11.05	5.17	11.13	5.02	12.80	3.64
Disposition**	6.85[e]	6.14	7.50[e]	6.16	10.28[f]	5.74
Prosecutor deal*	13.78	1.68	12.60	3.68	13.60	2.18
Friend impact*	12.45[g,h]	3.99	11.22[g]	5.11	13.20[h]	3.04

Note. 1 = most frequently used category, 14 = least frequently/never used. Means with the same letter in a row are not significantly different. ***$p < .001$, **$p < .01$, *$p < .05$.

For each significant effect, one or both of the juvenile samples had a higher ranking than the adult sample. Older juveniles had a higher rank than adults for the Freedom/Temporary Detainment and Friend Impact categories did. Both juvenile samples had higher average ranks for the Assumption of Innocence/Guilt and Disposition categories than adults.

Plea bargain vignette. Fewer age differences were found for MANOVA testing the total number of times the consequence categories were mentioned in the plea bargain vignette [$F(26, 330) = 2.44$, $p < .0002$]. Univariate analyses indicate that older juveniles ($m = 0.13$) mentioned the assumption of innocence of guilt more than adults, who never mentioned this consequence ($m = 0.0$); younger juveniles ($m = 0.03$) were not different from either group. Older juveniles also had more mentions of court proceedings ($m = 1.55$) than young juveniles ($m = 1.00$) or adults ($m = 0.75$). The court proceedings consequence was also mentioned significantly more by Caucasians ($m = 1.43$) than minorities ($m = 0.93$) and those participants with average and above IQ scores ($m = 0.65$).

Generally, the same pattern of differences held for the MANOVA analyses of rank of frequency of use. Significant effects of age [$F(26, 330) = 2.01$, $p < .002$] were found and univariate tests identified two of the consequence content categories. Again, older juveniles had a significantly higher rank ($m = 12.77$) for Assumption of innocence/guilt than adults ($m = 14.00$; never mentioned) with young juveniles not different from either group ($m = 13.57$). The same pattern of significance held for the average rank on Court proceedings initiated/avoided: older juveniles ($m = 3.91$) were significantly different from adults ($m = 7.70$), with young juveniles in between ($m = 6.13$). No significant effects of race, IQ, detention history or committing offense were found.

Across both vignettes, significant age differences were found in the number of times several consequences were mentioned. Considering which consequences were mentioned most by an individual, juveniles had significantly higher ranks for several categories.

Valence of Consequences

Beyond the types of consequences associated with decision choices, the valence, or positivity and negativity, of the consequences can provide important information about the decision-making process. Within the judgment framework, the valence of consequences can be considered some indication of the costs and benefits associated with each decision option. Each of the consequences mentioned by respondents was coded as to whether it represented a positive or negative consequence for the individual. The consequences were summed across the three decision choices (ADMIT, DENY, REFUSE) to create the total number of positive and negative consequences identified by demographic characteristics.

Police vignette. Effects of age [$F(4, 358) = 4.51$, $p < .001$], race, [$F(2,173) = 4.44$, $p < .01$] and IQ [$F(2, 180) = 5.86$, $p < .003$] were found. More total negative consequences were mentioned by older juveniles (than adults), Caucasians, and those with average or above IQ scores. More total positive consequences were mentioned by older juveniles (than adults) and those with average or above IQ scores. Table 14 presents the mean number of positive and negative consequences identified.

Table 14. Mean number of positive and negative consequences mentioned by demographic characteristics.

	Police Vignette		Plea Bargain Vignette	
	Positive	Negative	Positive	Negative
AGE				
Young Juvenile	1.60 (1.28)	4.53 (2.00)	1.32 (1.14)	2.98 (1.52)
Older Juvenile	1.80 (1.65)	5.00 (1.67)	1.73 (1.18)	3.22 (1.51)
Adult	1.10 (0.99)	3.82 (1.41)	1.33 (0.97)	3.22 (1.51)
RACE				
Caucasian	1.48 (1.21)	4.97 (1.61)	1.79 (1.16)	3.20 (1.47)
Minority	1.52 (1.45)	4.17 (1.80)	1.32 (1.06)	2.66 (1.49)
IQ				
Below average	1.22 (1.21)	3.89 (1.66)	1.25 (0.98)	2.22 (1.34)
Average/Above	1.66 (1.42)	4.77 (1.76)	1.58 (1.16)	3.21 (1.47)

Note. Standard deviations in parentheses.

The proportion of negative to positive consequences across decision choices within a vignette was calculated and served as the dependent variable in a series of ANOVAs with demographic variables as the independent variables. No significant differences in the mean proportion of negative to positive consequences were found for any demographic variables.

Plea bargain vignette. Using MANOVAs, significant effects of age [$F(4, 352) = 10.90$, $p < .0008$], race [$F(2, 173) = 7.69$, $p < .0006$] and IQ [$F(2, 177) = 14.65$, $p < .0001$] were found. More negative consequences were mentioned by older juveniles (than adults), Caucasians, and

those with average or above IQ scores. More positive consequences were mentioned by Caucasians than minorities. Average mentions are presented in Table 14. No significant differences in the proportion of negative to positive consequences were found.

Temporal Perspective of Consequences

The short or long-term nature of consequences provides information about a participant's temporal perspective when considering various decision choices. Each consequence mentioned by a participant was coded for whether it represented a short-term consequence (e.g., in the next few hours) or a long-term consequence (e.g., in the days or weeks ahead or longer). As with the analyses for valence, MANOVA was used to examine the total number of short and long-term consequences reported across decision options within each vignette. Table 15 includes the average number of consequences by demographics for each vignette.

Table 15. Mean number of short and long term consequences for vignettes by demographics.

	Police Vignette		Plea Bargain Vignette	
	Short Term	Long Term	Short Term	Long Term
AGE				
Young Juvenile	4.20 (2.38)	1.93 (1.51)	2.57 (1.53)	1.73 (1.21)
Older Juvenile	4.82 (2.38)	1.98 (1.79)	3.20 (1.62)	1.75 (1.28)
Adult	3.47 (1.90)	1.45 (1.33)	1.80 (1.26)	1.88 (1.08)
RACE				
Caucasian	4.93 (2.34)	1.51 (1.47)	3.16 (1.45)	1.82 (1.20)
Minority	3.76 (2.12)	1.94 (1.61)	2.18 (1.55)	1.80 (1.19)
IQ				
Below average	3.43 (1.85)	1.68 (1.39)	1.82 (1.33)	1.65 (0.99)
Average/Above	4.57 (2.41)	1.85 (1.66)	2.92 (1.57)	1.87 (1.28)

Police vignette. Significant effects for age [$F(2, 352) = 5.08$, $p < .0005$] indicated that older adolescents mentioned more short term consequences than adults. The race analysis [$F(2, 173) = 6.25$, $p < .002$] showed that Caucasians mentioned more short term consequences than

minorities. Those with above average IQ scores also reported significantly more short term consequences than those below average [$F(2, 177) = 6.87$, $p < .001$]. No differences in long term consequences were found for any demographic variable. When the proportion of long to short term consequences was used as the dependent variable, no significant effects of any demographic variables were found on the total proportion or the proportion within each decision choice.

Plea bargain vignette. Again, significant effects of age [$F(4, 352) = 6.62$, $p < .0001$], race [$F(2, 173) = 9.08$, $p < .0002$] and IQ [$F(2, 177) = 15.30$, $p < .0001$] were found. Univariate tests indicated that more short-term consequences were reported by young and older juveniles (as compared to adults), Caucasians, and those with average or above IQ scores. No differences in long term consequences were found.

Interestingly, significant effects for age were obtained for the proportion of long to short term consequences [$F(4, 336) = 3.52$, $p < .008$]. Specifically, adults had a significantly higher proportion ($m = 1.53$) than older juveniles ($m = 1.32$) for the Refuse the Bargain decision choice. Younger juveniles ($m = 1.38$) were not significantly different from either group.

Predicting Decision Outcomes from Competence and Judgment

The final set of analyses was designed to predict decision outcome as measured in the JATA from demographic factors, adjudicative competence, and noncontextual judgment factors. This section focuses on two decision points in the police[6] and plea bargain vignettes: the participant's recommendation for what the vignette character should do, and what the participant himself would do in a similar situation. Because of the number of predictors in comparison to the

sample size, separate regressions were run for each block of predictors. All significant predictors from each block were then entered in a final regression equation[7].

Table 16 presents the results for the two decisions to admit/talk - for the vignette character and the participant in the police vignettes. Results from the separate regressions indicate that variables from each construct category (except Adjudicative Competence) significantly predicted the likelihood of recommending that the vignette character admit to the police. That likelihood increased as a function of prior detention experience, greater Consideration of Others, more mentions of the positive aspects of admitting, and identifying the long term consequences of lying or denying involvement to the police. Several other context-specific variables reduced the likelihood of recommending an admission. Specifically, these included identifying short-term consequences of remaining silent, positive aspects of lying/denying, and more mentions of consequences regarding continued consequences and temporary detainment.

Variables in each construct category also predicted the participants' own reports of what they would do when personally faced with the decision to admit to police. Separate regressions indicated that those respondents who were younger; had lower Understanding and Appreciation scores; identified more short term and positive consequences of lying/denying; mentioned more positive consequences of remaining silent; and discussed consequences related to continued questioning; were less likely to report that they would admit to the police. The likelihood of

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6 It is important to note that a small proportion of the sample chose the option of Talk/Admit to the police, so the variance in these models is restricted.

7 As noted in Footnote 5, data on contextual judgment factors in available for N=182. Regression equations in this section are based on this portion of the total sample.

Table 16. Regression equations predicting decision to admit to police from demographics, competence, and noncontextual judgment factors.

	Police Vignette - Choices					
	Character			Participant		
	β	Odds Ratio	R^2	β	Odds Ratio	R^2
Demographic Factors			4.4%*			7.4%***
Age Type				-.40***	.41	
Race/Ethnicity						
IQ Category						
Prior Detention History	.30*	3.40				
Committing Offense						
Adjudicative Competence	Equation NS					12.3%***
Understanding				-.47***	.73	
Reasoning				.45**	1.4	
Appreciation				-.23*	.79	
Noncontextual Judgment			6.0%*			3.1%*
Temperance						
Consideration of Others	.39*	1.15				
Responsibility				.25*	1.07	
Parent Attachment						
Peer Attachment						
LOT Score						
Sensation Seeking						
Contextual - JATA Vignette Consequences						
Time Persp.			15.2%***			3.4%*
Short term - (Admit, Deny)						
Short term - DENY				-.29*	.63	
Short term - REFUSE	-.62**	.32				
Long term - DENY	.43**	2.53				
Long term (Admit, refuse)						
Valence			12.6%**			15.2%***
Positive - ADMIT	.39**	2.9		.41***	3.08	
Positive - DENY	-.49*	.30		-.35*	.42	
Positive - REFUSE				-.34*	.42	
Negative (A, D, R)						
Mentions of content categ.[a]			13.2%***			3.8%*
Questioning pursued/curtail	-.72**	.20		-.32*	.49	
Freedom/Temp. Detainment	-.41*	.56				

Note. Each block of predictors was run as a separate regression equation for decision points within vignettes. R^2 is calculated as a pseudo R^2. [a] All content categories were entered; only significant variables are shown.*p <.05, **p<.01, ***p<.001

confession increased for those with higher Reasoning and Responsibility scores, as well as those who identified more positive consequences of admitting.

Because the predictors of these decisions were tested in blocks through separate regression equations, a final model for each decision containing all the significant predictors was run. Table 17 presents the final regression models for each decision.

Table 17. Final regression equations for admitting to police.

Police vignette:		
Character should admit/talk to police.	$\chi^2(4, N = 173) = 29.27, p < .0001$ pseudo $R^2 = 30.1\%$	
	β	Odds Ratio
Prior Detention History	.37	4.69
Short Term - REFUSE	-.76	0.25
Long Term - DENY	.44	2.54
Positive - ADMIT	.50	3.87
Participant would admit/talk to police.	$\chi^2(6, N = 179) = 54.29, p < .0001$ pseudo $R^2 = 32.3\%$	
	β	Odds Ratio
Age Type	-.48	.35
Understanding	-.57	.67
Reasoning	.46	1.41
Responsibility	.38	1.11
Positive - ADMIT	.40	2.95
Positive - DENY	-.43	.35

Note. Only predictors that remained significant at the $p<.05$ or smaller in the final model are listed.

Table 18 presents the results for the two decisions to admit/talk - for the vignette character and the participant in the police vignettes.

Table 18. Regression equations for taking the bargain from demographics, competence, and noncontextual judgment factors.

	Plea BargainVignette - Choices					
	Character			Participant		
	β	Odds Ratio	R^2	β	Odds Ratio	R^2
Demographic Factors	Equation NS			Equation NS		
Agetype						
Race/Ethnicity						
IQ Category						
Prior Detention History						
Committing Offense						
Adjudicative Competence	Equation NS			Equation NS		
Understanding						
Reasoning						
Appreciation						
Noncontextual Judgment			5.9%***			3.7%**
Temperance						
Consideration of Others	.31***	1.12				
Responsibility				.26**	1.07	
Parent Attachment						
Peer Attachment						
LOT Score						
Sensation Seeking						
Contextual - JATA						
Vignette Consequences						
Time Persp.			2.0%*	Equation NS		
Short term - (Admit, Deny)						
Short term - DENY						
Short term - REFUSE	-.18*	.71				
Long term - DENY						
Long term (Admit, refuse)						
Valence			9.1%***			4.4%***
Positive - (ADMIT, DENY)						
Positive - REFUSE	-.35***	.40		-.30***	.48	
Negative - ADMIT	-.29**	.62				
Negative - REFUSE	.32**	1.81				
Negative - DENY						
Mentions of content categ.[a]	Equation NS			Equation NS		
Questioning pursued/curtail						
Freedom/Temp. Detainment						
Leniency/Harshness						
Court Proceedings						

Note. Each block of predictors was run as a separate regression equation for decision points within vignettes. R^2 is calculated as a pseudo R^2. *p <.05, **p<.01, ***p<.001

For the character's decision, several noncontexual and contextual judgment factors were significant. The likelihood of recommending that the character accept the plea bargain increased greater scores on the Consideration of Others subscale as well as the identification of more negative consequences for refusing the bargain. Identifying short term and positive aspects of refusing the plea, as well as negative aspects of taking the plea, reduced the likelihood of such a recommendation.

The participant's own decision to take the plea was increased by higher scores on the noncontextual measures of Responsibility, and was decreased by the mention of positive aspects of rejecting the plea.

Because the predictors of these decisions were tested in blocks through separate regression equations, a final model for each decision containing all the significant predictors was run. Table 19 presents the final regression models for each decision.

Table 19. Final regression equations for young juveniles' decisions.

Plea Bargain vignette:		
Character should admit/take bargain.	χ^2 (3, n = 180) = 41.03, p <.0001	pseudo R^2 = 17.1%
	β	Odds Ratio
Consideration of Others	.36	1.13
Positive - REFUSE	-.40	.34
Negative - REFUSE	.27	1.64
Participant would admit/take bargain	χ^2 (1, n = 177) = 18.21, p <.0001	pseudo R^2 = 7.5%
	β	Odds Ratio
Responsibility	.24	.49
Positive - REFUSE	-.27	1.07

Note. Only predictors that remained significant at the p<.05 or smaller in the final model are listed.

DISCUSSION

This study examined judgment and decision making in legal contexts among adolescents and adults who were detained prior to their trials. Theories of judgment and psychosocial maturity hypothesize that a number of developmental factors may affect the decision-making process and outcomes for juveniles differently than adults. These constructs include risk perception, temporal perspective, parent/peer influence, responsibility, temperance and perspective. The general developmental literature provides some evidence that these concepts do change over the course of adolescence and are related to decision making, but they have not been examined in legally relevant contexts. The legal construct of adjudicative competence, which sets the standards by which the capacities to understand and participate meaningfully in the justice system process are defined, does not incorporate judgment factors under its rubric. Therefore, developmental differences between adolescents and adults may not be captured if the standard definitions and assessments of adjudicative competence are simply extended to adolescents.

The goals of the current study were to clarify the meaning of adolescent competence as a function of both adult competence factors and judgment factors. Because judgment has not been assessed specifically in legal contexts, both general noncontextual developmental measures and context-specific measures of judgment were used. Data were gathered from young adolescents (ages 12 to 15), older adolescents (ages 16-17), and adults who were incarcerated in pretrial detention facilities with pending charges. Measures of adjudicative competence, noncontextual judgment factors, and context-specific judgment factors were administered in interview format. Participants were asked about decision-making process and outcomes for three hypothetical situations - being questioned by police, consulting with counsel, and considering a plea bargain.

It was hypothesized that scores on noncontextual and context-specific judgment factors would change across age and they would be related to decision-making process and outcomes in the legally-relevant vignettes. The data did provide support for these hypotheses. The two juvenile samples were significantly different from adults on several noncontextual and context-specific measures of judgment, although the patterns varied depending on the specific factors considered. Demographics, adjudicative competence, noncontextual and context-specific judgment factors all played some role in predicting respondents' decisions in the hypothetical vignettes. However, the salience and type of significant predictors varied across ages, and within ages across decision points.

It is clear that theories of judgment are important to the understanding of juvenile decision making in legal contexts. Measures of adjudicative competence developed for adults, while providing important information, do not capture several of the factors that differentiate adolescent decision making from that of adults in the current study. In order to explore these results in more detail, the discussion is organized around the four main aims of the study: To examine (a) adjudicative competence in adolescents and adults using traditional adult measures; (b) judgment factors as a function of age and other demographic characteristics; (c) context-specific decision making as a function of age and other demographic characteristics; and (d) decision outcomes as a function of demographics, adjudicative competence and judgment.

Adjudicative Competence

As found in prior studies of adjudicative competence with adults, IQ has a strong, consistent, positive relationship with MacCAT scores across subscales and across the age

samples. Although low IQ in and of itself does not preclude a defendant from being found competent, these findings reaffirm that mentally impairments do pose significant challenges to a defendant's complete participation in the justice system process. Beyond the general effect of IQ, effects of age and an age-IQ interaction were discovered. Specifically, it appears that young and older adolescents with below average IQ score low than similarly situated adults on the Understanding subscale. This difference suggests that special attention must be paid to working with adolescent defendants who have below average cognitive skills; they may suffer from a double disadvantage.

Further analyses on the MacCAT tested the issue of pre-existing knowledge versus capacity to learn knowledge. Much of the rhetoric surrounding the punitive trend for adolescent defendants decries any special attention to those adolescent defendants that have committed "adult crimes." These analyses indicate that, regardless of offense, adolescents may not bring the same level of preexisting understanding to their role as defendants. The test of understanding after disclosure of information (i.e., the test of capacity) indicated that those deficits can be remediated. However, they underscore that attorneys and other professionals should not assume that adolescent defendants have the requisite knowledge for full participation. It is important to note that all samples contained a significant proportion of participants that had deficits in understanding, but the adolescents had greater proportions with inadequate knowledge than the adult samples.

Noncontextual Judgment Factors

The analyses did identify age differences in noncontextual measures of judgment factors, each in the hypothesized direction. For each of the measures (except sensation seeking) in which

significant differences were found, the two juvenile samples were significantly different from adults, but were not different from each other.

Expected age differences were found in one of the two measures of perspective. Both juvenile samples scored lower than adults on the Consideration of Others scale, a measure of social perspective taking. This finding is consistent with our review of the developmental literature indicating that the ability to consider multiple roles and perspectives increases with age. No differences were found on the Life Orientation Test, our index of time perspective, perhaps because it is more a measure of optimism about the future than of general future orientation. It is not clear whether this lack of differences represents true equivalence across the age groups or measurement difficulties. Although a lack of future orientation is identified as characteristic of the developmental period of adolescence, few sound empirical measures of this construct has been created and validated.

Younger and older juveniles scored significantly lower than adults on the measure of Responsibility, one of three components of psychosocial maturity identified by Steinberg & Cauffman (1996). More of a U-shaped function with younger juveniles resembling adults more than the older juveniles has been found in some previous studies of decision making (e.g., Cauffman & Steinberg, 1997) in which young adolescents were found to look "as mature" as adults on some scales. One explanation may be that younger adolescents are simply parroting or imitating the lessons learned from parents, without actually having "developed" mature modes of thought and decision making. The score pattern in this study mirrors that trend but the difference between younger and older adolescents failed to reach significance. Even so, the finding that adolescents are less mature that adults on dimensions of responsibility supports earlier theoretical work.

Consistent with ideas about the salience of peers for adolescents, both juvenile groups scored higher on the Peer Attachment scale than adults. Although this inventory is not a direct measure of influence, it does suggest that juveniles may have stronger feelings than adults about their peers and the importance of peers to them. These differences underscore the possibility that adolescents may consider peers more often or in different ways than adults during the decision-making process and in making choices. Indeed, we found different age-based perceptions of what peers would want the character to do in the hypothetical vignettes of the JATA (discussed below).

The analyses failed to demonstrate any age-based differences in parent attachment scores. Given the developmental tasks of individuation and autonomy from parents that are characteristic of adolescence, we might expect the attachment score to show some age differences, particularly for older adolescents. The lack of differences suggests that the three age groups have equivalent feelings about their relationships to parents. The study design may have masked some potential differences by asking respondents to complete the measure for the one parent they feel closest to.

We did find differences in risk preference and decisional temperance, which incorporated measures of sensation seeking, impulsivity and suppression of aggression. The expected linear age pattern for temperance held, but older adolescents had higher scores on sensation seeking than younger adolescents and adults, which did not differ from each other. This pattern is consistent with prior research documenting a peak in risky behavior in mid to late adolescents.

Thus, most hypotheses regarding age-based differences in noncontextual measures of judgment were supported. These results confirm research and theory replete in the developmental literature and suggest that adolescents are not "just like adults" in many respects.

With these general developmental trends confirmed, the next step was to examine these constructs in specific legally-relevant contexts.

Context-Specific Decision Making as a Function of Age and Other Demographic Characteristics

A second component of the design and analysis strategy focused on extending assessments of decision making into legally relevant contexts. Beyond the general developmental issues discussed in the previous section, it is clear that the legal system provides a unique set of circumstances and decision points that may not be comparable to other types of decision-making arenas. The Judgment Assessment Tool for Adolescents/Adults (JATA) was developed for this study to provide a measure of the decision-making process and outcome specific to the legal system. The measure provides hypothetical legal decision-making situations including ones in which a character faces interrogation by the police, and a plea bargain agreement that involves providing information about the crime. Respondents are asked to identify the character's decision options, make recommendations as to what the character should do under several circumstances, elaborate on the possible consequences of various options, and then explain what the participant would do if faced with a similar situation.

Decision Options

The identification of options is often considered a critical step in the rational decision-making model and provides the framework within which costs and benefits are evaluated and a decision is ultimately made. Significant effects of age, and IQ were found for the identification of options in both the police and plea bargain vignettes. Juveniles with average/above average IQ consistently identified the DENY option (denying involvement and lying) more often than adults for the police vignette. A larger proportion of older juveniles also identified the TALK/ADMIT and DENY options more often than the other two age groups in the plea bargain vignette, but this age effect disappeared when IQ was controlled.

These significant age effects are interesting. The fact that older juveniles were more likely to report that denying involvement, which included lying or telling only part of the story, was a viable option gives some insight into their strategy or repertoire of decision options. It may be that, under certain circumstances, denying involvement can be an effective strategy for avoiding continued involvement in the justice system. It is also likely, however, that lying to authorities can eventually lead to more negative outcomes in the long term. Evidence that some proportion of juveniles considered lying to be a credible option is substantiated by the percentages recommending and choosing DENY as a decision option (see section on Decision Outcomes). The percentage of juveniles mentioning the DENY option (15% - 35%) is actually much smaller than the 78% that was found among juveniles in Grisso's 1981 study of Miranda waivers. Grisso's study of reasoning about the waiver decision did not include an adult comparison group, so we cannot compare it with the age differences found in this study.

The 70% of the total sample identifying a LAWYER as part of the process is encouraging, as compared to less than 20% in the Grisso study. This may indicate that juveniles

are more savvy about their right to an attorney than they were over 15 years ago. It should be noted, however, that the police vignette in this study mentioned the right to a lawyer; the initial Grisso vignette did not.

The fact that a higher proportion of the sample with average or above IQ's identified decision options is somewhat to be expected. Generating options in a formal interview is a highly verbal task, so task demands as well as actual decision making capacities may affect the number and type of options identified. Similar task demands are likely to be present in actual interrogation and plea agreement situations, however, as juveniles speak with court personnel, parents, and attorneys about their decisions.

Decision Outcomes

In general, the data on decision outcomes were characterized by a consensus across demographic characteristics. Over 70% of the young juveniles, 82% of the older juveniles, and almost 85% of the adults recommended that the vignette character remain silent and refuse to talk to the police. The small proportion who recommended the character talk and admit to the police decreased with age - more young juveniles (12.0%) than older juveniles (6.8%) and adults (8.6%) recommending admitting to the offense.

This pattern was even more pronounced when participants reported what they would do in a similar situation. Twenty-eight percent of young juveniles said they themselves would admit to the police, as contrasted with 19.6% of the older juveniles and 16.2% of the adults. Thus, even though most juveniles recommended remaining silent, a substantial proportion of juveniles stated they would admit. These percentages are comparable to percentages in the Grisso study (about 25%) for vignettes in which the right to counsel was explicitly mentioned.

The 11-12% of juveniles claiming they would deny involvement or lie to the police is comparable to the 9-11% identified in Grisso's study. No other significant demographic differences were found in the recommendation for the character or for the participants themselves.

Even though one set of questions asks what the participant himself would do in a similar situation, we should not infer that the responses represent what the participants would actually do in interrogation and plea bargain circumstances. Grisso's study documented that few juveniles asserted the right to silence in practice. However, the number of options generated and the choices made in the JATA do provide some information about decision-making capacities. It is possible that, under the stress of actual circumstances, juveniles could perform worse (e.g., less likely to assert their rights) than they do in hypothetical situations.

Several age-related differences in the perceptions of parents' and peers' recommendations were found. For those respondents receiving the parent condition of the police vignette[8], a much greater proportion of young juveniles (75%) and older juveniles (61.5%) than adults (42.6%) reported that the character's parents would want him to talk to the police and admit involvement in the crime. These perceived differences lend support to ideas about parents' role as encouraging children's confessions and are consistent with Grisso's (1981) findings that upwards of 80% of parents did not believe that juveniles should be allowed to withhold information from the police in order to avoid self-incrimination. If so, then the presence of parents during interrogation may not always serve to protect juvenile defendants' interests.

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8 For each vignette, half the sample was randomly assigned to receive questions about peers and one-half about parents.

Decision Consequences

Respondents were asked to generate a list of all the possible consequences that could result if the character decided to admit, deny involvement, or remain silent/refuse the bargain. The responses were coded in terms of the content, the valence (positive or negative), and the temporal perspective (short or long term). In terms of the absolute number of consequences mentioned, effects of age and IQ were found. In the police vignette, both juvenile samples mentioned more total consequences than adults did. However, even the juveniles only mentioned six to seven consequences across the three decision options, indicating that only two consequences were identified for each decision option. In the plea vignette, those with average or above average IQ's generated significantly more consequences than those below average, but again approximately two consequences per option were mentioned. Thus, we do see some age differences in the amount of consequences identified, but on average relatively few total consequences were generated.

Other analyses evaluated the type or content categories of consequences that were mentioned most, as an index of their salience and importance to the respondents. More simply, we wanted to know what participants were thinking would happen as a result of various choices. The consequence categories developed for use in the Grisso (1981) study were modified for this approach to include categories relevant to consulting with attorneys and dealing with prosecutors. Demographic differences in the average number of times each consequence category was mentioned and the rank order of frequency of mentions were tested. The categories of Freedom/Temporary Detainment, Assumption of Innocence/Guilt, Disposition, and Friend Impact were mentioned more often and ranked higher by one or both juvenile samples than adults. The Freedom/Temporary Detainment category was ranked the highest by all three

groups, but the absolute rank was higher for the older juveniles than the other groups. In sum, when considering the decision to admit or remain silent, differences appear to exist in the salience of certain consequences (as indexed by frequency of mentions) for juveniles in contrast with adults. Moreover, the same age pattern was found for the absolute number and frequency rank order in the plea bargain vignette, but only for two consequence categories - Assumption of Innocence/Guilt and Court Proceedings.

These findings provide limited support for the hypothesis that juveniles, particularly older juveniles, may be considering consequences somewhat differently from adults, as indexed by the frequency with which they are mentioned. Beyond the types of consequences that are considered, judgment theory suggests that adolescents may differ from adults on time perspective and risk perception dimensions of the consequences identified and considered. We did not ask about risk perception directly, but instead coded consequences for their valence (positivity and negativity) as representing potential costs and benefits of various options. Collapsing the consequences across the three decision options (ADMIT, DENY, REFUSE) for each vignette, more total negative consequences in both vignettes were identified by older juveniles, Caucasians, and participants with higher IQ's for both the police and plea bargain vignettes. These differences could be a function of these groups' tendencies to mention a greater absolute number of consequences. To test this possibility, the proportion of negative to positive consequences was calculated for each decision option and used in a MANOVA to test for demographic differences, but no significant differences were found.

The same pattern held for the analysis of long versus short-term consequences. In both the police and plea bargain vignettes, more short-term consequences were mentioned by older adolescents, Caucasians, and those with average or above average IQ scores. No differences in

long term consequences were found for any demographic variable. Again, ANOVA was used to test for differences in proportion of long to short term consequences for each decision option. No significant effects of any demographic variables were found for the police vignette, but a significant age effect was found in the plea bargain vignette. Adults had a significantly higher proportion of long to short term consequences than older juveniles for the Refuse the Bargain decision option. Younger juveniles were not significantly different from either group. So, when considering the consequences of refusing the plea bargain and going to trial, adults considered proportionately more long-term effects than juveniles. This finding is consistent with the developmental literature and judgment theory, which suggest the ability and inclination to consider long-term consequences increases with age. Simply mentioning proportionately more long-term consequences does not necessarily mean that they play a larger role in the ultimate decision, but it does suggest that adults may be thinking more about long-term considerations than older juveniles.

The analysis of the temporal perspective and valence of consequences mentioned in the two vignettes provides limited support to the notion that juveniles are considering different aspects of consequences than adults. The theory that adolescents focus more on losses than gains, and short term rather than long term consequences is not fully supported by the data. Absolute numbers and proportions may not adequately describe the characteristics of consequences matched to their content; that is, do adolescents tend to identify more negative or short-term consequences associated with particular content categories of consequences? Additional analyses with larger samples would provide the power necessary to analyze further breakdowns of the consequence category data.

Predicting Decision Outcomes from Competence and Judgment

According to theories of judgment and decision making, judgment factors are hypothesized to influence not only the process of decision making but the outcomes as well. That is, adolescents may use information differently than adults in coming to a decision. Judgment factors, both noncontextual and context-specific, should provide information above and beyond that captured by traditional adjudicative competence assessments of understanding, reasoning, and appreciation.

One way to evaluate the strength or importance of various judgment factors is to examine their predictive value in regression equations. Two decision points were analyzed in each vignette - what the character should do and what the participant himself would do in a similar situation. The decision choices were collapsed into a dichotomous outcome of Admit or Not Admit. Four broad categories of predictor variables were used - demographics, adjudicative competence (from the MacCAT), noncontextual judgment (from the standard developmental measures), and contextual judgment (from the JATA). Contextual judgment was condensed into three categories of predictors representing consequence time perspective, valence, and content. Because of concerns about the ratio of predictor variables to participants/cases, each set of predictors was entered into a separate logistic regression, and then significant predictors from each regression were combined in one final model for each decision point. Because judgment theory hypothesizes that the way in which information is used may vary across age, separate regressions were run for each age group.

For the decisions to admit in the police vignette, the final models predicted a fair amount of variance for the recommendation to characters (30.1%) and the participants' own choices (32.3%). Prior detention history and contextual judgement factors were significant predictors of

the recommendation for the character to admit. Interestingly, prior experience in detention increased the likelihood that a respondent would recommend admitting to the police. It is not clear whether such a history might increase a respondent's savvy and experience dictates that admitting would ultimately improve case disposition. The significance of contextual judgment factors supports the theory that factors beyond those measured in adjudicative competence are important for these decisions.

For the participants' decision to admit, the likelihood decreased with age. Beyond age, competence and contextual judgment factors were important predictors. It is not apparent why reasoning and understanding scores would have opposite signs in the logistic regression equation; it is probably a methodological problem due to a the relatively high correlation between the two subscales. Again, increased sample sizes may provide more power to clarify these results.

For the plea bargain vignette, models explaining a significant amount of variance could be fit to each of the samples. For both decisions, only noncontextual and contextual judgment factors predicted the probability of recommending of admitting information and taking the plea bargain. Both models fit into a general rational decision-making framework in which the costs and benefits of various options are weighed in the final decision calculus. Although the specific aspects of the factors varied, contextual judgment factors appear important across age groups in understanding the final decision.

Limitations

Our findings should be qualified by the cross-sectional design and the limited sample sizes. The fact that significant age-based differences were found suggests that the measures and sample sizes were adequate to reveal existing relationships between measures, but because a cross sectional design was used, we can only infer that age-based differences may represent developmental differences or changes over time in judgment and decision making. The significant results identified in this study suggest that further work is warranted, however, and that some form of longitudinal or panel design would be useful in estimating developmental trends. It is also possible that larger sample sizes with respect to age and race/ethnicity could help disentangle the age-race relationship in the current study.

Finally, all of the measures were based on self-report from the juveniles and adults, which suggests that there may be some method variance included in our interpretation of significant findings. Although difficult to implement data collection in applied settings of the legal system, particularly when working with juveniles and adults who are awaiting trial on charges, it would be useful to obtain information from multiple reporters such as attorneys, probation officers, and parents, on dimensions of judgment and decision making. If information on the participants' actual decisions in the legal process could be obtained (e.g., did they actually waive the right to silence or accept a plea bargain), validity of self-report information and vignette-based assessments could be strengthened.

General Conclusions

The central conclusion, even with the limitations noted, is that this study provides initial support for judgment theory (Scott et al., 1995; Steinberg & Cauffman, 1996) and the notion that age-based differences in judgment constructs relate to decision process and outcome in legally relevant contexts. Scores on some general or noncontextual measures of judgment did vary across age groups and were significant predictors of some decision outcomes. These results suggest clearly that further measurement development in this field is critical. The developmental literature on adolescence and stereotypes of adolescent behavior often refer to judgment factors such as shortened time perspective, increased risk taking, and being influenced by peers, but there are few quality measures of these developmental phenomena. Those that do exist often confound several of these factors. For example, the scale, Consideration of Others, includes questions on both social perspective taking and empathy for others.

Even beyond mean differences on noncontextual and context specific judgment factors, there are some age-based differences in the ways in which these factors combine to predict decision process and outcome. Demographic factors, traditional measures of adult competence, and judgment factors all appear to play a role in vignette-based decision processes, including the identification of decision options and consequences, and decision choices. Additionally, the role of each of these concepts may vary across legally relevant contexts. Therefore, it is likely that the salient factors for the decision to assert the right to remain silent may differ from those that come into play when considering whether to accept a plea bargain or take your chances at trial.

These data underscore the importance of using both competence and judgment in evaluations of decision making in legally relevant contexts. Further work is needed on the

specific aspects of adjudicative competence before policy-relevant recommendations can be made. However, it is clear that the default extension of adult competence assessments to juveniles will not capture aspects of judgment that differentiate adolescent decision making from that of adults. Continued research with larger and more racially and ethnically diverse samples of both male and female adolescents and adults facing legal decisions will provide the foundation from which policy and practice recommendations can be made. The developmental aspects of competence and judgment will have implications for practitioners conducting competence evaluations of juveniles and the manner in which competence is structured for juveniles in criminal and juvenile court. Traditionally, within the adult framework, competence and decision making are an individual case-by-case matter, but maturity and judgment are not. With this research approach, we are broadening the scope of inquiry to examine a class of individuals, adolescents, for whom we believe there may be important developmental differences. As such, considerations of maturity of judgment may be important components of juvenile evaluations.

Continued research on issues of competence and judgment will provide a foundation for designing interventions to improve both adolescents' abilities to negotiate the legal system and the system's response to the particular needs of adolescent offenders. Recent legislative initiates that have redefined adolescent offenders as adults may satisfy the public's desire for punishment, but it may be reasonable to expect that the justice system process, as well as the punishment, fits both the crime and the maturity level of the individual. These results suggest that the differences between adults and adolescents are indeed real and a more encompassing consideration of competence that includes developmental factors is necessary to understand adolescents' capacities as criminal defendants.

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Appendix A: Interview Protocol