The Development of a Theory-Based, *Miranda* Rights Educational Curriculum: Are There Cognitive Developmental Limitations to Legal Learning?

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Abstract

Development of a Theory-based, *Miranda* Rights Educational Curriculum: Are there Cognitive Developmental Limitations to Legal Learning?

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Despite the extension of the *Miranda* warnings to juvenile suspects following the Supreme Court decision in *In re Gault* (1967), research suggests that adolescents may fail to benefit from their legal rights. Specifically, younger adolescents (i.e., under the age of 15) tend to: (a) waive the rights to silence and legal counsel at greater rates than adults (Grisso & Pomicter, 1977); (b) lack basic comprehension of the *Miranda* rights (e.g., Grisso, 1981); (c) misperceive the significance and function of the *Miranda* rights (e.g., Grisso, 1981); and (d) lack the developmental capacities to make decisions about legal rights (Grisso et al., 2003).

The purpose of the proposed study was to design, implement, and evaluate a theory-based, *Miranda* rights educational curriculum for youth, ages 10 through 16. Integrating research from the fields of developmental, educational, and forensic psychology, we argued that the development of legal reasoning involves both *quantitative* changes in the individual's repertoire of legal facts and *qualitative* changes in how the individual values rights. We hypothesized that a rights-based education program, based on the principles of Posner, Stike, Hewson, and Gertzog's (1982) theory of conceptual change, could facilitate advancements in adolescents' capacities to reason about legal rights. Furthermore, we hypothesized that changes in youths' comprehension of and capacity to reason about the *Miranda* warnings would improve differentially across age groups. We implemented the curriculum for

students from grades 5 through 10 at a college preparatory school in the Mid-Atlantic region. We assessed 64 students' comprehension and appreciation of the *Miranda* rights and legal decision-making skills prior to and following the curriculum. Results indicated that the curriculum improved participants' comprehension and appreciation of *Miranda* rights. However, participants' rights-relevant, judgment-based abilities such as the ability to identify long range future consequences to waiver/assertion decisions, did not improve. Robust patterns for age emerged; although 10 to 12 year olds displayed the greatest improvements in *Miranda* comprehension and appreciation, they continued to score below 13 and 14 year olds and 15 and 16 year olds on most measures. Results are discussed in relation to conceptual change theory and previous research.

Introduction

In re Gault (1967)

In *Miranda v Arizona* (1966), the Supreme Court ruled that any statement stemming from the custodial interrogation of a criminal suspect would be inadmissible unless the police provided the suspect with four warnings: (a) the right to remain silent, (b) the intent to use the suspect's statement against the suspect in court, (c) the right to an attorney during questioning, and (d) the right to a court appointed attorney for indigent suspects. The Court further ruled that a suspect's waiver to these rights is only valid if offered "knowingly, intelligently, and voluntarily."

States extended the provision of these warnings to juvenile suspects at the time of arrest following the Supreme Court decision *In re Gault* (1967). Prior to *Gault*, the juvenile court functioned with little Constitutional oversight. The role of the juvenile court was to act as a "benign parent" on "behalf of the child" (Steinberg & Schwartz, 2000, p. 12). Thus, progressive reformers characterized juvenile proceedings as "civil," rather than "criminal," and argued that juvenile sentences should "rehabilitate," rather than "penalize" the youthful offender (Feld, 2000, p. 107). As such, courts considered due process protections, including the rights to silence and legal counsel, unnecessary.

The *Gault* Court critically examined the traditional arguments for denying these protections to juvenile defendants. The Court reasoned that the civil characterization of juvenile proceedings had neither served to reduce crime nor to rehabilitate youthful offenders. On the contrary, far from achieving their

rehabilitative intention, juvenile sentences amounted to "the deprivation of liberty" which the Court equated to "incarceration against one's will," whether characterized as "civil" or "criminal." Furthermore, according to the Court, the civil characterization of juvenile proceedings did not justify the absence of procedural safeguards. Indeed, describing interrogations as "inherently coercive" and "intimidating," the court reasoned that these safeguards were necessary to ensure that confessions were "reasonably trustworthy." The Court asserted that the rights to silence and counsel served to maintain the balance between the criminal defendant and the state and reasoned that a criminal suspect, whether a child or an adult should be given the power to decide whether to assist the state in securing his conviction.

Youth Fail to Receive the Benefits of their Legal Rights

In rhetoric, the *Gault* decision suggested that defense attorneys and court officials would rigorously uphold and implement due process in juvenile proceedings. In practice, nearly forty years post-*Gault*, juvenile defendants continue to fail to receive the benefits of their legal rights. Grisso and Pomicter (1977) found that nearly 90% of juvenile defendants waived the rights to silence and counsel during police interrogations. Clinical researchers (e.g., Grisso, 2000) and legal scholars (e.g., Feld, 2000) have hypothesized that adolescents' diminished legal reasoning capacities and inadequate sanctioning of juveniles' rights contribute to these high waiver rates.

Diminished Capacities

Research suggests that adolescents may lack the capacities necessary to make informed decisions about their legal rights. Briefly, younger adolescents (e.g., under the age of 15) tend to: (a) lack basic comprehension of the *Miranda* warnings (Grisso,

1981; Abramovitch & Peterson-Badali, 1995; Abramovitch, Higgins, & Biss, 1993); (b) misperceive the significance and function of the *Miranda* warnings (Grisso, 1981; Abramovitch, & Peterson-Badali, 1995; Abramovitch, Higgins, & Biss, 1993); (c) characterize rights as contingencies, rather than as entitlements (Grisso 1981; Wall & Furlong, 1985); (d) be more suggestible, and thus, more vulnerable to police interrogation practices than are adults (Gudjonsson & Singh,1984a; Gudjonsson & Singh, 1984b; Kassin & Kiechel, 1996); (e) misperceive the role of the defense attorney in interrogation contexts (Buss, 2000); and (f) lack the developmental capacities to make decisions about legal rights (Grisso et al., 2003; Cauffman & Steinberg, 2000).

Adequacy of Protections

Although the Supreme Court established the *Miranda* requirements as the minimum standard for the protection of juveniles' rights, the Court also recognized that youth may be particularly vulnerable to police interrogation practices. Thus, although the Court permitted juvenile defendants to waive their rights, it required that judges carefully scrutinize juveniles' waivers to ensure that waivers conformed to the knowing, intelligent, and voluntary standard (Grisso, 2003).

Presently, the majority of jurisdictions apply the *totality of circumstances* approach to determining the validity of a juvenile's *Miranda* waiver (Grisso, 2003). This approach requires judicial discretionary determination based on the individual circumstances of a case. Although consideration of a youth's age, level of education, and intellectual ability are relevant to these judicial decisions, no case law suggests how courts "should systematically evaluate the impact of the youth's developmental

status on his ability to make a valid waiver" (Grisso, 1981, p. 117). Thus, legal scholars (e.g., Feld, 2000; Shepard, 2000) and developmental psychologists (e.g., Grisso, 1981; Steinberg & Schwartz, 2000) have criticized this approach, citing that courts typically exercise wide discretion when determining the validity of a juvenile defendant's waiver.

Recognizing that the totality approach may not provide adequate protection of juveniles' rights, some states require that juvenile defendants consult with parents or guardians prior to waiving their rights. Under this "per se" approach, juvenile defendants' waivers are codified as "invalid" if the waiver is made in the absence of an "interested adult." Although, in theory, consultation with a parent or guardian should compensate for the adolescent's cognitive and developmental vulnerabilities, research suggests that parents rarely fulfill this intended role. Grisso and Ring (1979) found that parents often said nothing to their children during interrogations; when parents did offer advice, they tended to assume "authoritative" roles in front of police officers, encouraging their children to cooperate with the police.

Furthermore, some research suggests that court officials may actually encourage juvenile defendants to waive their rights (e.g., Lefstein, Stapleton, & Teitelbaum, 1969; Feld, 1993). Feld (1993) observed that judges often persuaded juvenile defendants to waive their rights in order to "ease the court's administrative burden" (as cited in National Juvenile Defender Center, 1995, p. 22). He observed that judges often provided juvenile defendants with "cursory" and "misleading" explanations of the purpose and significance of legal defense. Feld further noted that judges tended to minimize the significance of waiving these *Miranda* rights, often

implying to adolescent defendants that the "waiver litany" constituted nothing more than a "meaningless technicality" (as cited in National Juvenile Defender Center, 1995, p. 22).

Initiatives to Safeguard Juveniles' Rights

Although initiatives to safeguard adolescents' legal rights often target systemic risk factors (e.g., increasing juveniles' access to legal counsel), some researchers have highlighted the importance of developing and empirically evaluating interventions that target individual risk factors (e.g., deficits in comprehension of legal rights). Woolard and Repucci (2000) argued that intervention studies provide a "rigorous method" for identifying "risks and/or contributors to [legal] incompetence" (p. 182). The authors reasoned:

> If a variable risk factor (that is, a risk factor able to be changed) in the individual is associated with varying degrees of competence or participation effectiveness, then it should be possible to design interventions that change this factor and evaluate its impact… Theory based interventions that target risks for reduced competence located in the individual… will provide a strong test of juvenile capacities for competence and participation. (p. 182)

Are the deficits that compromise adolescents' legal decision-making capacities "variable" risk factors? Could an instructional intervention designed to teach adolescents the content, significance, and functions of the *Miranda* warnings mitigate these risk factors?

Proposal Overview

The aim of the current project is to design, implement, and evaluate a Miranda Rights Educational Curriculum for youth, ages 10 through 15. Kazdin's (1997)

"Model for Developing Effective Treatments" provided the rubric for the development of this curriculum. Based on the first three steps of the model, I have organized this proposal into three sections: (1) Conceptualization of the Dysfunction, (2) Conceptualization of Treatment, and (3) Specification of Treatment.

Part I: Conceptualization of the Dysfunction

According to Kazdin (1997), when developing interventions, researchers must first "conceptualize the dysfunction." More specifically, researchers must identify potentially mutable risk factors that contribute to the onset, development, and maintenance of a specific dysfunction. These deficits should become the targets for the intervention program.

In Part I, I identify the risk factors that contribute to adolescents' diminished capacity to reason about their legal rights. First, I review the limitations of using the informed consent standard to define the scope of capacities/abilities that are relevant to adolescents' legal decisions. Second, I use the "judgment framework" (Cauffman & Steinberg, 1995; Cauffman & Steinberg, 2000; Scott, Repucci, & Woolard, 1995) to "conceptualize" adolescents' diminished legal reasoning capacity. Third, I review research suggesting that adolescents manifest deficits in each of the capacities/abilities specified by the judgment framework. Finally, I consider whether these deficits are appropriate targets for an instructional intervention.

Part II: Conceptualization of Treatment

According to Kazdin (1997), the question guiding treatment conceptualization is, "how does this treatment achieve change?" (p. 118). The author observed that the strong emphasis on demonstrating the efficacy of an intervention

often has overshadowed the role of psychological theory in the development and evaluation of the intervention. As such, Kazdin (1997) argued that only "limited" conclusions could be reached regarding the specific mechanisms of change responsible for the therapeutic gains (p. 114). Thus, Kazdin (1997) urged researchers to base their interventions on well-developed, comprehensive theoretical models.

In Part II, I use Posner, Strike, Hewson, and Gertzog's (1982) theory of conceptual change to "conceptualize" the *Miranda* Rights Educational Curriculum. I address the questions of when and how adolescents develop legal reasoning skills. First, I review research that suggests that critical advances in the capacity for legal reasoning occur during adolescence. Second, I present Legal Development Theory (Tapp & Kohlberg, 1977), a theory of legal reasoning based on Piaget's cognitive developmental paradigm and Kohlberg's theory of moral reasoning. Third, consistent with the cognitive developmental paradigm, I argue that legal development requires quantitative change (an increase in factual understanding of the law and legal processes) and qualitative change (a reconfiguration of the system of knowledge, values, and heuristics that the individual uses to approach legal dilemmas). Fourth, I consider the role of cognitive conflict in facilitating qualitative change. Fifth, I consider the pedagogical implications of Posner and colleagues' (1982) theory of conceptual change. Finally, I consider the relevance of the conceptual change literature to the research on adolescents' legal reasoning capacities.

Part III: Specification of Treatment

According to Kazdin (1997), to ease the disseminability of interventions researchers should "operationalize" the procedures of the intervention (p. 119).

Furthermore, researchers should explicitly state how the specific procedures conform to the theoretical model.

In Part III, I provide a detailed description of the *Miranda* Rights Educational Curriculum and describe how the curriculum conforms to the model of conceptual change.

Part I: Conceptualization of the Dysfunction

Defining the Scope of the Dysfunction

In the next sections I consider two potential frameworks for defining the scope of capacities/abilities that are relevant to the decisions adolescents make about their legal rights: (a) the informed consent framework, and (b) the judgment framework.

The Informed Consent Framework

Evaluations of a criminal defendant's legal decision-making capacity are typically conceptualized within the informed consent framework (Grisso, 2003). This framework, developed to assess an individual's capacity to consent to or refuse proposed medical interventions, requires that the individual must (a) be provided information relevant for the decision, (b) make the choice voluntarily, and (c) be competent to decide (Berg, Appelbaum, Lidz, & Parker, 2001).

Translated to the assessment of a defendant's capacity to waive rights, these evaluations generally assess three broad classes of functional abilities (Grisso, 2003). First, does the defendant *understand* his *Miranda* rights (i.e., does the defendant have factual understanding of his rights?)? Second, does the defendant *appreciate* the significance and intended functions of the *Miranda* rights in an interrogation (i.e.,

does the defendant understand how these rights apply to his current situation?; does the defendant understand the adversarial nature of an interrogation?; does the defendant understand that his attorney is his advocate?; does the defendant understand that the right against self-incrimination is irrevocable?)? Third, does the defendant perceive the risks of waiving his rights, and is the defendant capable of *reasoning* about these risks (i.e., can the defendant identify the consequences of waiving his rights?; is the defendant capable of making a choice in a rational, decision-making process?)?

Under the informed consent standard, the decision maker is *allowed* to make poor legal decisions based on "idiosyncratic" values as long as he can demonstrate factual understanding of, and capacity to reason about, the relevant information (Scott, Repucci, & Woolard, 1995, p. 227). The informed consent standard assumes that decisions should "reflect the subjective values and preferences of decision makers" and that "no external measure of outcomes is appropriate" (Scott, Repucci, & Woolard, 1995, p. 223). Indeed, the Supreme Court has argued that the adult defendant has "an almost absolute right" to waive counsel as long as he is "aware of the dangers and disadvantages of self representation" and "elects self-representation in a voluntary, knowing, and intelligent fashion" (*Faretta v. California*, 1975).

The Judgment Framework

While acknowledging that the informed consent framework affords a distinct advantage to adult decision makers, developmental theorists (e.g., Cauffman & Steinberg, 2000; Scott, Reppuci, & Woolard, 1995; Steinberg & Cauffman, 1996) have argued that this framework does not address all factors critically relevant to the

decision making of adolescents. These theorists hypothesized that, in addition to the cognitive abilities specified by the informed consent framework, certain age-linked, developmental characteristics (e.g., "temporal perspective," "risk preference and risk appraisal," "compliance with authority," and "resistance to peer influence"[1]) compromise the adolescent's capacity to value, appreciate, and weigh the significance of legal rights. Indeed, research suggests that certain developmental factors may evolve over the course of adolescence and into adulthood.

Temporal Perspective. Temporal perspective refers to an individual's capacity to identify, incorporate, and weigh the significance of the potential long-term consequences of alternative options (Woolard, 2003). While adults tend to weigh the long-term consequences of a decision more heavily than the short-term results, adolescents tend to attach greater significance to short-term consequences (Cauffman & Steinberg, 2000; Gardner & Hermann, 1990; Greene, 1986). Furthermore, adolescents find short-term consequences to be more salient than long-term

[1] Importantly, not all of the developmental characteristics identified by Scott, Repucci and Woolard (1995) are necessarily relevant to an adolescent's decision to waive or assert legal rights (Grisso and Schwartz, 2000). Specifically, an adolescent's tendency to conform to peer influence may be extremely influential to the adolescent's decision of whether or not to engage in criminal behaviors and is thus relevant to the question of the adolescent' culpability; however, this characteristic may be less influential during a police interrogation situation when the adolescent is isolated from peers. Thus, for the purposes of this study, we will not investigate the influence of peer conformity on adolescents' decision to waive or assert rights.

consequences when evaluating alternative courses of action (Allen, Leadbeater, & Aber, 1990). Thus, adolescents may fail to recognize, consider, and incorporate long-range consequences in the decision- making process (Scott & Grisso, 2004).

Risk Orientation. Risk orientation refers to the individual's capacity to: (a) identify the potential negative consequences of alternative courses of action, (b) assess the likelihood of those negative consequences occurring, and (c) imagine how unpleasant the negative consequences would be if they did occur (Woolard, 2003). In general, youth appear to take more risks than adults (Scott & Grisso, 2004). For example, youth engage in drunk driving, unprotected sex, and criminal activity more frequently than do adults (Arnett, 1992). Although adolescents appear to have the capacity to identify relevant risks when making choices, they appear to conduct the cost-benefit analysis differently than do adults. Specifically, when making choices youth tend to weigh anticipated gains more heavily than anticipated losses (Furby & Beyth-Marom, 1990; Gardner, Herman & Wilfong, 1991).

Compliance with Authority. Research suggests that younger adolescents may be more likely than older adolescents and young adults to choose alternatives that comply with the requests of authority figures. For example, Grisso and colleagues (2003) found that 11 through 15 year olds were more likely than 16 through 21 year olds to recommend "confessing to the police" as the best alternative for the suspect in a hypothetical vignette about a police interrogation. Similarly, Redlich and Goodman (2003) found that younger adolescents were more likely to comply with the requests of authority figures than older adolescents and adults. Specifically, investigators falsely accused participants (ages 12 through 26) of crashing a computer. Younger

adolescent (i.e., ages 12 through 16) were more likely to sign a false confession at the request of an authority figure (i.e., the investigators) than were older adolescents and adults (i.e., ages 17 through 26).

In theory, temporal perspective, risk appraisal/preference, and compliance with authority influence the adolescent's decision to waive or assert rights by affecting the subjective value he attaches to the potential consequences of this decision (Grisso, 2000). Applied to the context of interrogation, the adolescent's capacity to value and appreciate his legal rights may be compromised by these characteristics; he may prefer the benefits associated with serving other competing and incompatible interests over the benefits associated with asserting his rights (Buss, 2000). For example, if he lacks temporal perspective, he may waive his rights because he attaches more value to immediate rewards (e.g., the possibility of ending an interrogation), than to longer-term benefits (e.g., safeguarding his legal defense by asserting his rights). If he lacks risk orientation, he may waive his rights because he attaches more significance to the risk of angering a police officer than to the risk of damaging his legal defense.

Using the Judgment Framework to Conceptualize the Dysfunction

Scott, Repucci, and Woolard (1995) argued that a "judgment framework" designed to incorporate cognitive *and* developmental factors better "captures the mix of cognitive and psychosocial factors" that influence adolescent decisions (p. 222). "Our goal is to propose a model to compare adolescent and adult decision making that incorporates this broader range of factors…as well as those included under an informed consent model" (p. 222). Cauffman and Steinberg (2000) characterized the

model as "neither exclusively cognitive nor exclusively psychosocial" but, rather, as the "byproduct of both sets of influences" (p. 328).

Using the judgment framework, we can "operationalize" the capacities/abilities that influence adolescents' decisions about the rights to silence and legal counsel:

1. The adolescent will need *factual understanding* of the *Miranda* warnings, including an understanding of relevant vocabulary and phrases (e.g. "attorney," "right," "appointed to you").

2. The adolescent will need to *understand the concept of a "right."* More specifically, he will need to (a) conceptualize a right as an entitlement rather than as a contingency bestowed or revoked at the discretion of adults, (b) understand that the decision to assert or waive his rights is within his exclusive control, (c) understand that he cannot be punished by the legal system for asserting his rights, and (d) understand that he can end the interrogation immediately by requesting an attorney.

3. The adolescent will need to *recognize the risks* associated with waiving his rights (i.e., that discussing the crime in question may be detrimental to his legal defense) and weigh this risk more heavily than the risks associated with asserting his rights (e.g., displeasing his parents or a police officer).

4. He will need to *understand the role of the police officer and the defense attorney* in an interrogation. At the most basic level, he will need to understand that the police officer's role in an interrogation is adversarial, while the defense attorney is intended to serve as his advocate, regardless of his guilt or innocence.

5. He will need to *prioritize his legal defense* over the benefits of serving competing and incompatible interests. First, he will need to attach more value to the longer-term benefits of preserving his legal defense than to the shorter-term benefits of complying with police authority. Shorter-term benefits might include the immediate gratification or relief experienced by acquiescing to coercion, praise and positive reinforcement from the police officer, and avoiding a negative consequence implied by the police officer (e.g., the officer implies that asserting the right to counsel will "make him look guilty"). Second, he will need to attach greater significance to the risks associated with waiving his rights than to the risks associated with asserting his rights. Perceived risks associated with asserting his rights include angering a police officer and the stress associated with withholding information. Third, he will have to resist the inclination to comply with authority. Although compliance with authority may normally be adaptive, he will have to understand that the negative consequences associated with waiving rights during a police interrogation outweigh the potential positive consequences of cooperating with the police.

Limitations of the Judgment Framework

I have used the judgment framework to conceptualize the scope of the dysfunction. However, several limitations of the framework are noteworthy. First, although I hypothesize that adolescents who demonstrate these capacities are better able to make legal decisions, the fulfillment of these capacities offers no guarantee that the adolescent will engage in a rational, decision-making process. As the *totality of circumstances* test suggests, external factors (e.g., time of day that the interrogation

takes place, length of time the suspect is held incommunicado, conditions of the interrogation room, severity of the charges, police demeanor, etc.) associated with the context of the interrogation may strongly influence the adolescent's decision (Grisso, 2003). Second, the capacities specified by the judgment framework are not exhaustive. The defendant's beliefs about the efficacy of the legal process, beliefs about police officers and authority, level of suggestibility, and level of assertiveness may critically impact the adolescent's decision to waive or assert rights. Third, I do not assume that each of these capacities bare equal influence on the adolescent's decision to waive or assert rights. Different capacities may be differentially relevant at different ages and at different levels of understanding.

Defining the Dysfunction: A Review of the Literature

Research suggests that younger adolescents may have deficits in each of the capacities/abilities specified by the judgment framework. As previously discussed, although youth may demonstrate considerable individual differences in legal decision-making capacities, younger adolescents (i.e., under the age of 15) may: (a) lack basic comprehension of the Miranda rights (Grisso, 1981; Abramovitch & Peterson-Badali, 1995; Abramovitch, Higgins & Biss, 1993); (b) conceptualize rights as contingencies (Grisso 1981; Wall & Furlong, 1985); (c) misperceive the role of a defense attorney in interrogation (Buss, 2000); (d) misperceive the probable consequences of waiver and non-waiver decisions (Grisso, 1981); (e) lack the developmental capacities to make decisions about legal rights (Grisso et al., 2003; Cauffman & Steinberg, 2000).

Comprehension

Research suggests that younger adolescents lack basic comprehension of the *Miranda* rights. Grisso (1981) investigated whether adolescents and adults from detained and community samples understood the content, significance, and function of the *Miranda* warnings. Results indicated that compared with adults, juveniles demonstrated significantly poorer comprehension. More specifically, adolescents younger than 15 years old failed to meet both the absolute standard (defined as demonstrating "adequate understanding" of each of the *Miranda* warnings on an instrument assessing comprehension of the *Miranda* rights) and relative standard (defined as the level of comprehension of the Miranda warnings that is comparable to adults' comprehension of the Miranda warnings) of comprehension.

Several studies have supported Grisso's findings. Abramovitch and Peterson-Badali (1995) found that older adolescents were more likely than younger adolescents to assert the right to silence. Abramovitch, Higgins and Biss (1993) found that younger adolescents did not understand the implications of waiving the rights to silence and counsel. More recently, Goldstein and colleagues (2003) found that age and IQ predicted *Miranda* comprehension in a sample of delinquent youth. Older adolescents demonstrated better comprehension than younger adolescents, and adolescents with higher IQ's demonstrated better comprehension than adolescents with lower IQ's.

Conceptualization of Rights

In general, adolescents appear to have difficulty conceptualizing rights as entitlements. Research suggests that adolescents tend to conceptualize rights as contingencies that are bestowed and revoked at the discretion of adults. Although

Melton (1980) found that by age 14, the majority of adolescents accurately characterized rights as entitlements, other studies suggest that even older adolescents continue to mischaracterize rights as contingencies (Read, as cited in Grisso & Schwartz, 2000). Grisso (1980) and Wall and Furlong (1985) found that the many adolescents tended to misconstrue a right as something one is "allowed" to do. Furthermore, these studies suggested that adolescents failed to recognize the durability of the right to silence; the majority of adolescents believed that judges could force them to offer self-incriminating information in court (e.g., the judge could force them to confess to involvement in the crime).

Role of the Defense Attorney

Some research suggests that adolescents may misperceive the role of the defense attorney. Peterson-Badali and Abramovitch (1992) found that younger adolescents often believed that defense attorneys were authorized to disclose confidential information about the defendant to judges or police officers. Furthermore, some research indicates that adolescents believe that defense attorneys only defend the innocent. Grisso (1981) observed found that a sizable percentage of detained adolescents believed that defense attorneys could decide whether or not to represent the defendant based on the defendant's guilt or innocence.

Consequences of Waiver and Non-waiver Decisions

Research suggests that adolescents misperceive the probable consequences of waiver and non-waiver decisions. Grisso (1981) found that delinquent adolescents believed that if they waived rights, the police would decide not to press charges, and the judge would be lenient during sentencing. Conversely, delinquent adolescents

believed that if they asserted their rights, police and court officials would perceive them as guilty, police would become angry and punish them, and interrogation would continue until they cooperated (as cited in Grisso, 1981).

Deficits in Judgment

To date, only one study has examined the relationship between temporal perspective, risk appraisal, and compliance with authority and the decisions adolescents make about legal rights. Grisso and colleagues (2003) compared adolescents' and adults' capacities as trial defendants. To assess developmental influences on legal decisions, the researchers presented participants with three decision-making vignettes: (a) responding to police interrogation, (b) disclosing information during consultation with an attorney, and (c) responding to a plea agreement. Participants were asked to provide advice to the defendant in each vignette. Responses were scored according to criteria designed to assess risk appraisal, risk preference, and temporal perspective. For both the interrogation and plea agreement vignettes, there was a significant effect for age on the choices participants made for the defendant. Specifically, younger adolescents (e.g., the 11 through 13 year olds) were more likely than older adolescents (e.g., the 16 through 17 year olds) to make choices that complied with the requests of authority figures (e.g., confessing to the police rather than asserting the right to silence). Adolescents were more likely to recommend waiving rights during interrogation than were adults. Specifically, 55% of 11 through 13 year olds, 40% of 14 through 15 year olds, and 30% of 16 through 17 year olds advised the defendant to admit his involvement in the crime rather than to remain silent, whereas only 15% of young adults (ages 18

through 24) made this choice. Furthermore, younger adolescents recognized fewer long-term risks associated with waiving rights than did older adolescents and were less likely than other age groups to provide long-range, future consequences in explaining their choices.

Are Deficits in These Capacities "Variable" Risk Factors?

Hypothetically, an instructional intervention could facilitate an adolescent's factual understanding of the content, purpose, and function of the *Miranda* warnings. However, it seems less likely that an instructional intervention could facilitate factors that are functions of adolescent development (e.g., temporal perspective, risk orientation, and compliance with authority). Specifically, it seems less likely that an instructional intervention could change adolescents' valuation of rights or change adolescents' beliefs about the efficacy of rights. Indeed, even if an instructional intervention could improve a youth's understanding of his legal rights, it is quite plausible that developmental factors could impede the effective use of his new cognitive skills. For example, imagine that a 14 year- old boy is interrogated by the police about an armed robbery. The suspect has a basic understanding of his *Miranda* rights and how these rights apply to his current situation. However, he values the short-term benefits associated with cooperating with the police (e.g., relief experienced from acquiescing to authority) over the long-term benefits of asserting his rights (e.g., safeguarding his legal defense). Thus, despite his excellent understanding of the *Miranda* warnings, he chooses to waive his rights to serve a competing interest.

Scott and Grisso (2004) highlighted the dilemma posed by this example: "Conventional remedies for incompetent defendants (e.g., instructional interventions designed to restore competence) may have little meaning as applied to youths who have never been competent, and for whom maturation is the only effective remedy" (p. 1).

The implication underlying Scott and Grisso's observation is that sound legal decision making requires more than factual knowledge of the law and legal processes. Indeed, the development of legal reasoning skills seems to require not only a *quantitative* change in the individual's repertoire of legal knowledge, but also *qualitative* changes in the individual's interpretative, conceptual framework (i.e., the system of personal preferences, values, beliefs, and heuristics the individual uses to approach legal dilemmas).

Thus, the questions become how and when do these qualitative changes occur? Is it possible to facilitate qualitative change, or is qualitative change merely a function of cognitive and physical maturation? Is it possible to facilitate changes in judgment? Although maturation clearly plays a crucial role in the development of reasoning capacities, can we identify an additional mechanism of change? If so, can we translate this mechanism into pedagogical strategy? Finally, at what age could an adolescent begin to benefit from an instructional intervention designed to teach the content, significance, and function of the *Miranda* warnings?

Part II: Conceptualization of Treatment

Development of Legal Reasoning Capacities

Developmental theorists have designated ages 12 through 16 as the "watershed period for thought on matters of government and law" (Levine & Tapp, 1977, p. 87). Indeed, critical advancements in the capacity for abstract reasoning occur during this period. By mid-adolescence, youths' cognitive capacities begin to approximate the cognitive capacities of adults (Scott & Grisso, 2004). More specifically, adolescents become capable of: (a) imagining alternative courses of

action, (b) identifying hypothetical consequences to various alternatives, (c) considering situations from others' perspectives, and (d) engaging in comparative deliberation about alternatives and consequences (Furby & Beyth-Marom, 1990; Grisso & Vierling, 1978; Mann, Harmoni, & Power, 1989). Furthermore, adolescence is characterized by improvements in basic information processing skills, such as organization, sustained attention, and short- and long-term memory (Scott & Grisso, 2004).

In addition to the research demonstrating general improvements in 12 through 16 year olds' cognitive functioning, research specific to legal decision making has also highlighted the significance of these years. Between pre- and late-adolescence, youth begin to: (a) accurately conceptualize rights as entitlements (Melton, 1980); (b) comprehend the *Miranda* warnings as well as adults (Grisso, 1981); (c) achieve the adult standard of adjudicative competence (Cowden & McKee, 1995); (d) use relevant information when weighing the risks of plea bargaining options (Peterson-Badali & Abramovitch, 1993); (e) begin to recognize the importance of safeguarding civil liberties (e.g., right to privacy, right to free speech) with formal legislation (Gallatin & Adelson, 1977; Zellman & Sears, 1977); (f) acknowledge that laws that infringe on civil liberties should be challenged (Gallatin & Adelson, 1977; Zellman & Sears, 1977); and (g) identify the long term risks associated with decisions to waive important legal rights (Grisso et al., 2003).

In summary, although there is considerable variability in the rates at which the capacities necessary for complex decision making develop, a substantial body of research suggests that, in general, younger adolescents (i.e., youth under the age of

14) differ significantly from older adolescents (i.e., youth ages 16 through 18) with 15 year olds displaying "similarities to and differences from both groups" (Scott & Grisso, 2004, p. 27).

Legal Development Theory

Although the development of legal reasoning appears to parallel these cognitive advances, little is known about the specific process through which adolescents develop knowledge, beliefs, attitudes, expectancies, and values about the law and legal proceedings. The extant literature on the development of legal reasoning is largely theoretical. At present, Legal Development Theory (LDT) (Tapp & Kolhberg, 1977) provides the most comprehensive description of the development of legal reasoning from childhood through young adulthood.

LDT closely parallels Kohlberg's theory of moral development. On the basis of research, Kolhberg (1963, 1969) identified six stages of moral reasoning which he classified into three general levels: (a) the Pre-conventional level (comprised of Stage 1, "Obedience and Punishment," and Stage 2, "Instrumental Exchange"); (b) the Conventional level (comprised of Stage 3, "Interpersonal Conformity," and Stage 4, "Law and Order"); and (c) the Post-conventional level (comprised of Stage 5, "Prior Rights and Social Contract," and Stage 6, "Universal Ethical Principles"). According to Kohlberg, pre-conventional reasoners determine the morality of an action based on the consequences of that action; actions followed by punishment are morally wrong, while actions that comply with authority are morally right. While pre-conventional reasoners prioritize actions that promote personal interests, conventional reasoners prioritize actions that promote social welfare; actions that promote social welfare are

morally right, while actions that threaten social welfare are morally wrong. Finally, post-conventional reasoners prioritize ethical principles such as human rights and social justice; actions that violate these ethical principles are morally wrong. Furthermore, post-conventional reasoners characterize laws as social contracts rather than as dictums. Thus, these reasoners contend that laws that violate ethical principles must be changed.

Tapp and Kohlberg (1977) argued that the concepts central to moral reasoning (e.g., justice, social welfare, social contract) were also central to legal reasoning. After interviewing children, adolescents, and young adults about the function of law, Tapp and Kohlberg (1977) postulated that Kohlberg's paradigm could be used to describe the development of legal reasoning. Specifically, on the basis of these interviews, the investigators identified three stages of legal development: (a) the "pre-conventional perspective," or sanction-oriented, rule-obeying perspective, (b) the "conventional perspective," or rule-maintaining perspective, and the (c) "post-conventional perspective," or rule-making perspective.

According to the authors, individuals classified as pre-conventional reasoners believe that laws functioned to prevent physical harm, people should comply with laws to avoid punishment, and laws were unchangeable. Individuals classified as conventional reasoners believe that laws functioned to maintain social order, people should follow laws in order to be productive members of society, and extreme circumstances could justify breaking or changing the law (e.g., changing a law that threatened social order). Individuals classified as post-conventional reasoners believed that laws served to maximize personal and social welfare, people should

follow laws based on utilitarian considerations, and laws that are immoral and unjust should be changed.

Limitations of the Cognitive Developmental Paradigm

Over the past several decades, developmental theorists (e.g., Broughton, 1986; Flavell, 1977; Gardner, Scherer, Tester, 1989; Gilligan, 1982) have criticized stage theories of cognitive and moral development on several grounds. These theorists argue that individuals do not progress through a series of invariant, distinctly defined cognitive stages. Rather, the theorists contend that cognitive abilities appear to be more contextualized; individuals may demonstrate a particular ability in one domain, but not in others (Flavell, 1977). Additionally, some theorists suggest that characterizing cognitive growth as the progression towards autonomous reasoning reflects cultural bias, not biological fact (Broughton, 1986; Gilligan, 1982). Societies that prioritize the collective welfare over the welfare of individuals, may not consider autonomous reasoning to be the highest level of reasoning. Thus, these theorists claim that the cognitive developmental paradigm cannot be characterized as "universal" (Cohn & White, 1990, p. 39).

While recognizing the limitations of stage theories, Cohn and White (1990) argued that the mechanism of change specified by the cognitive developmental paradigm continues to have "great utility" when used to describe the *process* through which individuals develop legal reasoning skills (p. 39). According to the authors, mischaracterizing the paradigm as "invariant" and "universal," does not imply that the mechanism of change identified by the paradigm is an "inaccurate characterization" of how individuals acquire the capacity to reason about complex

legal dilemmas (p. 39). Indeed, in a point of departure from Kohlberg and Piaget, Levine and Tapp (1977) emphasized the heuristic intent of LDT. The authors contended that the development of legal reasoning is not the function of an "ordered, mutually exclusive progression." Rather, the model proposes a set of "working hypotheses" that describe how adolescents develop legal reasoning abilities (p. 167).

Identifying the Mechanism of Change

According to LDT, two primary processes underlie the development of legal reasoning (Levine & Tap, 1977). First, the individual must achieve "substantive competence," or a basic factual understanding of the law and legal processes. Second, the individual must experience conceptual change. More specifically, he must experience a radical shift in the conceptual framework (i.e., the system of knowledge, beliefs, attitudes, heuristics, and values that individuals use to analyze the external environment)

that he uses to approach legal dilemmas.

Although substantive competence serves to "expand" the child's capacity to "understand problems, define expectations, relate to events, press claims, invoke a right, and redress a grievance," the authors contended that legal knowledge alone is "insufficient for stimulating integrative, accommodative, and critical thought" (Levine & Tapp, 1977, p. 174). Indeed, the authors argued that the development of legal reasoning involves not only *quantitative* changes in factual knowledge, but also *qualitative* changes in how the individual interprets, conceptualizes, and values legal information. Thus, the authors designated the experience of cognitive conflict as a necessary condition for achieving legal competence.

The Role of Cognitive Conflict in Cognitive Development

Tapp and Levine (1977) underscored the critical role of cognitive conflict in facilitating the development of legal reasoning. Broadly defined, cognitive conflict refers to a "state" in which an individual recognizes that his interpretative, conceptual framework inadequately accounts for his experience (Lee et al., 2003). This inadequacy motivates the individual to seek alternative explanations with which to construct a new conceptual framework.

Developmental theorists have long argued that cognitive conflict plays a facilitative role in intellectual growth. Dewey (1910) asserted that the experience of cognitive uncertainty serves to motivate the observer to achieve a higher level of understanding. Festinger (1957) asserted that the perception of inconsistency between expectancy and experience generates "psychological discomfort" or "cognitive dissonance." The individual finds the experience of cognitive dissonance aversive and is, thus, motivated to resolve the discrepancy. Similarly, Berlyne (1960) argued that the experience of conceptual conflict increases the salience of discrepant information, motivating the learner to resolve the paradox.

Piaget's Model of Equilibration

Drawing on Piaget's model of cognitive growth, Tapp and Levine (1977) argued that legal development occurs through "equilibration," a process fueled by cognitive conflict. According to Piaget's model, individuals actively use information from the environment to construct mental representations of experience, or schemata. These schemata become conceptual frameworks that the individual uses to generate beliefs, values, expectancies, heuristics, and behaviors. "Adaptive" schemata are

mental representations of reality that are congruent with, and adequately account for, experience. When existing schema are in conflict with the external environment, the individual is in a state of "disequilbria." The balance between schema and external reality is offset, motivating the individual to modify the existing schema to account for the contradiction. In effect, the experience of conflict or disequilibria *impels* the individual to make cognitive progress.

Piaget used the model of equilibration to explain the development of conservation of liquid quantity (Flavell, 1977). A pre-schooler, who has not yet achieved conservation, concludes that there is more water in the tall, thin glass than in the short, fat glass. In her comparison, she attends to the physical appearance of the water and bases her conclusion on the principle, "things that *appear* bigger, are in fact bigger." According to Piaget, she "assimilates" the information, or interprets the data according to a pre-established system of rules and heuristics. However, suppose that at some point in her development she attends to the fact that the same amount of water has been transferred from the shorter, fatter glass to the taller, thinner glass. She begins to question the applicability of the principle, "things that appear bigger, are bigger" to the current situation. Now, there are two plausible, but contradictory, conclusions. First, under the old set of heuristics, the higher level of water indicates that there is more water in the second glass. Second, the transfer of the *same* amount of water from the first to the second glass indicates that both glasses contain equal amounts of water. Faced with an apparent contradiction, the child's cognitive system has moved from a state of "equilibrium" (schema adequately accounts for experience) to disequilbrium (schema inadequately accounts for experience). The distress initiated

by the imbalance motivates the child to account for the contradiction. On the basis of her observation that the same amount of water has been transferred between the glasses, she "accommodates," or adapts, her schema to include a new rule: "height increase and width decrease are mutually compensatory changes" (Flavell, 1977, p. 242). Thus, she concludes that despite the physical transformation of the water, the quantity of water remains unchanged.

In summary, the motivation to resolve the apparent contradiction facilitates the child's cognitive development. By adopting a new interpretative framework, she re-equilibrates at a higher developmental level. As will be argued later, I hypothesize that the development of legal decision-making skills will require adolescents to adopt a new interpretative framework to approach the dilemma posed by a police interrogation (i.e., cooperate with the police or assert rights); adolescents will need to re-equilibrate at a higher developmental level.

Research Supporting the Role of Cognitive Conflict in Intellectual Growth

Many developmental theorists have questioned whether equilibration adequately accounts for all cognitive growth. Flavell (1977) argued that "no single, overarching process or principle" sufficiently describes "how all cognitive developmental advances are made." Rather, he contended that, while equilibration had considerable explanatory power for certain types of knowledge acquisition, "different sets of processes may typically be involved in different kinds of acquisitions" (p. 243). Indeed, Piaget (1960) himself recognized that equilibration was not the only significant factor in cognitive development. He also noted that

biological and social maturation played critical roles in the facilitation of reasoning abilities (1960).

Although cognitive conflict may neither be necessary nor sufficient for cognitive development, research suggests conflict may play a facilitative role in intellectual growth (Chapman, 1992). In the following section, I summarize research that supports the role of conflict in cognitive growth.

Evidence from developmental psychology. Inhelder, Sinclair, and Bovet (1974) conducted a series of studies to investigate whether instructional interventions could facilitate the process of equilibration. Specifically, the researchers investigated whether children could be taught the concept of conservation. First, the researchers tested children to ascertain their initial cognitive level. The researchers classified children as non-conservers (i.e., children who focused primarily on the appearance of the liquid and who demonstrated no understanding of concept of conservation), intermediate conservers (i.e., children who were able to accurately apply the concept of conservation in some instances but not in others), and full conservers (i.e., children who were able to apply the concept of conservation accurately to all situations and demonstrated full understanding of the concept of compensatory changes between dimensions). Next, the children received an instructional intervention designed to expose the contradictions in their reasoning. Results indicated that children benefited from instruction; however, the extent to which the children improved depended on their initial level of understanding. For example, although only 2 of 15 children initially classified as non-conservers achieved full conversation following instruction, 11 of 19 children initially classified as intermediate conservers became full

conservers following instruction. The authors reasoned, "the source of the progress is to be sought in the disequilibrium which incites the subject to go beyond his present state in search of new solutions" (p. 264).

Roy and Howe (1990) found that inducing cognitive conflict by presenting children with statements that conflicted with the initial judgments, facilitated children's reasoning about legal transgressions. Furthermore, Vincenzo and Kelly (1987) found that children who were exposed to conflicting perspectives were more successful at problem-solving tasks than children exposed to a singular perspective.

Additionally, several studies suggest that cognitive conflict may play a facilitative role in the development of moral reasoning. Walker (1983) found that middle schoolers who had been exposed to both sides of a moral dilemma performed better on a test of moral reasoning than did students who were exposed to one side of a moral dilemma. Similarly, Turiel (1966) and Tracy and Cross (1973) found that exposing youth to both sides of the Heinz dilemma facilitated moral reasoning.

The Role of Prior Knowledge in Learning

After conducting their conservation experiments, Inhelder, Bovet and Sinclair (1974) noted:

> We can hypothesize that the children who do not make any cognitive progress are unable to establish the necessary relationships between the different observable features of the situation. In other words, the observable features of the situation are assimilated only if the child is able to incorporate them into the schemes he already has. (p. 58)

The authors' observation belies the paradox of cognitive maturation: prior knowledge is both "necessary and problematic to learning" (Roschelle, 1995, p. 39).

On the one hand, the learner must rely on extant frameworks to interpret phenomena; on the other hand the system of flawed rules and heuristics that comprise the extant framework may prevent the learner from accurately evaluating phenomena. Thus, cognitive maturation does not require the elimination of prior knowledge per se, but rather the *reconstruction* of prior knowledge. The following sections address the role of prior knowledge in learning and the role of pedagogy in facilitating the process of reconstruction.

The Prevalence and Durability of Misconceptions

Ausubel (1968) noted that students often enter the classroom with misconceptions about the topic of study. He further observed that these misconceptions were "amazingly tenacious and resistant to extinction," prompting him to remark, "the most important single factor influencing learning is what the learner already knows" (as cited in Kyle, Family, & Shymansky, 1989).

Indeed, research suggests that misconceptions (i.e., commonsense beliefs about a particular area of study that are contrary to known evidence) are prevalent across a variety of academic domains, including physics, biology, economics, astronomy, government, psychology, and cosmology (Carey, 1985; Driver, Guesne, & Tiberghien, 1985; Kowalski & Taylor, 2004; Vosniadou & Brewer, 1992). For example, Standing and Huber (2003) found that 71% of undergraduates surveyed endorsed common myths in psychology (e.g., "people use 10% of their brain's capacity;" "someone with schizophrenia suffers from a split personality").

This same body of research suggests that students often maintain misconceptions even after receiving intensive instruction in the subject matter.

Studies examining the effect of college level psychology courses suggest there is only limited change in students' false beliefs following instruction. For example, Kowalski and Taylor (2001) found that even after taken several psychology courses, many students continued to maintain misconceptions (as cited in Kowalski and Taylor, 2004). Vaughn (1977) found that students' misconceptions decreased by only 6.6% after receiving instruction in psychology. Furthermore, Gardner and Dalsing (1986) found that even after taking several psychology courses, 30% of college students continued to equate schizophrenia with "split personality."

A substantial body of literature documents the prevalence and durability of students' misconceptions in the natural sciences (e.g., diSessa, 1982; Halloun & Hestene, 1985). Notably, diSessa (1982) found that even MIT freshman who had received an A in physics were unable to use the concepts of force, acceleration, and momentum to accurately describe a simple ball toss. Rather, the students tended to rely on commonsense beliefs about motion, describing the ball toss in terms of an "initial upward force" which "slowly dies out." In another study, Champagne, Gunstone, and Klopfer (1985) found that many students who initially believed that heavier objects fall faster than lighter objects continued to endorse this belief even after watching a demonstration in which blocks of different sizes hit the ground simultaneously.

Theorists have offered several explanations to account for the durability of students' misconceptions. First, Chinn and Brewer (1993) observed that misconceptions often appear to have strong evidentiary support. For example, small children may often believe that the world is flat because this belief is supported by

their daily observations. Similarly, Zirbel (2004) noted that false beliefs often have considerable explanatory power. For example, she hypothesized that many students falsely believed "a constant force results in motion" because this heuristic was consistent with their personal observations and successful in describing a range of experiences:

> Most students will have driven a car and noticed that when they cease to press the gas pedal (i.e. apply a force), the car will slow down. Although they might know that there is friction… their personal experience is that in the absence of a force the car will slow down. Since this experience is repeated every time the student drives, it is no surprise that the student will develop an intuitive sense that a constant force results in motion. (p.5)

Thus, given the explanatory power of "a constant force results in motion," Zirbel (2004) argued that this misconception, and by extension, misconceptions with similar explanatory power, would be extremely difficult to extinguish.

Second, Chinn and Brewer (1993) noted that misconceptions are often supported by ontological beliefs (i.e., an individual's beliefs about the fundamental categories and properties of the world [Keil, 1979]). Thus, according to the authors, students often struggle with abstract scientific concepts such as relativity, quantum mechanics, and string theory because these concepts violate their fundamental assumptions about how the world works (e.g., that time is linear, that time and space are distinct, etc.).

Finally, some theorists argue that instructional methods frequently fail to address students' misconceptions and often, may even reinforce them. Research suggests that even science teachers may have misconceptions about important

scientific principles such as conservation of mass, oxidation and reduction, and the laws of thermodynamics (Chinn & Brewer, 1993). For example, Brunsell and Marcks (2005) found that fewer than 50% of high school physics teachers were able to accurately characterize the distinction between radio and light waves. Thus, many educators may be unable to effectively convey important concepts to students, thereby indirectly reinforcing students' misconceptions about scientific phenomena.

Modifying Prior Knowledge: Conceptual Change Theory

How do students accommodate more adaptive conceptual frameworks? Noting similarities between the process through which individuals modify conceptual frameworks and the process through which scientists modify theory, Posner, Strike, Hewson, and Gertzog (1982) argued that an analysis of the development of scientific theory could inform the analysis of how individuals construct new conceptual frameworks.

Based on Kuhn's description of scientific revolutions and Piaget's model of equilibration, conceptual change theory (Posner, Strike, Hewson, & Gertzog, 1982) describes the process through which students modify existing conceptual frameworks. Posner and colleagues (1982) compared Kuhn's "paradigm shift" to Piaget's model of equilibration. According to Kuhn, scientific knowledge develops through cyclic periods of "consensus and dissention" (p. 360). Scientific revolutions occur when the current scientific paradigm, a framework for perceiving, interpreting, and valuing scientific phenomena, fails to explain some event. To solve the problem at hand, scientists must adopt a new scientific paradigm. Thus, the processes through which scientists develop theory and individuals develop schema can be described using a

common language: scientists "assimilate" new information to their existing theories and "accommodate" these theories when presented with contradictory information. Similarly, individuals "assimilate" new data into existing cognitive schemata and "accommodate" these schemata to account for conflicting data (Carey, 1985; Carey; 1986).

Conceptual Change is "Revolutionary"

Kuhn (1970) argued that new scientific paradigms were "seldom or never just an increment to what is already known" (p. 7). Rather, the assimilation of a new paradigm required the reconstruction of prior theory and the re-evaluation of prior fact. Thus, according to Kuhn, a paradigm shift was an "intrinsically revolutionary process" (p. 7); when paradigms changed, the very definitions of what constituted scientific fact, evidence, and method changed as well; when paradigms changed, "the world itself changed with them" (p. 111).

Analogously, Strike and Posner (1992) characterized conceptual change as "revolutionary." While declarative learning involved the accumulation of facts, conceptual change required the re-organization of extant frameworks to encompass new ideas, values, beliefs, and heuristics. Thus, conceptual change was "revolutionary" because it involved the alteration of concepts that were "central" to the individual's framework for solving scientific dilemmas and for observing the world (p. 150); conceptual change was revolutionary in the sense that it involved the alteration of the individual's fundamental beliefs about the world. Indeed, the authors recognized that the "cost" required for the revision of these central concepts was "high."

> When a misconception is firmly embedded in a conceptual context, the cost required for its revision is high. Students will have to alter other concepts as well. Moreover, unless these other concepts are altered, they will continue to maintain the misconception. [It is important to remember] that students are being asked to abandon a concept that has seemed to be successful in explaining a range of experience. (p. 154)

Thus, given the high cost of altering misconceptions, the experience and resolution of cognitive conflict was a necessary condition for conceptual change.

Facilitating Conceptual Change

Although Strike and Posner (1992) characterized their theory as "epistemological," rather than "pedagogical," the authors recognized the implications of their model for classroom instruction.

For conceptual change to occur in the classroom, the authors hypothesized four necessary conditions, *dissatisfaction*, *intelligibility*, *plausibility*, and *fruitfulness*. First, the learner must become *dissatisfied* with his current conceptual framework. He must recognize that there are inconsistencies in his current framework; he must recognize that his current framework does not solve the problem at hand. Second, the learner must find the new conceptual framework *intelligible*; he must understand the basic principles that comprise the conceptual framework. Third, the learner must find the new conceptual framework *plausible*; he must understand how to apply the framework to the dilemma at hand. Fourth, the learner must find the new conceptual framework *fruitful*; he must be able to generalize the framework to similar dilemmas. Thus, according to Posner and colleagues (1982), the role of science instruction must extend beyond merely informing students of "scientific conceptions." Conceptual

change required exposing the inadequacies of students' extant problem solving frameworks; students needed to be *convinced* that the alternative framework is more intelligible, plausible, and fruitful than their current frameworks (Posner et al., 1982).

Conceptual Change Instruction

Educational researchers have developed models of pedagogy based on conceptual change theory (e.g., Nussbaum & Novick, 1982; Champagne, Gunstone, & Klopfer, 1985; Chinn & Brewer, 1993). Although the particulars of these approaches vary, conceptual change instruction generally includes the following core components: (a) activation of misconceptions (i.e., students' erroneous, pre-instructional beliefs about the topic of study); (b) presentation of the alternative theory (i.e., the accepted, evidence-based theory or explanation); (c) presentation of anomalous data (i.e., data that contradict, or fail to be explained by, students' pre-instructional beliefs about the topic of instruction, but can be explained by the alternative theory[Chinn & Brewer, 1993]); and (d) enhancement of deep-level learning (Chinn & Brewer, 1993).

Activation of misconceptions. In order to stimulate theory change, teachers should first elicit students' misconceptions about the topic of study (Chinn & Brewer, 1993; Davis, 2001; Nussbaum & Novick, 1982). To activate misconceptions, conceptual change instruction often begins with the "exposing event" (Chinn & Brewer, 1993; Davis, 2001). The exposing event is any situation that requires students to use prior knowledge to either make predictions about the outcome of the event, or, if the outcome of the event is already known, to interpret the event. As students' misconceptions frequently go unchallenged, students may be unaware that

their pre-instructional beliefs about the topic of study are inaccurate (Davis, 2001). Thus, teachers may need to anticipate common misconceptions in advance and be prepared to present data that undermines each of these misconceptions (Davis, 2001; Chinn & Brewer, 1993).

Presentation of the alternative theory. The alternative theory is the accepted, evidence-based explanation that is the target of study. Davis (2001), Chinn and Brewer (1993), and Nussbaum and Novick (1982) asserted that teachers should guide students in evaluating the explanatory and predictive power of their various pre-instructional beliefs during classroom discussion. If the discussion does generate the accepted explanation of the exposing event, the teacher should offer the scientific explanation as, simply, another alternative to be weighed and evaluated (Davis, 2001).

Introducing Anomalous Data. After students' misconceptions are activated, teachers should present anomalous data. In theory, anomalous data precipitate theory change by (a) facilitating cognitive conflict (i.e., students' existing frameworks cannot account for the discrepant data; thus, students become dissatisfied with their current theories and are motivated to seek alternative theories that can account for the discrepant data); and by (b) providing evidentiary support for the scientific theory (Chinn & Brewer, 1993).

Enhancement of Deep-Level Learning. Unlike factual or "surface learning" which relies primarily on memorization, conceptual change requires "deep learning" (Chinn & Brewer, 1992). Deep learning requires students to make connections between prior knowledge and new material, critically evaluate the rationale for and

logical foundation of the new material, consider the implications of the new material, and generalize new knowledge to similar situations (Enwhistle, 2000). Pedagogical strategies that promote deep learning include: (a) increasing the personal salience of the material (Brophy, 2004); (b) specifying how the material is valuable and relevant to the students' lives (Brophy, 2004); (c) encouraging students to justify and evaluate their responses during classroom discussion (Davis, 2001; Brophy, 2004); and (d) incorporating "reflective activities" (i.e., activities that provide students with the opportunity to reconcile differences between their pre-instructional beliefs and the target theory) into the curricula (Davis, 2001).

Research on the Effectiveness of Conceptual Change Instruction

Some research suggests that conceptual change instruction can facilitate students' comprehension of complex subject matter more effectively than traditional, didactic methods of instruction. For example, Brown and Clement (1992) found that students acquired a more comprehensive understanding of key concepts in physics when instruction explicitly addressed and countered students' commonly held misconceptions about the physical world.

More recently, Alparslan, Tekkaya, and Geban (2003) investigated the effect of conceptual change instruction on high school student's understanding of respiration. The investigators assigned students to either the experimental or control groups. The control group received traditional instruction in which the teacher provided instruction through lecture and discussion methods. The experimental group received instruction based on the model of conceptual change. Specifically, teachers provided these students with "conceptual change texts." First, these texts required

students to explicitly acknowledge their pre-conceptions about respiration. Students evaluated these preconceptions during teacher-guided, classroom discussion. Second, to facilitate the students' "dissatisfaction" with pre-conceptions, the texts provided students with data that were inconsistent with their extant conceptual models. Finally, the texts provided students with the accurate, scientific explanation of respiration. Again, students were encouraged to discuss the validity and explanatory power of the scientific explanation with peers. Thus, students in the experimental group were forced to actively examine the validity of prior conceptions.

Prior to instruction, the experimenters pre-tested students from both groups to determine the students' initial levels of understanding of respiration. Although both groups began instruction with equal understanding of respiration, at post test, the students who received conceptual change instruction demonstrated better comprehension of respiration than students who received traditional instruction. Furthermore, students who received traditional instruction continued to endorse false beliefs about respiration despite the fact that teachers provided the students with accurate, scientific explanations of respiration. The authors concluded that conceptual change instruction that included the explicit elicitation of students' pre-instructional beliefs and the facilitation of cognitive conflict was paramount in facilitating theory change.

Relevance of Conceptual Change to Legal Learning

Although conceptual change theory has generally been applied to science instruction, I contend that the conceptual change literature can inform the forensic research on adolescents' legal reasoning capacities. I base this contention on three

primary grounds. First, adolescents have misconceptions about the content, function, and significance of the *Miranda* warnings and the purpose of interrogation. Second, these misconceptions are reinforced by personal experiences and observations, adult role models, and popular culture and are, thus, firmly entrenched in adolescents' legal problem-solving frameworks. Third, the development of legal reasoning requires conceptual change.

Adolescents have misconceptions about the content, function, and significance of the Miranda warnings and the purpose of interrogation. Based on the research reviewed in this proposal, we hypothesize that younger adolescents (i.e., under the age of 15) have misconceptions about the content, function, and significance of the *Miranda* warnings. Common misconceptions about the *Miranda* rights and the interrogation process include: (a) " If the police tell me I have to talk about the crime, then I have to (or, "Rights are given to me by the police, thus they have the power to take these rights away"); (b) "Even if I remain silent while the police are questioning me, the judge can force me to talk in court if he wants to. Therefore, why should I withstand the pressure to confess during police interrogation if I'm just going to have to confess to the judge when I go to court?;" (c) "If I cooperate with the police by waiving my rights, the police/judge may decide to be lenient with me;" (d) "If I assert my rights, the police/judge will think I am guilty;" (e) "The fastest way to end this interrogation is to cooperate with the police;" (f) "Even if I cooperate with the police now by discussing the crime, the truth will come out later in court;" (g) "Police are not allowed to mislead suspects during an interrogation;" (g) "It's better to risk my legal defense than to risk the police officer getting mad at me for not cooperating"

(or, "Pleasing the police officer is more important than my legal defense);" (h) "Attorneys only help innocent people; if my attorney thinks I am involved in this crime, he'll report me to the judge."

These misconceptions comprise a flawed, yet common, "*Miranda* Rights Conceptual Framework." Using this framework, younger adolescents base decisions about legal rights on erroneous expectancies about the consequences of waiver and non-waiver decisions. Given this flawed framework, younger adolescents may be oriented towards waiving their rights in a police interrogation situation. Thus, I hypothesize that younger adolescents generally adopt a waiver orientation towards rights, believing that it is in their best interests to waive rights and cooperate with the police.

These misconceptions are reinforced by personal experiences, adult role models, and popular culture. Consistent with arguments regarding the durability of misconceptions in psychology and the natural sciences, I contend that adolescents' misconceptions about the *Miranda* warnings are deeply entrenched and resistant to change; specifically, these misconceptions are reinforced by personal experiences, adult role models, and popular culture.

First, adolescents maintain misconceptions about legal rights because these misconceptions derive evidentiary support from personal experiences and observations. For instance, as most youth depend on adults for emotional and financial support, they rely on adults to make important decisions about their well-being. Youth may generalize to a police interrogation the heuristics, "when personal safety is at stake, cooperation with authority is the best alternative," and "it is best to

tell the truth so as not to get into more trouble," because these heuristics are generally supported by experiences in other contexts.

Second, the research reviewed in this proposal suggests that adolescents' misconceptions about legal rights are reinforced by *adult role models.* Feld observed that judges and court officials often encouraged young offenders to waive their legal rights. Furthermore, he observed that judges often implied to juvenile defendants that waiving rights would not have far-reaching consequences (as cited in National Juvenile Defender Center, 1995). Additionally, Grisso and Ring (1979) observed that when juvenile defendants were provided the opportunity to consult with a parent during a police interrogation, parents often encouraged their children to cooperate with authorities. Finally, research presented previously suggested that may have incomplete understanding of important scientific concepts, and are thus, unable to convey the concepts effectively to students, research suggests that even adults may have a limited understanding of the Miranda warnings (Grisso, 1981).Thus, adults may be unable to address youths' misconceptions about legal rights adequately.

Third, adolescents' misconceptions about their legal rights are reinforced by television and movies. Many youth receive their primary education about legal rights from popular culture. Thus, according to Freund (1977), youth manifest significant deficits in legal reasoning because popular culture tends to emphasize the "coercive function" over the "non-coercive function" of the law (p. 158). In other words, adolescents learn that laws function primarily to sanction criminal behaviors and only secondarily to protect civil rights. In the police dramas and movies frequently watched by youth, the *Miranda* warnings are negatively connoted. Rarely are

criminal defendants portrayed as confidently asserting their rights. Rather, the *Miranda* warnings are characterized as the "loopholes" that guilty suspects use to "get off." Alternatively, confessions are often positively connoted; suspects who confess are often portrayed as "doing the right thing."

Enhancing legal reasoning requires conceptual change instruction. As adolescents' misconceptions about the *Miranda* warnings are reinforced by personal experiences and observations, adult role models, and popular media, I hypothesize that these misconceptions are firmly entrenched in adolescents' legal problem-solving frameworks. Thus, I assert that altering these frameworks and enhancing legal reasoning will require conceptual change instruction.

First, I characterize the shift from a "waiver orientation" to an "assertion orientation" as "revolutionary." Arguably, the heuristics, "when personal safety is at risk, cooperation with authority is in my best interests," "further harm may come to me if I refuse to cooperate with authority," and "cooperating with authority is the right thing to do" are manifestations of youths' ontological beliefs about the relationship between children and adults and the morality of confessions; these heuristics represent youths' fundamental assumptions about *how the world works*. Indeed, Buss (2000) argued that that the child's difficulty conceptualizing rights as entitlements stems in part from the child's life experience; nothing in the child's experience suggests that there may be situations in which his authority "eclipses" that of an adult's (p. 247).

Given this entrenched system of beliefs, I hypothesize that rights assertion carries a negative connotation for youth; youth assume that asserting rights will lead

to negative consequences for them and equate rights assertion with doing something wrong. Thus, the shift from a "waiver orientation" to an "assertion orientation" requires a radical transformation, or conceptual change.

Second, conceptual change instruction is consistent with Levine and Tapp's (1977) recommendations for the development of legal curricula. The authors advocated for an active approach to legal education based on the principles of Piaget's model of equilibration. According to the authors, legal curricula employing a conceptual change framework have two primary objectives. First, these curricula should increase students' factual understanding of the law and legal processes. Second, the material presented in these curricula should provoke conflict within the child's existing system of legal values.

Furthermore, Levine and Tapp (1977) emphasized the importance of active participation in stimulating legal development. Specifically, the authors argued that providing students with opportunities for role taking (i.e., activities that require students to adopt perspectives that are contrary to their own) would serve to catalyze the process of equilibration, thereby maximizing the facilitative effects of cognitive conflict on legal development. Indeed, Kohlberg argued that exposure to alternative perspectives during role-taking opportunities served to force students to evaluate the adequacy of their own moral problem-solving frameworks (as cited in Crain, 1985).

Third, Chinn and Brewer (1993) argued that many students maintain misconceptions about the natural sciences because current instructional methods failed to utilize conceptual change strategies (e.g., activation of misconceptions, facilitation of cognitive conflict, enhancement of deep-level learning). Analogously, I

theorize that if legal curricula fail to utilize conceptual change strategies, students will continue to maintain misconceptions about the content, significance, and function of the *Miranda* warnings.

Indeed, one study suggested that students continued to demonstrate misconceptions about the *Miranda* warnings after receiving didactic legal instruction. Wall and Furlong (1985) examined whether Streetlaw, a year long course designed to improve students' understanding of legal processes and basic Constitutional rights, improved *Miranda* comprehension among 48 high school students in an urban Chicago high school. Although results indicated that the majority of students who completed the program gained a factual understanding of the *Miranda* warnings, students' performances on the *Miranda* vocabulary and function of rights measures raised serious questions about the comprehensiveness and depth of their understanding. Specifically, on the *Miranda* vocabulary measure, most students gave inadequate definitions of one or more words. Furthermore, at post-test, students continued to underestimate the power and durability of their rights. Although the majority of students who completed the Streetlaw program reported that they could remain silent during interrogation, these students believed a judge could force them to offer self-incriminating information in court. Wall and Furlong hypothesized that students continued to manifest deficits in comprehension because the Streetlaw program failed to utilize the pedagogical strategies recommended by Levine and Tapp (1977) (e.g., facilitation of cognitive conflict, active role playing).

Part III: Specification of Treatment

The Miranda Rights Educational Curriculum

In many respects, custodial interrogation provides the ideal context for conceptual change instruction. This situation requires youth to consider a course of action (e.g., asserting legal rights) that is potentially incongruent with existing beliefs (e.g., "It is important to comply with the police officer's request;" "I have to do what the police officer says, or I'll get in trouble;" "If I assert my rights, I'll look guilty"). Youth will have to modify their extant rights frameworks to include more adaptive beliefs (e.g., "I cannot be punished for asserting my rights even if that means going against what the police are asking me to do;" "Asking to speak to a lawyer is nothing to be ashamed of-this is my Constitutional right").

In this section, I provide a brief overview of the curriculum and highlight how the curriculum is based on the model of conceptual change.

Overview of the Curriculum

The *Miranda* Rights Educational Curriculum is an interactive, experiential play of the police interrogation of a juvenile suspect. There are four primary "roles" in the play: the interrogating police officer, the assisting police officer, the narrator, and the primary suspect.

The curriculum is divided into two sections. Section I provides students with a realistic account of a police interrogation. At the beginning of the play, the narrator informs the audience that there has been an armed robbery in a local park and asks the audience members to pretend that they are suspects in the crime. Next, the narrator introduces the audience to the police officers who have been assigned to the case. After explaining the details of the crime, the police officers inform students that they

suspect certain audience members may have information about the crime. Next, the officers select one student, a pre-trained confederate, from the audience and place the student "under arrest." The police officer then proceeds to interrogate the suspect about the crime using common interrogation strategies (e.g., implication of leniency, implication of false evidence) from popular police training manuals, such as Inbau and Reid's (2001) *Criminal Interrogation and Confessions*. After "interrogating" the suspect, the police officer tells the suspect that he must make an important decision: Either admit to his involvement in the crime or risk his future by refusing to cooperate. At this point the narrator "freezes" the interrogation.

Section II is comprised of five alternating discussion/didactic components. During the discussion components the narrator engages in conversations with the primary suspect about his thoughts and concerns regarding his current predicament, and actively involves the audience by encouraging questions and soliciting advice for the primary suspect. During the didactic components, the narrator provides the audience with accurate information about the content, significance, and function of the *Miranda* warnings and the interrogation process. In general, the purpose of the discussion components is two-fold. First, these components serve to activate students' misconceptions about the *Miranda* warnings. Second, by requiring students to provide justification for their responses, these components force students to evaluate the adequacy of these conceptions for solving the dilemma at hand. Alternatively, by introducing anomalous data, or accurate information about the *Miranda* warnings and the interrogation process, the purpose of the didactic components is to catalyze the equilibration process.

Strategies for Facilitating Conceptual Change

The primary objective of the curriculum is to facilitate a shift in students from a "waiver orientation" to an "assertion orientation." Consistent with models of conceptual change instruction, the *Miranda* Rights Educational Curriculum includes the following core components: (a) activation of misconceptions, (b) presentation of the alternative "option"[2], (c) presentation of anomalous data, and (d) enhancement of deep-level learning.

Activation of Misconceptions

To activate students' misconceptions about the content, significance, and function of the *Miranda* warnings, the curriculum employs two strategies. First, the curriculum provides students with a realistic simulation of a police interrogation. Given the coercive and intimidating nature of police interrogations, we theorize that the simulation of a realistic interrogation scenario will generate mild anxiety amongst the audience members, thereby eliciting the audience's misconceptions about legal rights and the interrogation process. To enhance the salience of the interrogation, the police officers randomly select students to fingerprint and photograph as they enter the auditorium. Furthermore, the police officers display pencil sketches of the "suspects" and inform the audience that these sketches are based on eye-witness accounts. These sketches will depict adolescents that could easily be members of the target audience. Third, the police officers use standard interrogation strategies (e.g., informing the suspect that cooperation is the right thing to do, implication of the existence of evidence against the suspect) from common police manuals.

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[2] Although conceptual change instruction models generally characterize this step as presentation of the alternative *theory*, we believe that "option" is a more accurate characterization of "rights assertion."

Second, the discussion components explicitly address the common, research-supported misconceptions of younger adolescents about the *Miranda* rights and the interrogation process. As students may be unaware of the misconceptions they hold, the primary function of the suspect will be to ensure that these misconceptions are raised.

Discussion Component #1. This component explicitly addresses the typical misconceptions of younger adolescents about the content and meaning of the *Miranda* rights. During this component, the narrator asks the suspect if he understands the right to remain silent. The suspect provides an explanation of the right that is incorrect, yet typical of younger adolescents. Specifically, the suspect states that the right to remain silent means, "If I'm innocent, I don't have to talk to the police."

Discussion Component # 2. This component addresses the misconceptions that are frequently held by younger adolescents regarding the concept of a "right." During this component, the suspect reasons that because police officers are law enforcement officials, they have the power to bestow or revoke rights at their discretion.

*Discussion Component #*3. This component addresses common misconceptions about the consequences of waiver versus non-waiver decisions. During this component, the suspect reasons that it is in his best interest to cooperate. He justifies his reasoning on the following premises: (a) During the interrogation, the police officer tells the suspect he has "proof" that the suspect is lying (i.e., he informs the suspect that two eyewitnesses reported that they saw the suspect in the vicinity of

the park on the afternoon of the crime). The suspect reasons that this is strong evidence against his and thus, refusal to cooperate will only make matters worse; (b) During the interrogation, the police officer states that cooperating is the "right thing to do." The suspect assumes that police officers are sworn to tell the truth, and, therefore, are not allowed to mislead him.

Discussion Component # 5. This component activates adolescents' misconceptions about: (a) the long-term consequences of waiving rights, (b) whether rights can be asserted after the suspect has already answered some police questions, and (c) the fastest way to end a police interrogation. Despite his newly acquired knowledge of the *Miranda* warnings, the suspect reasons that even if he decides to cooperate with the police now by discussing elements of the crime, the "truth" will come out later in court. In other words, the suspect asserts his assumption that cooperating with the police will not have far-reaching consequences. Furthermore, as he has already answered some of the officer's questions, he reasons that it may be too late to assert his rights. Finally, he reasons that cooperating with the police will be the fastest way to end an extremely stressful and emotionally charged situation.

Presentation of the Alternative Option

During the first discussion component, the narrator asks the audience what the suspect's best alternative is. If students do not mention rights assertion as a possible course of action for the suspect, the narrator will suggest it as another alternative to be weighed and evaluated. Evidence supporting "rights assertion" as the suspect's best possible option and detailing the positive consequences of rights assertion will be presented during the didactic components.

Presentation of Anomalous Data

Information provided during the didactic components is intended to directly contradict the common misconceptions elicited during the discussion components. Furthermore, this information is intended to increase students' *dissatisfaction* with their current legal problem-solving frameworks and to increase the evidentiary support for the alternative option (i.e., rights assertion).

Didactic Component #1. During the first didactic component, the narrator provides the audience with simplified explanations of each *Miranda* warning. Furthermore, the narrator explains to the audience that rights are universal (i.e., rights apply to everyone whether guilty or innocent, whether a child or an adult).

Didactic Component # 2. During the second component, the narrator informs students that the *Miranda* warnings are based on amendments from the Constitution. The narrator provides a brief, historical context for the *Miranda* warnings and discusses how these rights form the foundation of the American criminal justice system. This will lend credibility to the alternative option.

Didactic Component # 3. During the third didactic component, the narrator will "unfreeze" the police officer to ask him about the objectives of interrogations. The police officer informs students that his job is to "keep criminals off the street." As confessions are powerful pieces of evidence that can be used to convict suspects of a crime, his primary objective during an interrogation is to elicit a confession from a suspect he believes is guilty. The officer explicitly acknowledges that it is to his benefit, *not the suspect's*, for the suspect to cooperate. Furthermore, during this component, the narrator provides students with a list of common strategies that the

police employ during interrogations. The narrator will also educate students about rights violations by providing a list of activities that are prohibited during an interrogation (e.g., the use physical force).

Didactic Component #5: Finally, during the fifth component, the narrator addresses the suspect's misconceptions that if he cooperates with the police now, the "truth" will come out later in court. The narrator informs students that the fastest way to end a stressful police interrogation is to ask to speak with an attorney. The narrator also informs students that suspects can ask to speak to an attorney at any time from the moment of arrest, to after questioning has already begun.

Enhancing Deep-Level Learning

Consistent with Chinn and Brewer's (1993), Enwhistle's (2000) and Brophy's (2004) recommendations for facilitating deep-level learning, the *Miranda* Rights Educational Curriculum requires students to justify their responses during the discussion components and encourages active participation by the audience. Furthermore, several strategies are used to increase the personal salience of the curriculum. First, a well-liked student from the school, pre-chosen by faculty and staff, is used to portray the role of the suspect. Second, students are told that the crime occurred in a local park and that the victim is same-aged peer from a specific, neighboring school. Third, the police officer uses strategies that bare personal relevance to youth (e.g., refusing to cooperate will disappoint friends and parents, refusal to cooperate will prevent youth from obtaining life-long goals such as completing high school or going to college).

Furthermore, the curriculum includes a "reflective activity." Davis (2004) argued that to facilitate cognitive accommodation, teachers should provide students with "time to reflect on and reconcile differences between their conceptions and the target theory" (p. 11). She further argued that teachers should incorporate "reflective activities" into lessons that are designed to reinforce key components of the theory.

The purpose of the fourth didactic/discussion component is to reinforce key aspects about the content, significance, and function of the *Miranda* warnings. At this stage of the curriculum, many students will have gained a basic understanding of the content of the *Miranda* warnings and how these warnings function in the context of a police interrogation. However, we theorize that despite this increase in factual understanding, many students will continue to struggle with the decision to assert rights. We attribute this "struggle" to the fact that the decision to assert rights contradicts students' ontological beliefs about the relationship between children and adults and the morality of confessions. These beliefs include: (a) "When personal safety is at risk, cooperation with authority is in my best interests;" (b) "Further harm may come to me if I refuse to cooperate with authority;" and (c) "Doing 'the right thing' requires cooperating with authority." Given this entrenched system of beliefs, rights assertion will continue to carry a negative connotation for many students; youth may assume that asserting rights will lead to negative consequences for them and equate rights assertion with doing something wrong.

To challenge these beliefs, the narrator will ask students to imagine living in a country in which criminal suspects did not have these rights. The narrator will ask the

audience to speculate about what could happen to suspects during a police interrogation if these rights were not safeguarded.

Thus, the rationale for the fourth component is two-fold. First, students will learn that the primary function of these warnings is not to obscure the truth (i.e., by providing guilty suspects with a way to "get off"). Rather, these rights serve *to protect the truth* (i.e., by ensuring that confessions are not merely the fruits of coercion, by protecting suspects from cruel and unusual interrogation procedures). Second, students will learn that these rights serve to protect the suspect from harm (i.e., by the limiting scope of strategies police can employ to elicit confessions).

Method

The Current Study

In conclusion, we argue that the development of legal reasoning involves both quantitative changes in the individual's repertoire of legal facts, as well as qualitative changes in the individual's legal, problem-solving framework. Importantly, we did not wish to suggest that students who completed an hour-long educational program would become advanced legal reasoners, prepared to deal with whatever complex legal dilemmas they might encounter. As previously discussed, physical and social maturation during adolescence play critical roles in the development of legal reasoning. Indeed Turiel (1974) noted that the progression of abstract reasoning requires exposure to diverse perspectives and experiences. Thus, transition to the higher stages of reasoning often does not occur until late adolescence, a time characterized by greater exposure to, and participation in, autonomous experiences[3].

[3] Notably, Rachel Kalbeitzer addressed the roles of social and physical maturation in the progression of legal reasoning in her dissertation as a second part to the proposed study.

Furthermore, we did not wish to suggest that the curriculum would stimulate radical changes in judgment that would manifest in various decision-making contexts. Rather, one purpose of the current study was to determine whether or not the curriculum could stimulate s*ome* change in students' valuation of and beliefs about the efficacy of rights; a purpose of the current study was to consider the role of cognitive conflict as one potential factor mediating the development of legal reasoning.

Hypotheses

The primary objective of this study was to evaluate the effectiveness of the *Miranda* Rights Educational Curriculum for youth ages 10 through 16. This study also considered whether youths' comprehension of and capacity to reason about the *Miranda* warnings improved differentially across age groups.

Furthermore, this study investigated the effect of age on legal learning. In general, we expected that levels of comprehension and appreciation of rights would vary differentially across age groups with 15 and 16 year olds achieving the highest scores at pre- and post-test, and 10 to 12 year olds achieving the lowest scores at pre- and post-test. Based on research, we predicted that 10 to12 year olds would have the lowest initial scores of all the age groups and, therefore, would have the greatest room for improvement (Grisso, 1981; Grisso et al., 2003). Thus, we hypothesized that 10 to 12 year olds would display the greatest quantitative increases in comprehension and factual understanding, followed by the 13 and 14 year olds, followed by the 15 and 16 year olds. However, as 15 and 16 year olds are psychosocially (e.g., Grisso et al., 2003) and cognitively (e.g., Scott & Grisso, 2004) more advanced, we hypothesized

this age group would be more likely to display improvements in the appreciation and valuation of the *Miranda* warnings. Thus, we hypothesized that 15 and 16 year olds would display the greatest improvements in appreciation of the *Miranda* rights as well as the capacity to recognize and assess the severity of potential, long-term risks of waiver/assertion decisions, followed by the 13 and 14 year olds, followed by the 10 to 12 year olds.

Participants

Participants were 64 students (26 boys, 38 girls) ages 10 through 16, from grades 5 through 10, at a private, co-educational, college preparatory school in the Mid-Atlantic region. The majority of participants were Caucasian (85.9%), followed by African American and Asian (both 4.7%), and other ethnicity (1.2%). The average Verbal IQ score for the entire sample was in the Superior Range, (M=119.5; SD=11.47; range 90-143), with no significant differences in IQ scores across age groups, F (2, 57) = 2.60, p =.083 (10 to 12 year olds, M=116.0, SD=11.57; 13 and 14 year olds, M=123.5, SD=10.71; and 15 and 16 year olds M=118.1, SD=11.47). Four students were absent the day of the assembly (one 12 year old, two 14 year olds, and one 15 year old); therefore, these students did not complete the post-test assessment battery.

For the purposes of data evaluation, participants were classified into three groups based on age: 10 to 12 year olds, 13 and 14 year olds, and 15 and 16 year-olds. This age-based classification structure is consistent with previous research investigating youths' *Miranda* comprehension (Grisso, 1981) and legal decision-making capacities (Grisso et al., 2003).

Measures

Miranda Rights Comprehension Instruments – II (*MRCI-II*) (Goldstein, Condie, & Grisso, in preparation). An updated version of Grisso's (1998) *Instruments for Assessing Understanding and Appreciation of Miranda Rights*, the *MRCI-II* are used to assess the examinee's knowledge, understanding, and appreciation of the *Miranda* warnings. Originally developed for research purposes, the *Instruments for Assessing Understanding and Appreciation of Miranda Rights* (Grisso, 1998) have been widely used in clinical contexts to evaluate defendants' capacities to waive their *Miranda* rights (Grisso, 1998). The revised instruments reflect the following changes: First, the language used in the instruments has been updated to reflect the current version of the *Miranda* warning commonly used in jurisdictions across the United States. Notably, the language used in the original instruments reflected the 1970's version of the *Miranda* warning. Second, a fifth *Miranda* prong was added to the revised instruments. This prong states that a suspect may stop questioning at any time to request an attorney (Oberlander, 1998). When the original instruments were developed, a typical *Miranda* warning contained four prongs. Third, a fifth instrument, *Perceptions of Coercion during the Holding and Interrogation Process (P-CHIP)*, has been added to examine a juvenile's self-reported likelihood of offering a false confession in response to police interrogation strategies[4].

The *MRCI-II* is comprised of the following, five instruments:

(1) Comprehension of Miranda Rights-II (CMR-II). This instrument assesses adolescents' understanding of the standard *Miranda* warning. The examiner reads

[4] Notably, this measure was primarily used to address a separate research question (in a proposed study by Heather Kestner Green).

each warning aloud and asks the examinee to explain the warning in his own words. Scores on the *CMR-II* range from 0 to 10 points. Responses are scored according to standardized criteria to determine if the adolescent's responses are adequate (score of 2), questionable (score of 1), or inadequate (score of 0).

(2) Comprehension of Miranda Rights-Recognition-II (CMR-R-II). This instrument asks the examinee to identify statements as semantically the same or different from each *Miranda* warning. This instrument assesses the adolescent's understanding of the *Miranda* rights without reliance on verbal expressive abilities. Scores on the CMR-R-II range from 0 to 15. Correct responses are awarded 1 point each. Incorrect responses are awarded 0 points.

(3) Function of Rights in Interrogation (FRI). This instrument uses hypothetical vignettes to assess the examinee's perception of the function and significance of the *Miranda* warnings within the context of legal proceedings. The examinee is presented with four pictures that depict scenarios commonly experienced by criminal defendants. The examiner reads four hypothetical vignettes which correspond to the pictures. The examinee is asked 15 standardized questions to assess appreciation of the warnings across three subscales: (1) Nature of Interrogation Subscale (NI) (i.e., assesses the examinee's perceptions of the role of the police and the suspect in interrogation), (2) the Right to Counsel Subscale (RC) (i.e., assesses the adolescent's perception of the role of the attorney in legal proceedings), and (3) Right to Silence Subscale (RS) (i.e., assesses the adolescent's perception of the significance of the right to silence and the degree to which this right limits the discretionary power of legal authorities. Responses are scored 0 (inadequate

response), 1 (questionable response), or 2 (adequate response), with a possible total score ranging from 0 to 30.

(4) Comprehension of Miranda Vocabulary-II (CMV-II). The *CMV-II* assesses the examinee's understanding of specific words in the *Miranda* warning (e.g., silence, attorney, interrogation). The examiner states the word, uses the word in a sentence, and states the word again. The examinee is then asked to give the meaning of each word. Responses are scored as adequate (score of 2), questionable (score of 1), or inadequate (score if 0). Total scores range from 0 to 36.

(5) *Perceptions of Coercion during the Holding and Interrogation Processes (P-Chip).* This instrument assesses the examinees' self-reported likelihood of offering a false confession during interrogation. The examiner reads a hypothetical vignette to the examinee about a boy who reports that he was mugged by an individual of the examinee's age and gender; the examinee is then asked to pretend he is the juvenile in the story. Next, the examiner adds hypothetical information about police interrogation behaviors to the original scenario. These hypothetical police behaviors are based on interrogation tactics outlined in popular police training manuals. Following each hypothetical scenario, the examiner asks the examinee to rate the suspect's stress level and the likelihood that the suspect will offer a confession if he is either guilty or not guilty of a crime. Specifically, the *P-CHIP* is comprised of 3 subscales:

a. Subscale 1 (True Confessions): This subscale is designed to assess the examinee's self-predicted response to the police if the suspect is guilty of the crime. Three options are provided: say nothing to the police (score of

2), talk to police but not about the crime (score of 1), or talk to the police about the crime (score of 0). Total scores range from 0 to 52.

b. Subscale 2 (Stress): This subscale is designed to assess the examinee's self-predicted stress level to the 26 hypothetical interrogation practices of the police. Stress level is measured on a scale of 1 (very relaxed) to 6 (very stressed). Total scores range from 26 to 156.

c. Subscale 3 (False Confessions): This subscale assesses the examinee's self-reported likelihood of offering false confessions in response to series of hypothetical police interrogation tactics. Scores from each item range from (1 will definitely not offer a false confession) to 6 (will definitely offer a false confession). Total scores range from 26 to 56.

Test-retest reliability was established for each of the *MRCI-II* instruments (Goldstein, Condie, Kalbeitzer, Mesiarik, & Grisso, in preparation). Test-retest reliability for each component of the *MRCI-II* instruments was as follows: (a) *CMR-II* ($r = .61$, $p < .01$); (b) *CMR-R-II* ($r = .75$, $p < .01$); (c) *FRI* ($r = .58$, $p < .01$); (d) *CMV-II* ($r = .77$, $p < .01$); (e) *P-CHIP*, Part A ($r = .76$, $p < .01$); (f) *P-CHIP*, Part B ($r = .71$, $p < .01$); and (g) *P-CHIP*, Part C ($r = .77$, $p < .01$) (Goldstein, Condie, Kalbeitzer, Mesiarik, & Grisso, in preparation).

Goldstein and colleagues (in preparation) established inter-rater reliability for the *CMR-II*, *CMV-II*, and *FRI*. Interclass correlation (ICC) was used to measure inter-rater reliability for each of the instruments. The Kappa coefficient reflects the amount of agreement obtained after removing the amount of agreement expected to occur by chance. Specifically, for the *CMR-II*, an ICC of .97 was obtained, and the average

Kappa coefficient for the individual *CMR-II* items was .95. For the *CMV-II*, an ICC of .98 was obtained, and the average Kappa coefficient for the *CMV-II* items was .93. For the *FRI*, an ICC of .99 was obtained, and the average Kappa coefficients for the individual *FRI* items was .98.

Goldstein and colleagues (in preparation) established content validity on the basis that the wording used and scenarios depicted in the instrument parallels common versions of the *Miranda* warnings used throughout the country and common police interrogation situations. Furthermore, Goldstein, and colleagues (2003) established construct validity by the examining relationship between *Miranda* comprehension and intelligence and age. Regression analyses indicated that Verbal IQ and age independently predicted *Miranda* comprehension (b_{age} = .07, SE_{age} = .02, $p < .01$; b_{VIQ} = .01, SE_{VIQ} = .002, $p < .01$) (Goldstein, Condie, et al., 2003).

Judgment in Legal Contexts Instrument (*JILC*; Woolard, Repucci, Steinberg, Grisso, & Scott, 2003). Developed specifically for the MacArthur Juvenile Adjudicative Competence Study, the *JILC* is intended to assess decision making in the context of three legal circumstances that commonly face criminal defendants (i.e., police interrogation, consultation with an attorney, and plea negotiation). This instrument has two objectives: (a) to assess examinees' choices in three legal decision contexts often facing defendants, and (b) to identify and examine their explanations for those choices according to several dimensions of psychosocial maturity (Woolard, 2003).

The examiner reads three vignettes to the examinee describing: (a) a police interrogation, (b) consultation with an attorney, and (c) plea negotiation. Only the

police interrogation vignette was used in this study. In the police interrogation vignette, a suspect is questioned by the police. The suspect is described as having been a lookout for others during a crime. The police officers ask the suspect to waive the right to silence. After presenting the vignette, the examinee is asked to recommend the best and worst course of action for the defendant from a list of three possible responses (confessing to the offense, denying the offense, and refusing to speak).

The examinee's reasons for the "best" and "worst" choices for the suspect are then scored according to three variables associated with the construct of psychosocial maturity: risk orientation, future orientation, and resistance to peer influence. As previously argued, resistance to peer influence may not be directly relevant to the decisions adolescents make about whether or not to waive their *Miranda* rights. Thus, this variable was not included in the present study[5].

In general, Risk Orientation assesses the examinee's ability to identify potential risks and to assess the likelihood that those risks will occur. Participants are asked to identify all positive and negative consequences of each best and worst choice recommendation, and the unpleasantness of those risks. Risk Orientation is comprised of two variables *Risk Recognition* and *Risk Appraisal*.

Risk Recognition is based on questions about the best and worst choices in each vignette. Participants are to identify the potential positive and negative

[5] In general, while each vignette yields future recognition, risk recognition, and risk appraisal scores, total scores for these variables are calculated by averaging the individual scores across the three vignettes. As we were only concerned with assessing participants' legal decision making skills during a police interrogation and, thus, only administered the police interrogation vignette, total scores for these variables could not be calculated. Rather, future recognition, risk recognition, and risk appraisal scores solely reflected the participants' responses to the police interrogation vignette.

consequences of each best and worst choice. The "Risk Recognition 1" score (R-Rec1) represents the total number of risks identified for the examinee's best and worst choice for the defendant in the vignette. The "Risk Recognition 2" score (R-Rec2) represents the percentage of a person's total consequences (both positive and negative) that were negative. Higher R-Rec1 and R-Rec2 scores indicate greater recognition of potential risks in legally relevant situations.

Risk Appraisal is comprised of two scores: the "Risk Appraisal 1" score (R-App1) and the "Risk Appraisal 2" score (R-App2). The R-App1 score indicates the examinee's self-reported likelihood that potentially negative consequences will occur. Responses are scored according to a 4 point scale, "anchored by the positive outcome definitely happening (1 pt) and the negative outcome definitely happening (4 pts)" (Woolard, 2003 p. 12).

The R-App2 score measures the examinee's rating of how unpleasant negative consequences would be if they did occur. To rate the unpleasantness of negative consequences, examinees use a four point scale, ranging from "okay" (1 pt.) to "very bad" (4 pts).

Future Orientation is assessed by coding all of the risks identified by each participant as reflecting the short- or long-range nature of their consequences. Future Orientation is comprised of 3 variables, "Future Recognition 1" score (F-Rec1), "Future Recognition 2" score (F-Rec2), and "Future Recognition 3" score (F-Rec3).

Using the examinee's best and worst choices responses, the examiner asks the examinee to list the potential positive and negative consequences of those choices. The F-Rec1 score represents the total number of long-term consequences (defined as

consequences that would occur several days after the choice was made) identified for both the best and worst choices in the vignette. The F-Rec2 score represents the percentage of a examinees total consequences (short- and long-term) that are long term consequences.

To obtain the F-Rec3 score, participants are asked to provide the main reason why their best choice is better than their worst choice for the vignette. This reason is codified as reflecting short or long-term consequences.

Wechsler Abbreviated Scale of Intelligence (*WASI*; Psychological Corporation, 1999). The *WASI* is a standardized measure of intellectual functioning (The Psychological Corporation, 1999). Although the *WASI* measures both Verbal IQ and Performance IQ, as verbal skills are of primary relevance to *Miranda* comprehension, only the verbal subtests were administered: (a) Vocabulary (i.e., measures an individual's expressive vocabulary and verbal knowledge), and (b) Similarities (i.e., measures an individual's conceptual verbal understanding, abstract reasoning ability, and general intellectual ability) (The Psychological Corporation, 1999).

Interrater reliability of the *WASI* verbal scales is excellent: Vocabulary, r = .98; Similarities, r = .99 (The Psychological Corporation, 1999). Test-retest reliability of the *WASI* Verbal IQ is also excellent (r = .92) (The Psychological Corporation, 1999).

Content validity was established using verbal IQ scores from the *WASI,* the *Wechsler Intelligence Scale for Children – Third Edition (WISC-III)* (The Psychological Corporation, 1991) and the *Wechsler Adult Intelligence Scale – Third*

Edition (WAIS-III) (The Psychological Corporation, 1997). Correlations between *WASI* Verbal IQ and Verbal IQ from these instruments were, r = .82 and r= .88, respectively (The Psychological Corporation, 1999)

The Psychological Corporation (1999) established construct validity by calculating correlations between the individual *WASI* subtests and the general IQ scales. Correlations between the Similarities and Vocabulary subsections were high (r = .75). Additionally, correlations between Verbal IQ score and the Similarities scaled score and between the Verbal IQ scores and Vocabulary scaled score were also high, r = .93 and r = .94 respectively.

Miranda Rights Misconceptions Inventory (MRMI). The *MRMI* is an eight-item, true-false questionnaire assessing common misconceptions about the *Miranda* rights and the interrogation procedure. This instrument primarily served as a fidelity check to ensure that participants acquired certain basic concepts (e.g., that defendants can end interrogations by requesting a lawyer, that the *Miranda* rights apply to both adult and child defendants, etc.) As the inventory was created specifically for this study, no psychometric information can be provided.

Demographic Questionnaire. Participants were asked to provide information about age, race, and the source of any previous exposure to the *Miranda* warnings (e.g., television, movies, parents, etc.).

*Measures Administered but Not Used in the Proposed Study***.** In addition to the measures described in this section, participants were administered the *Gudjonsson Suggestibility Scale (GSS)* which measures an individual's susceptibility to suggestion and interrogative pressure. However, as these measures were used to

address a separate research question (in a proposed study by Heather Kestner Green), we did not discuss the instrument here in detail.

Procedures

IRB approval was obtained for this study prior to implementing the following procedures. We conducted two school assemblies, one for the 5th, 6th, 7th, and 8th graders, and one for the 9th and 10th graders. For each assembly, the role of the "suspect" was played by a pre-selected student from the target audience. At each assembly, information provided about the ages of the suspects and victim was varied to correspond with the mean age of the target audience. Although the same person performed the role of the narrator in both assemblies, due to scheduling conflicts, different individuals performed the role of the police officer in the middle and upper school assemblies. The individuals who performed in the assemblies did not administer pre- or post- assessments.

Participants were recruited in the following ways: (1) Project staff provided information about the project to interested parents at Middle and Upper School-sponsored events (e.g., parent/teacher meetings, sporting events, musical events, other extracurricular activities that parents attend); and (2) Teachers informed students about the possibility of participating in the study and provided them with an informational letter to take home to parents, which is the standard, school procedure for relaying information to parents. Parents contacted project staff if they were interested in having their child participate. Parental consent and youth assent were required for students to participate in the study.

This research project is divided into two primary studies. The current study, examining the short-term efficacy of the *Miranda* Rights Educational Curriculum, had two assessment periods, one prior to the educational assembly and one after the assembly. A follow-up assessment was conducted one year later, as part of the second study, to examine the longer-term efficacy of the curriculum and the impact of maturation on *Miranda* comprehension and legal decision-making skills.

For the pre-assembly assessment, students were individually tested anywhere from three weeks to one-day prior to the assembly. The pre-test evaluation lasted approximately 135 minutes. The following instruments were administered in the following order: (1) *MRCI-II*, (2) *WASI*, (3) *JILC*, (4) *Miranda Rights Misconceptions Inventory*, and (5) demographic questionnaire. The demographic questionnaire and the *Miranda Rights Misconceptions Inventory* were administered at the end of the battery to avoid familiarizing participants with the *Miranda* rights prior to their completing the *MRCI-II* and the *JILC.*

For the post-assembly assessment, students were individually tested anywhere from one-day to three weeks after the assembly. Each evaluation lasted approximately 90 minutes. The following instruments were administered in this order: (1) *MRCI-II*, (2) *JILC*, and (3) *Miranda Rights Misconceptions Inventory*.

Per the suggestion of the school administration, participants were evaluated during school hours (during study halls, lunch periods, and designated class-times), and after school.

Undergraduate and graduate research assistants were trained in the administration and scoring of each of the instruments. Research assistants were

required to attend four training workshops and to demonstrate inter-rater reliability on all assessment tools. All assessments were scored independently by two raters. To limit the effects of experimenter bias, assessments were not scored by the primary investigators,

Results

Data Analysis

Univariate analyses of variance (ANOVAs) were used to evaluate the relationships between age and each dependent variable [i.e., overall *Miranda* comprehension (measured by Overall *Miranda* Comprehension score[6]), appreciation of rights (measured by Function of Rights in Interrogation score), factual understanding of rights (measured by Factual Understanding score[7]), identification of long-range consequences of waiver/assertion decisions (measured by Future Recognition score), identification of potential risks of waiver/assertion decisions (measured by Risk Recognition score), and appraisal of risk severity (measured by Risk Appraisal score)] at pre-test, with age group as the between subjects factor. These analyses allowed us to compare results of the current study with results from

[6] Overall *Miranda* Comprehension score is a weighted average of the *CMR-II*, *CMR-R-II*, and *FRI* scores, the instruments that focus most globally on understanding of *Miranda* rights. Although it is not recommended to aggregate these scores for clinical use, the scores may be combined for research purposes (Goldstein, Condie, et al., 2003).

[7] Factual Understanding score is a weighted average of the *CMR-II*, *CMR-R-II*, and *CMV-II*. The Factual Understanding score differs from the Overall *Miranda* Comprehension score in that youth's Overall *Miranda* Comprehension scores include the *FRI,* which measures youths' appreciation of the *Miranda* rights, as well as general factual knowledge about rights. Thus, while the Overall *Miranda* Comprehension score captures a youth's understanding of the content and application of the rights in a more holistic, conceptual sense, understanding scores primarily reflect the youth's factual knowledge of the *Miranda* rights. This distinction is important for our purposes, as we expected that, although younger adolescents would gain factual knowledge from the curriculum, gains in appreciation of the *Miranda* warnings would be more limited.

previous studies investigating the relationships between age, *Miranda* comprehension, and the decision to waive or assert rights (e.g, Grisso, 1981).

A series of 3 x 2 repeated measures ANOVAs were used to evaluate changes in each dependent variable as a result of the curriculum. In each analysis, age group served as the between subjects factor, and time (pre- and post-test) served as the within subjects factor. Additionally, effects sizes (Cohen's *d*; Cohen, 1988) were calculated for all analyses.

Finally, descriptive analyses were performed on individual items from the *MRCI-II* to (a) identify relative strengths and weaknesses of the curriculum, (b) identify common areas of misunderstanding for the participants, and (c) compare the performance of our participants on specific items of the *MRCI-II* to the performance of participants from previous studies (i.e., Grisso, 1981; Goldstein et al., 2003) on these same items.

Results for the Miranda Rights Comprehension Instruments - II (MRCI-II)

Table 1: Mean Scores and Standard Deviations for the MRCI-II by Age at Pre- and Post-test

	10-12 year olds		13 & 14 year olds		15 & 16 year olds	
	Pre (N=20)	Post (19)	Pre (24)	Post (22)	Pre (19)	Post (18)
Comprehension (CMR-II)	5.63 (*SD*=2.89)	8.63 (1.71)	8.29 (1.76)	9.5 (.51)	8.95 (1.13)	9.72 (.75)
Recognition (CMR-R-II)	10.53 (2.89)	12.05 (1.13)	13.13 (1.45)	13.23 (.87)	12.89 (1.24)	13.22 (1.11)
Function of Rights in Interrogation (FRI)	21.16 (3.71)	24.26 (3.86)	23.71 (3.26)	25.91 (2.86)	25.5 (2.88)	26.72 (2.47)
Vocabulary (CMV-II)	24.58 (5.33)	29.22 (4.73)	31.42 (2.63)	31.91 (2.87)	32.68 (2.06)	32.89 (2.42)
Factual Understanding Score	1.29 (.31)	1.66 (.18)	1.72 (16)	1.81 (.05)	1.77 (09)	1.84 (.10)
Overall *Miranda* Comprehension Score	1.30 (.31)	1.65 (.19)	1.66 (.17)	1.80 (.08)	1.72 (.11)	1.83 (.11)

Table 2: Effect Sizes for Changes in the MRCI-II by Age

	10-12 yr olds	13 & 14 yr olds	15 & 16 yr olds
CMR-II	1.3	1.1	.82
CMR-R-II	.76	.10	.28
FRI	.82	.73	.45
CMV-II	.92	.18	.02
Factual Understanding Score	1.5	.9	.78
Overall *Miranda* Comprehension Score	1.4	1.08	1.0

Overall Miranda comprehension (Overall Miranda Comprehension score). At pre-test, younger youth displayed lower Overall *Miranda* Comprehension scores than did older youth, F (2, 62) = 23.26, $p < .001$. Post-hoc comparisons indicated that 10 to12 year olds had significantly lower Overall *Miranda* Comprehension scores than did either the 13 and 14 or 15 and 16 year olds. Although 13 and 14 year olds had lower Overall *Miranda* Comprehension Scores than 15 and 16 year olds, the difference between the two age groups was not significant (see Table 1).

As illustrated in Figure 1, from pre- to post-test, each age group demonstrated improvement in overall *Miranda* comprehension. Consistent with the prediction that overall *Miranda* comprehension would improve as a result of the curriculum and that these improvements would vary by age, a repeated measures ANOVA revealed a main effect of time, F (1, 56) = 72.01, $p < .001$. As expected, the repeated measures ANOVA also revealed a main effect of age, F (1, 56) = 6724.70, $p < .001$, and a significant time by age interaction F (2, 56) = 10.86, $p < .01$. The effect sizes of change from pre- to post test were 1.4 (very large) for the 10 to 12 year olds, 1.08 (large) for the 13 and 14 year olds, and 1.0 (large) for the 15 and 16 year olds (see Table 2).

Post-hoc comparisons indicated that, on average, 10 to 12 year olds displayed significantly more improvement than did either the 13 and 14 or 15 and 16 year olds. Despite larger gains, however, their mean Overall *Miranda* Comprehension score at post-test remained lower than the mean Overall *Miranda* Comprehension scores of both the 13 and 14 and 15 and 16 year olds at pre-test.

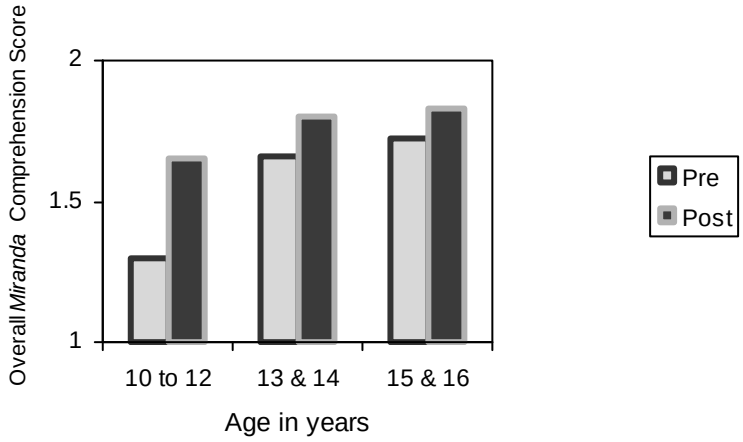

Figure 1. Improvements in Overall *Miranda* Comprehension Scores by Age

Appreciation of Miranda rights (Function of Rights in Interrogation score). At pre-test, younger youth demonstrated less appreciation of the *Miranda* rights, F (2, 62) = 9.14, $p < .001$. Post-hoc comparisons indicated that, on average, 10 to 12 year olds displayed significantly lower *FRI* scores than did either the 13 and 14 or 15 and 16 year olds. Although the 13 and 14 year olds scored an average of 1.79 points lower than the 15 and 16 year olds, the difference was not significant (see Table 1).

As illustrated in Figure 2, from pre- to post-test, each age group demonstrated improvement in appreciation scores. The repeated measures ANOVA revealed main effects of time, F (1, 56) = 22.52, $p < .001$, and age, F (2, 56) = 8.35, $p = .001$, but no significant time by age interaction, F (2, 56) = 1.81, $p = .173$. Effect sizes of change from pre- to post test were .82 (large) for the 10 to 12 year olds, .73(medium) for the 13 and 14 year olds, and .45 (small) for the 15 and 16 year olds.

Although 10 to 12 year olds displayed the greatest improvement from pre- to post-test, they continued to score lower than did either 13 and 14 or 15 and 16 year olds at post-test (see Figure 2).

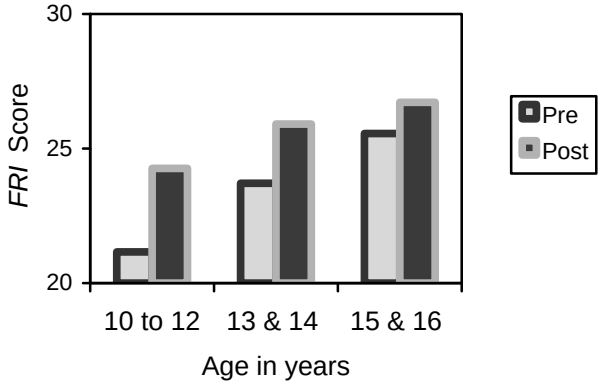

Figure 2. Improvements in *FRI* Scores by Age

Factual understanding of Miranda rights (Factual Understanding score). At pre-test, younger youth displayed poorer factual understanding of rights than did older youth, F (2, 60) = 33.00, $p < .001$. Post-hoc comparisons indicated that, on average, the 10 to12 year olds demonstrated significantly poorer factual understanding than did either the 13- and 14- or 15- and 16-year-old youth. Although the 13 and 14 year olds displayed poorer Factual Understanding scores than the 15 and 16 year olds, the difference was not significant (see Table 1).

Consistent with the prediction that factual understanding of *Miranda* rights would improve as a result of the curriculum and that these improvements would vary by age, the repeated measures ANOVA revealed main effects of time, F (1, 56) = 55.65, $p < .001$, and age, F (2, 56) = 28.19, $p = .001$, and a significant time by age interaction, F (2, 56) = 13.92, $p < .001$. Effect sizes of change from pre- to post-test were 1.5 (very large) for the 10 to 12 year olds, .9 (large) for the 13 and 14 year olds, and .8 (large) for the 15 and 16 year olds (see Table 2).

Post-hoc comparisons indicated that, on average, 10 to 12 year olds displayed significantly greater improvement in factual understanding than did either the 13 and 14 or 15 and 16 year olds. Despite significantly greater gains, on average, 10 to 12 year olds continued to score lower than either the 13 or 14 year olds or 15 and 16 year olds at pre-test (see Figure 3).

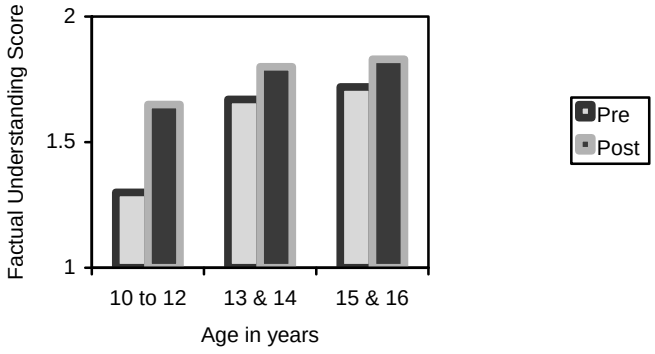

Figure 3. Improvements in Factual Understanding Scores by Age

Results for Specific MRCI-II Instruments

CMR-II. On the *CMR-II*, a repeated measures ANOVA revealed a main effect of time, F (1, 57) = 51.26, p = .001, and age, F (2, 57) = 13.80, p < .001, and a significant time by age interaction, F (2, 57) = 7.81, p =. 001. Effect sizes of change from pre- to post-test were 1.3 (very large) for 10 to 12 year olds, 1.1 (very large) for the 13 and 14 year olds, and .82 (large) for 15 and 16 year olds (see Table 2).

Post-hoc comparisons revealed that, on average, 10 to 12 year olds demonstrated significantly greater improvement in their abilities to paraphrase each *Miranda* right than did either the 13 and 14 or 15 and 16 year olds. Despite

significantly greater gains, on average, 10 to 12 year olds continued to score lower than either the 13 or 14 or 15 and 16 year olds at pre-test (see Figure 4).

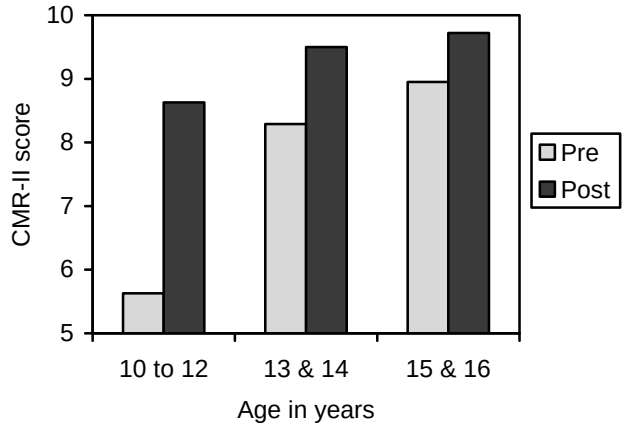

Figure 4. Improvements in *CMR-II* Scores by Age

The percentage of youth earning perfect scores (Grisso's absolute standard of *Miranda* comprehension) on all items of the *Miranda* warning more than doubled (from 26.6% to 58.3%). The percentage of youth earning perfect scores on items I through IV [8] increased from 34.4% to 60.0%; thus, the percentage of youth in the current study who earned perfect scores on items I through IV on the *CMR-II* at post-test, surpassed the percentage of adults who earned perfect scores on the same instrument in Grisso's (1981) study (60% versus 42.3%) (see Table 3)[9].

[8] When Grisso investigated youths' and adults' understanding of the *Miranda* rights in 1981, there were only four prongs to the *Miranda* warning; thus, in order to compare our results to Grisso's, only the responses to the first four *Miranda* rights were examined. Furthermore, the wording of the *Miranda* warnings studied in Grisso's investigation differs from the current wording. Thus, the percentages here are intended to provide a basic comparison between Grisso's results and results from the current study; more specifically, we have made these comparisons to provide the reader with a context in which to understand our results.

[9] Although some very basic comparisons with Goldstein et al.'s (2003) results are made in the discussion section, the level of specificity needed to include Goldstein et al.'s results in Table 2 was not available in the 2003 journal article.

Table 3: Comparison of the Current CMR-II Data with Grisso's (1981) CMR Data

	Grisso (1981)		Current Study	
	Community Adults (N=260)	Detained Juveniles (N=431)	Community Juveniles (N=64, 58)	
			Pre	Post
Perfect scores (I-IV)	42.3%	20.9%	34.4%	60.0%
Perfect scores (I-V)			26.6%	58.3%
Adequate Responses (2 pt)				
Silence	88.5%	89.3%	75.0%	86.7%
Used Against	68.1%	63.1%	56.3%	88.3%
Attorney	66.5%	29.9%	57.8%	85.0%
Appointed	85.4%	85.6%	68.8%	90.0%
Stop questioning			60.9%	93.3%
Inadequate Responses (0 pt)				
Silence	5.0%	8.8%	9.4%	5.0%
Used Against	8.5%	23.9%	10.9%	1.7%
Attorney	14.6%	44.8%	14.1%	1.7%
Appointed	3.1%	4.9%	12.5%	3.3%
Stop questioning			12.5%	1.7%

FRI. Results of the repeated measures ANOVA for *FRI* score are reported in the subsection labeled, "*Appreciation of Miranda rights (Function of Rights in Interrogation score).*" Consistent with prior research (e.g., Grisso, 1981), all age groups at pre-test appeared to have the basic understanding that an interrogation was adversarial, earning mean NI subscale scores of 8.80, 8.46, and 8.89 (out of a possible 10 points) respectively (see Table 4). On the RC subscale, which measures an examinee's perception of the role of the attorney in legal proceedings, at both pre- and post-test, youth most frequently misunderstood the reason that an attorney would want his client to disclose information about the crime (28% earned inadequate scores at pre-test, and 13.3% earned inadequate scores at post-test on this item). In general, youth had the greatest difficulty with the RS subscale, which measures an examinee's understanding of the function and durability of the right to silence. Sixty-five percent of participants at pre-test believed that even if they were to invoke the right to silence

during interrogation, a judge could force them to talk about the crime in court. Furthermore, a substantial number of participants (38.1%) believed that the police could continue to pressure a suspect to talk about the crime even after the suspect had invoked the right to silence.

Table 4: Mean FRI Scores by Age at Pre- and Post-test

	10 to 12 year olds		13 & 14 year olds		15 & 16 year olds	
	Pre (N=20)	Post (19)	Pre (24)	Post (22)	Pre (19)	Post (18)
Nature of interrogation	8.80 (1.06)	9.45 (.83)	8.46 (1.80)	8.73 (1.40)	8.89 (1.40)	9.28 (.83)
Right to counsel	7.70 (1.98)	8.70 (1.56)	8.67 (1.37)	9.59 (.80)	9.42 (1.8)	9.67 (1.9)
Right to silence	4.45 (2.42)	6.00 (2.27)	6.63 (1.84)	7.55 (1.92)	7.00 (1.8)	7.67 (1.9)

For the RS subscale, repeated measures ANOVA revealed a main effect of time, F (1, 57) = 14.3, p = .001, and age, F (2, 57) = 32.03, p < .001, and a significant time by age interaction. Post-hoc comparisons indicated that 10 to 12 year olds displayed significantly greater improvement on the RS subscale than did either the 13 and 14 or 15 and 16 year olds. Despite larger gains, they continued to score lower than both the 13 and 14 and 15 and 16 year olds at pre-test (see Figure 4).

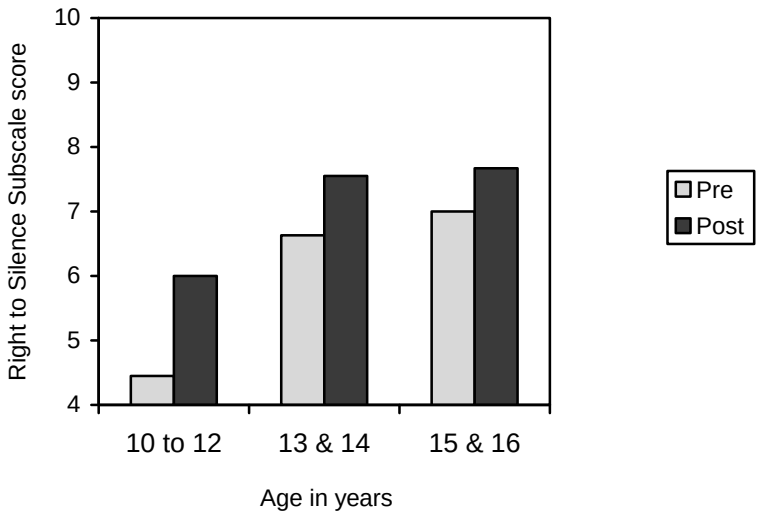

Figure 5. Improvements in RS Subscale Scores by Age

Although some participants improved in their understanding of these concepts following the assembly, many continued to struggle with these items at post-test. Specifically, 42% of participants continued to believe that a judge could force a juvenile suspect to offer self-incriminating information in court, and 24% of participants continued to believe that the police could pressure the suspect to talk, even after the suspect had invoked his rights.

CMR-R-II and CMV-II. In general, youth displayed more limited, although still significant, gains on the *CMR-R-II*, which assesses an examinee's ability to identify statements as semantically the same or different from each *Miranda* warning, and on the *CMV-II*, which measures an examinee's understanding of *Miranda* vocabulary. On the *CMR-R-II*, a repeated measures ANOVA revealed a main effect of time, F (1, 57) = 9.40, p = .003, and age, F (2, 57) = 21.10, p < .001, and a significant time by age interaction, F (2, 57) = 4.53, p < .015. Effect sizes of change

from pre- to post-test were .76 (medium) for the 10 to 12 year olds, .1 (small) for the 13 and 14 year olds, and .28 (small) for the 15 and 16 year olds (see Table 2).

Post-hoc comparisons indicated that, on average, 10 to 12 year olds displayed significantly greater improvement than did either the 13 and 14 or 15 and 16 year olds (see Figure 6).

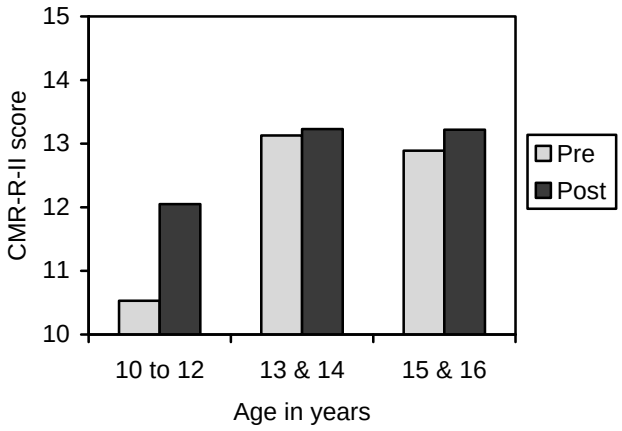

Figure 6. Improvements in *CMR-R-II* Scores by Age

Upon closer examination, many youth believed that an attorney and a social worker performed the same function. In fact, the number of youth equating a social worker with an attorney *increased* from pre- to post-test; 45 % of participants responded that "You have the right to speak to a lawyer" meant the same thing as "You have the right to speak to a social worker" at pre-test, and 75% endorsed this statement at post-test.

On the *CMV-II*, youth provided more accurate definitions of each word at post-test than at pre-test; a repeated measures ANOVA revealed a main effect of time, F (1, 56) = 11.85, p = .001, and age, F (2, 56) = 20.58, p < .001, and a significant time by age interaction, F (2, 56) = 7.22, p = .002. Effect sizes of change from pre- to

post-test were .92 (large) for the 10 to 12 year olds, .18 for the 13 and 14 year olds (small), and .02 (small) for the 15 and 16 year olds (see Table 2).

Post-hoc comparisons indicated that, on average, 10 to12 year olds displayed significantly greater improvement than did either the 13 and 14 or 15 and 16 year olds, although they continued to score lower than either age group at pre-test (see Figure 7).

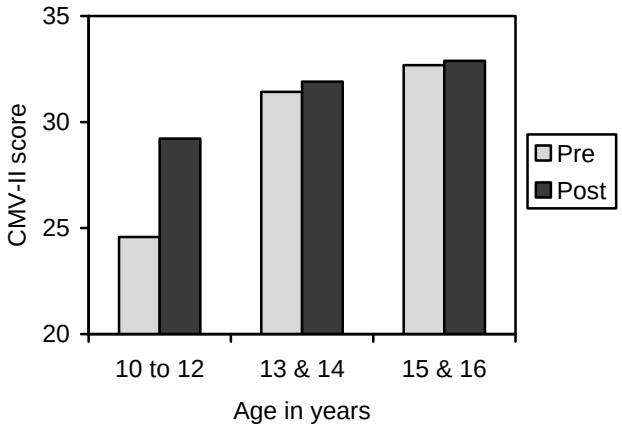

Figure 7. Improvements in *CMV-II* Scores by Age

Youth demonstrated the greatest improvement on "attorney" (55% provided two-point definitions at pre-test, compared with 72.9% at post-test) and "appoint" (66.7% provided two-point definitions at pre-test, compared with 79.7% at post-test). Although some improved, many youth continued to have difficulty defining words such as "right" (46.6% provided two-point responses at pre-test, compared with 57.6% at post-test)," "represent" (54.0% provided two-point responses at pre-test, compared with 59.3% at post-test)," "statement," (31.7% provided two-point responses at pre-test, compared with 33.9% at post-test), and "consult" (42.4% provided two-point responses at pre-test, compared with 57.6% at post-test).

Results for the Judgment in Legal Contexts Instrument (JILC)

Table 5: JILC Mean Scores by Age at Pre- and Post-test

	10 to 12 year olds		13 & 14 year olds		15 & 16 year olds	
	Pre (N=20)	Post (19)	Pre (24)	Post (22)	Pre (19)	Post (18)
Future Recognition	2.50 (*SD*=2.16)	3.59 (1.92)	3.74 (2.09)	3.54 (2.09)	3.95 (1.54)	3.56 (1.79)
Risk Recognition	3.75 (1.48)	3.83 (1.86)	4.48 (2.04)	3.68 (1.73)	4.18 (1.65)	3.86 (1.61)
Risk Appreciation	12.16 (1.50)	12.89 (1.45)	13.65 (1.40)	13.14 (1.52)	13.00 (1.70)	12.72 (1.93)

Recognition of long-range future consequences (Future Recognition score). At pre-test, ANOVA revealed a main effect of age, F (2, 59) = 2.17, p = .049. As summarized in Table 5, 10 to 12 year olds identified fewer long-range consequences (defined as any consequence that follows a waiver/assertion decision "after a delay of several days") than did either the 13 and 14 or 15 and 16 year olds.

Contrary to the prediction that the curriculum would result in overall improvement in recognition of long-range consequences and that these improvements would vary by age, the repeated measures ANOVA revealed no main effect of time, F (1, 54) =.046, p = .831, or age, F (2, 54) = 1.22, p < .304. As illustrated in Figure 8, 10 to 12 year olds generally identified more long-range consequences at post-test; however, 13 and 14 and 15 and 16 year olds identified fewer long-range consequences; these age-based differences were not significant, however, F (2, 54) = 1.55, p < .222.

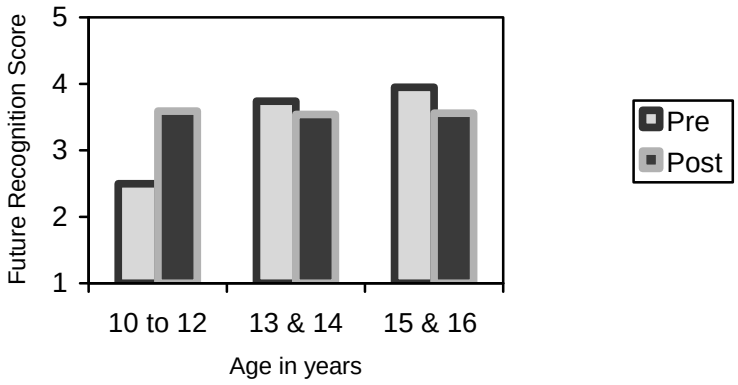

Figure 8. Changes in Future Recognition by Age

Recognition of adverse consequences (Risk Recognition score). As summarized in Table 5, at pre-test, 10 to 12 year olds generally identified slightly fewer risks associated with waiver/assertion decisions than did either the 13 and 14 or 15 and 16 year olds. Despite this pattern of results, risk recognition did not significantly differ across age groups at baseline, F (2, 59) =1.08, p = .348.

Contrary to the prediction that the curriculum would improve youths' recognition of adverse consequences to waiver/assertion decisions and that these improvements would vary by age, results of the repeated measures ANOVA revealed no main effect for time, F (1, 54) = 3.30, p =.077, or age, F (2, 54) =.45, p = .639, and no significant time by age interaction, F (2, 54) = 3.07, p = .54 (see Figure 9).

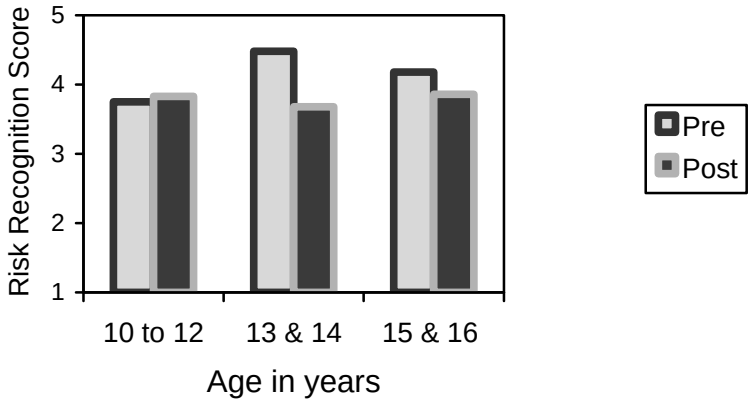

Figure 9. Changes in Risk Recognition by Age

Severity of impact of adverse consequences (Risk Appraisal score). As summarized in Table 5, on average, 10 to 12 year olds judged the impact of potential negative consequences of waiver/assertion decisions (e.g., being sent to jail, judge finding the suspect guilty in court, police brutality) as less severe than did either the 13 and 14 year olds or 15 and 16 year olds at pre-test, F (2, 61) = 4.97, p = .01.

Contrary to the prediction that participants would appraise adverse consequences of waiver/assertion decisions as more severe following the curriculum and that these increases would vary by age, there was no main effect of time, F (1, 53) = .000, p = .990, or age, F (2, 53) = 2.06, p = .138, and no significant time by age interaction, F (2, 53) = 2.69, p = .077 (see Figure 10).

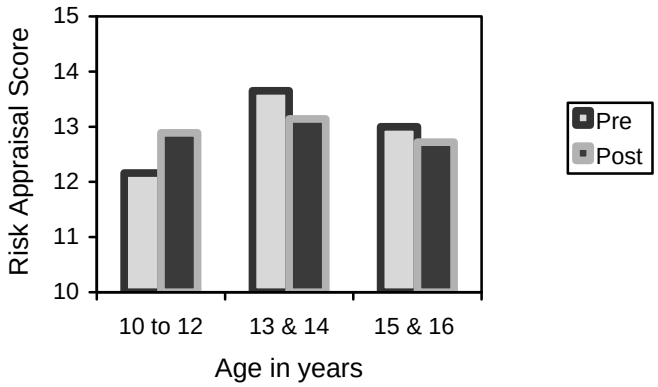

Figure 10. Changes in Risk Appraisal by Age

Advice to a juvenile suspect and self-choice. On the *JILC*, participants are asked to recommend a course of action (i.e., confessing to the offense, denying the offense, or invoking the right to silence) to a juvenile suspect (Joe) accused of being involved in an armed robbery and to provide a rationale for that course of action.

At pre-test youth were fairly evenly split between advising Joe to confess or to invoke the right to silence; forty-five percent of youth advised Joe to confess the crime to the police, 53% advised him to invoke the right to silence, and 5% advised him to deny the crime to the police (see Table 6).

Table 6: Advice to Joe at Pre- and Post-test

	10-12 year olds		13 & 14 year olds		15 &16 year olds		Total	
	Pre (N=20)	Post (19)	Pre (24)	Post (22)	Pre (19)	Post (18)	Pre (62)	Post (58)
Talk/admit	14	12	9	12	5	4	28	28
Talk/deny	1	2	1	0	1	0	2	2
Remain Silent	5	4	14	10	13	14	32	28

There was a significant relationship between age and advice to Joe, χ^2 (4) = 9.76, p = .045. Ten to 12 year olds were most likely to advise Joe to confess the crime, while 15 and 16 year olds were most likely to advise Joe to invoke the right to silence; 13 and 14 year olds were more evenly split between the options (see Figure 11).

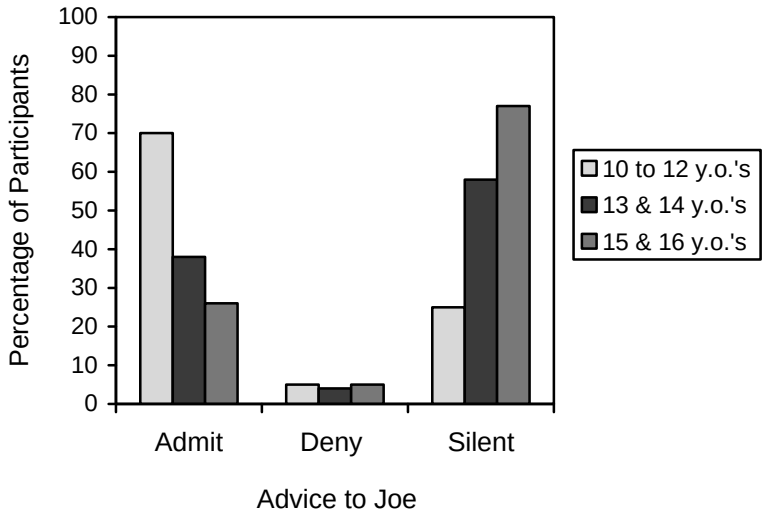

Figure 11. Advice to Joe at Pre-test

The last question on the *JILC* asks participants what they would do if they were in Joe's situation: confess the crime to police, deny involvement, or invoke the right to silence. As illustrated in Table 7, at pre-test, youth were fairly evenly split between reporting that they would confess the crime to police or invoke the right to silence.

Table 7: Self-choice at Pre and Post-test by Age

	10 to 12 year olds		13 & 14 year olds		15 &16 year olds		Total	
	Pre (N=20)	Post (18)	Pre (23)	Post (22)	Pre (19)	Post (18)	Pre (62)	Post (58)
Talk/admit	15	11	13	13	5	4	33	28
Talk/deny	1	2	1	0	1	0	3	2
Remain Silent	4	5	9	9	13	14	26	28

As illustrated in Figure 12, there was a significant relationship between age and self-choice, χ^2 (4) = 10.85, p= .028, with 10 to 12 year olds tending to be more likely to chose confession than the 13 and 14 and 15 and 16 year olds. Broken down by age, 10 to 12 year olds were most likely to report that they would confess the crime to police, while 15 and 16 year olds were most likely to invoke the right to silence. Thirteen and 14 year olds were more evenly split between choosing to confess the crime to police or to invoke the right to silence.

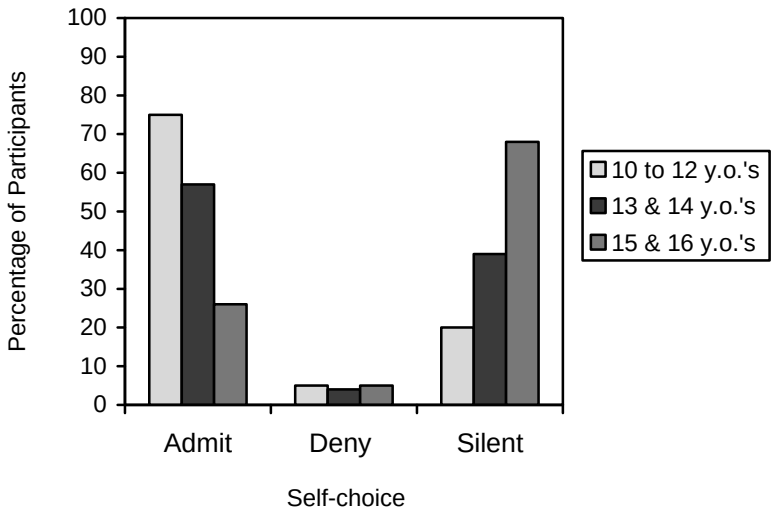

Figure 12. Self-choice by Age at Pre-test

As summarized in Table 8, at pre-test. when participants advised Joe to confess the crime, they tended to believe that the confession would result in leniency from the police or judge (e.g., "It's better to be honest and tell the truth; admitting to it will lead him to a lesser punishment") or that the confession represented the morally right decision (e.g., "Because it's the right thing to do and maybe he'll feel good and maybe he'll change"). As summarized in Table 9, when participants advised Joe to invoke the right to silence at pre-test, they tended to acknowledge the value of withholding self-incriminating evidence or the benefit of counsel (e.g., "Police could trick him into saying something and use it against him later;" "Because he can get advice from a lawyer, a lawyer knows about rights and what could help him").

Table 8: Participants' Rationale for Advising Joe to Confess to the Crime by Age

	10-12 year olds		13 &14 year olds		15 & 16 year olds		Total	
	Pre (N=14)	Post (12)	Pre (12)	Post (12)	Pre (5)	Post (14)	Pre (29)	Post (28)
Morality of truth	6	7	1	5	0	0	12	12
Leniency/harshness	7	4	4	6	3	3	14	13
Assumption of guilt/innocence	1	0	1	0	0	0	2	0
Attorney assistance	2	2	0	0	0	0	0	1
Parental assistance	0	1	4	2	8	5	13	10
Plea reached	0	0	0	0	2	1	2	1

Table 9: Participants' Rationale for Advising Joe to Invoke the Right to Silence by Age

	10-12 year olds		13 &14 year olds		15 & 16 year olds		Total	
	Pre (N=5)	Post (4)	Pre (14)	Post (10)	Pre (15)	Post (13)	Pre (34)	Post (30)
Leniency/Harshness	0	0	4	1	1	3	6	5
Assumption of guilt/innocence	0	0	0	2	0	0	0	2
Questioning Stopped	1	0	0	0	0	0	1	0
Disposition at trial	0	0	1	0	0	0	1	0
Benefit of atty	2	2	5	4	4	4	11	10
Self incrimination	2	2	4	2	8	5	13	10
Avoid lying	0	0	0	1	1	0	1	1
Anger avoided	0	0	0	0	1	0	1	0
Freedom	0	0	0	0	0	1	0	1

When participants' self-choice differed from their advice to Joe, they tended to cite Joe's prior arrest history (i.e., in the vignette, participants are told that Joe "has been in trouble with the police before") as the rationale for the discrepancy (e.g., "I would confess, but Joe should say nothing to the police because he's been in trouble before so he really needs a lawyer;" or "Joe should admit [what he did] because he's had problems in the past and needs to show that he's being cooperative, but I wouldn't say anything").

Despite significant improvements in comprehension and appreciation of rights, similar patterns of advice to Joe and self-choice at pre-test emerged at post-test. Friedman's chi square revealed no significant changes in, either, participants'

advice to Joe, χ^2 (1) = .89, p = .346, or participants' self-choice, χ^2 (1) = .529, p = .467, from pre- to post-test. As summarized Tables 6 and 7, for both advice to Joe and self-choice, youth were fairly evenly split between choosing to admit the crime to the police or to invoke the right to silence. Broken down by age, at post-test, 10 to 12 year olds were most likely to report that they would confess the crime to police, while 15 and 16 year olds were most likely to invoke the right to silence. Thirteen and 14 year olds were more evenly split between choosing to confess the crime to police or to invoke the right to silence (see Figures 13 and 14).

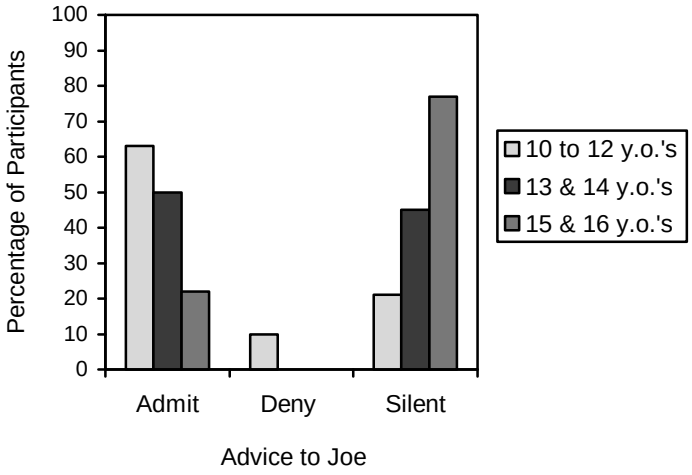

Figure 13. Advice to Joe by Age at Post-test

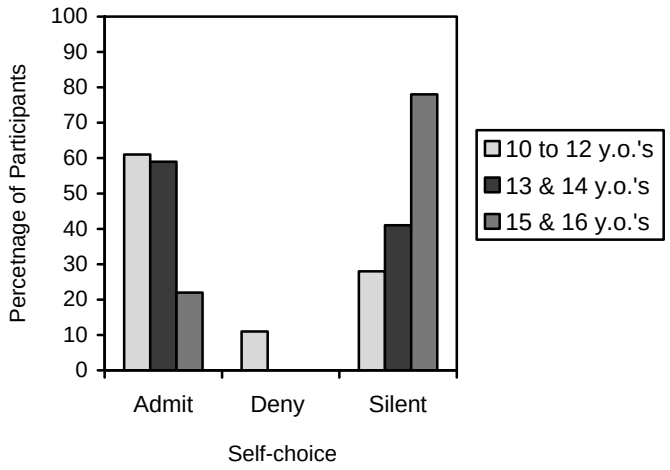

Figure 14. Self-Choice by Age at Post-test

Discussion

Improvements in the Understanding and Appreciation of Rights

Consistent with the prediction that the curriculum would improve youths' overall comprehension, factual understanding, and appreciation of the *Miranda* warnings, youth in our sample demonstrated improvements in all three areas.

Broken down by subtest, the greatest gains were achieved on the *CMR-II* and the *FRI*, suggesting that the curriculum was particularly useful in improving youths' overall knowledge of the content of the warnings, as well as their abilities to apply this new knowledge to hypothetical legal situations. Indeed, scores earned by youth on the *CMR-II,* following completion of the curriculum, surpassed scores earned by the adults in Grisso's (1981) study.

Despite greater gains across each measure, 10 to 12 year olds generally failed to achieve the levels of understanding and appreciation that were achieved by older youth. At both assessment times, on every *Miranda* measure, 10 to 12 year olds scored lower than older youth. While the 13 and 14 year olds tended to score lower

than the15 and 16 year olds, these differences were not significant. Notably, for 10 to 12 year olds, mean post-test scores for Overall *Miranda* Comprehension, Factual Understanding, *CMR-II*, *CMR-R-II*, *CMV-II*, and RS subscale continued to fall below the mean *pre-test* scores of both the 13- and 14- and 15- and 16-year-old age groups, suggesting that even when younger youth received educational instruction, their levels of comprehension and appreciation continued to fall below levels achieved by older youth without any *Miranda* education.

Changes in Judgment-based Abilities

Contrary to predictions, in general, youth did not display improvement across scores on the *JILC* following participation in the curriculum. In fact, 13 and 14 and 15 and 16 year olds generally displayed decreases (although not significant) in Future Recognition, Risk Recognition, and Risk Appraisal scores. Interestingly, at post-test, youth from each age group achieved comparable scores. We propose several explanations to account for this phenomenon.

First, as with the *MRCI-II* data, results from the *JILC* may support the characterization of legal decision making as a developmental, rather than knowledge-based, ability. Research suggests that rights-relevant, judgment-based abilities, such as future recognition, risk recognition, and risk appraisal, continue to develop well into late adolescence and early adulthood (e.g., Furby & Beyth-Marom, 1990; Grisso & Vierling, 1978; Mann, Harmoni, & Power, 1989); therefore, education about *Miranda* rights may not improve these judgment-based skills. Rather, youth may need to wait for the natural, cognitive, neurological, and emotional development that

occurs in their late teens and early adulthood in order to improve these psychosocial abilities.

Second, the slight decreases in Future and Risk Recognition scores for the 13 and 14 and 15 and 16 year olds may be related to how the measure is scored. Importantly, these scores are generated by counting the *absolute* number of long-range and adverse consequences provided by the participant, regardless of the accuracy of these consequences. For example, "if he remains silent, the judge will use it against him in court and give him more punishment" is considered a long-range consequence and contributes to the Future Recognition score, despite its flawed reasoning. Thus, decreases in scores may reflect older participants' improved accuracy; with increased understanding, older adolescents should provide fewer inaccurate responses, resulting in lower Future and Risk Recognition scores.

Third, it may be that the *JILC* lacks the sensitivity to detect quantitative changes from pre- to post-test assessment. As the *JILC* requires individuals to provide detailed responses to hypothetical legal dilemmas, as well as rationales for these responses, the measure may have more utility when used to detect qualitative changes in reasoning.

A final explanation parallels the hypothesis that legal decision-making skills are developmental abilities and supports a central component of conceptual change theory: Misconceptions are resistant to change, even in the face of contradictory evidence. This possibility is discussed in detail below.

Legal Decision Making as a Developmental Ability: Results in the Context of Conceptual Change Theory

Earlier, we hypothesized that adolescents have misconceptions about the content, function, and significance of the *Miranda* warnings and the purpose of interrogation (e.g., "Even if I remain silent while the police are questioning me, the judge can force me to talk in court if he wants to;" "If I cooperate with the police by waiving my rights, the police/judge may decide to be lenient with me;" "If I assert my rights, the police/judge will think I am guilty and my punishment will be worse"). We argued that these misconceptions reflected common heuristics that derived evidentiary support from the youth's daily experiences (i.e., "When personal safety is at stake, cooperation with authority is the best alternative," and "it is best to tell the truth so as not to get into more trouble"). Thus, we asserted that facilitating legal reasoning skills required, not only *quantitative* changes in the youth's repertoire of legal knowledge, but, also, more radical *qualitative* changes in the individual's interpretative, conceptual framework (i.e., the system of personal preferences, values, beliefs, and heuristics that the individual uses to approach legal dilemmas).

Consistent with the basic premises of conceptual change theory (Posner, Strike, Hewson, & Gertzog, 1982), despite quantitative improvements in factual knowledge of the content and function of rights, at post-test, many youth continued to: (a) believe that judges and police officers would be more lenient with those defendants who confessed to the crime, (b) believe that judges could force suspects to talk in court even after they invoked the right to silence during interrogation, (c) advise Joe to confess to the crime on the basis that confession would engender leniency, (d) report that they would confess to the crime if they were in Joe's

situation, (d) fail to appreciate the advocacy role of the attorney, and (e) confound invoking the right to silence with being uncooperative.

As the curriculum heavily emphasized the adversarial nature of interrogation and the durability of the right to silence across legal contexts, it is remarkable that many participants continued to believe that a confession to the police would result in leniency and that invoking the right to silence could be used against them in court. Of course, one plausible explanation for this finding is that participants confounded the role of the police with the role of the attorney; specifically, a review of participants' rationales for advising Joe to confess suggested that a substantial portion of youth believed that police officers and defense attorneys elicit disclosure about the crime from the suspect for the same reason: to negotiate a lesser sentence with the prosecutor. Although plea bargaining is certainly a motivation for a defense attorney to elicit information about the crime from his client, police officers encourage disclosure to garner evidence that can be used against the suspect in court.

However, this explanation does not seem sufficient on its own. Although, at first glance, it may seem that the curriculum failed to increase participants' awareness of this distinction between the police and the defense attorney, a review of scores on the NI and RC subscales of the *FRI* tells a different story. High scores on the NI subscale, which measures an examinee's understanding of why the police encourage disclosure about the crime, and significant improvements on the RC subscale, which measures an adolescent's understanding of why the attorney encourages disclosure about the crime, suggest that, at least superficially, participants generally recognized

that disclosing self-incriminating information to the police conferred risk, whereas disclosing such information to the attorney conferred benefit.

Thus, it may be that our data illustrate a key tenet of conceptual change theory. Strike and Posner (1992) argued that, whereas declarative learning involves the accumulation of facts, conceptual change requires the reorganization of extant frameworks to encompass new ideas, values, beliefs, and heuristics. Consistent with their theory, the "cost" of conceptual change of *Miranda* rights and police interrogations was "high" because it involved the alteration of misconceptions that were "central" to participants' interpretative frameworks; unless instruction altered the entire framework, students should have continued to maintain the misconception (p.150).

Although Strike and Posner (1992) recognized the role of cognitive conflict in facilitating conceptual change, they acknowledged that age and cognitive developmental level were key determinants in whether conceptual change could occur; the experience of cognitive conflict, in the absence of biological, social, and emotional maturation, is often insufficient to facilitate the development of reasoning. Indeed, consistent with other research that characterizes legal decision making as a developmental, rather than knowledge-based ability (e.g., Grisso et al., 2003; Goldstein et al., 2003), age may be the more salient factor in legal decision making. Notably, Phase II of this study will address the role of development in facilitating changes in legal reasoning.

The Relationship between Age and Miranda Comprehension and Appreciation: Results in the Context of Previous Research

Consistent with extant research, results of the current study suggest that age is a primary predictor of *Miranda* comprehension. Similar to Grisso's (1981) and Goldstein et al.'s (2003) findings, younger adolescents scored consistently lower than older adolescents on the *MRCI-II.* In general, youth in our study scored slightly higher on the *MRCI-II* than did youth in Grisso's (1981) and Goldstein et al.'s (2003) studies. As IQ has been shown to significantly predict *Miranda* scores (e.g., Grisso, 1981; Goldstein et al., 2003), our participants' generally higher *Miranda* scores may be explained by their High Average to Superior Verbal IQs, which were typically 25 to 35 points higher than the average IQ scores Grisso (1981) and Goldstein and colleagues (2003) reported in their studies (81 and 83 respectively) .

Despite higher scores across measures, the age-based patterns of *Miranda* scores in our sample were remarkably similar to those patterns of *Miranda* scores obtained by Grisso (1981) with his sample of detained youth. Based on his results, Grisso (1981) concluded that youth under the age of 15 failed to meet adult standards of *Miranda* comprehension, and youth ages 15 and older generally achieved adult levels of understanding. In the current study, youth, ages 10 to 14, tended to score lower than did youth ages 15 and 16. Overall, 34.4% of youth in the current study achieved perfect scores on prongs I through V of the *Miranda* warning, but accuracy varied by age; only 27.0% of youth, ages 14 and under, received perfect scores, while 52.6% of youth, ages 15 and 16, obtained perfect scores.

Youth in the current study manifested other, striking similarities to youth from previous studies. First, consistent with Grisso (1981) and Goldstein et al. (2003), on the *CMR-II*, youth were more likely to provide a zero or one point response to the

third *Miranda* warning (the right to an attorney) than to any other *Miranda* warning. Second, in terms of *FRI* performance, youth in all three samples had the greatest difficulty understanding the function of the right to silence. Substantial portions of youth in each study believed that a judge could force the defendant to talk in court, even if the defendant invoked the right to silence during interrogation. Third, on the *CMV-II*, consistent with Grisso (1981) and Goldstein et al. (2003), youth in the current study displayed the greatest difficulty defining "consult" and "right."

Compared with older youth, younger youth in the current study (a) identified significantly fewer long-range consequences to waiver decisions, (b) identified fewer adverse consequences to waiver decisions (although the difference was not significant), (c) appraised negative consequences to waiver decision as significantly less severe, and (d) were more likely to advise Joe to confess the crime and report that they would confess the crime if they were in Joe's situation. Grisso and colleagues (2003) found similar results in their study comparing the adjudicative competence of adolescents to adults. Specifically, they found that younger youth (i.e., ages 11 to 13) reported significantly fewer long-range consequences, adverse consequences, and perceived adverse consequences of waiver/assertion decisions to be less severe than did either older adolescents (i.e., ages 14 through 17) or young adults (i.e., ages 18 through 21). Furthermore, younger youth, in Grisso and colleagues' (2003) study, were more likely to advise "Joe" to confess the crime to police than were older adolescents or young adults.

Implications for Law-related Education (LRE) and Public Policy

Given the pivotal role of cognitive development in advancing legal reasoning, the curriculum appears to have stimulated important changes in youths' factual understanding and appreciation of rights. Furthermore, in spite of our prediction that cognitive and psychosocial immaturity may impede legal learning in younger youth, results suggest that even younger youth *can* learn about rights. In fact, younger youth tended to confer more benefit from the curriculum than did older youth.

The American Bar Association's Special Committee on Youth Education for Citizenship (1995) recommended that LRE programs consist of "integrated, sequenced, and cumulative instructional experiences." They further acknowledged the importance of developmentally appropriate educational programming, recommending that law-related education be "woven throughout the school curriculum," beginning in the primary grades and continuing throughout high school (p.2). Consistent with these recommendations, we believe that the *Miranda* Rights Educational Curriculum could play an important part of a more comprehensive, school-wide legal curriculum. Revisions to the curriculum, informed by our results and continuing research, may enhance its effectiveness.

Although 85% of participants at post-test provided two-point responses when asked to paraphrase the rights to silence and counsel, responses on other measures suggested that youth continued to lack confidence in the efficacy of these rights. Given that the curriculum depicted only an interrogation scenario, it may be that adolescents had difficulty contextualizing their understanding of rights within other rights-relevant legal scenarios, such as consultation with an attorney and court hearings. Thus, to increase youths' confidence in the efficacy of rights, future

versions of the curriculum may need to include several, sequential, interactive experiential plays that follow a juvenile suspect through common situations in the legal process (i.e., arrest, interrogation, consultation with an attorney, and court hearings).

Additionally, as reflected in the effect sizes, the more limited gains achieved by the older youth may reflect the fact that, to maintain a clean research design (i.e., to use the same curriculum with all ages), the curriculum was written at the 5th grade level; thus, the presentation of concepts may have been more salient to younger youth and may have deprived the older youth of more nuanced concepts that they could have understood (e.g., that a potential negative consequence to *Miranda* is that guilty suspects may go free). The addition of more complex, participatory activities that require a greater degree of subtlety may be needed to facilitate cognitive conflict in older, more cognitively advanced youth.

Limitations

Ecological validity. Although we propose that adolescents who demonstrate greater understanding of rights and the function of rights will be better equipped to make legal decisions, even perfect understanding of rights offers no guarantee of a juvenile suspect's decision in an actual interrogation situation. As the *totality of circumstances* test suggests, characteristics of the suspect (e.g., age, academic achievement, arrest history, mental status) as well as characteristics of the interrogation and arrest (e.g., time of day that the interrogation takes place, length of time the suspect is held incommunicado, conditions of the interrogation room, severity of the charges, police demeanor), may strongly influence the adolescent's

waiver decision (Grisso, 2003). Further research is needed to determine how gains in factual knowledge translate to changes in confession behavior during real-life interrogations.

Generalizability. The generalizability of our results may be restricted by our relatively small sample; however, the fact that we achieved significant results in spite of small sample size indicates sufficient power and suggests meaningful effects. Furthermore, participants in the current study do not share important characteristics with youth at-risk for arrest and interrogation, the group who may be in most need of practical, legal-rights education. Participants in the current sample were predominantly Caucasian, from upper SES backgrounds, and typically displayed IQ scores in the High Average and Superior Ranges. In contrast, youth at-risk for justice system involvement typically belong to ethnic minority groups, come from low SES backgrounds, and display Low Average IQs (Office of Juvenile Justice and Delinquency Prevention, 2002).

Indeed, evidence suggests that sociological influences, such as race and SES, heavily influence perceptions of law enforcement officials. Caucasians and individuals living in low-crime neighborhoods tend to have more favorable attitudes towards police officers than African-Americans or individuals living in high-crime neighborhoods (e.g., Decker, 1981; Dunham & Alpert, 1988). Thus, research is needed to assess the effectiveness of the curriculum with a larger, more racially and economically diverse sample.

Although participants from the current study do not share important characteristics with at-risk youth who may be in most need of practical legal rights

education, in many respects, our research site provided an optimal population for the current project. As the first study in a programmatic series of research, we were primarily interested in learning whether the curriculum could affect change in youths' comprehension of the *Miranda* rights in an ideal situation. Arguably, if students with high average IQ scores and excellent verbal abilities do not benefit from the curriculum, then it seems unlikely that at-risk youth will benefit from the curriculum. Thus, conducting the study at a private, college preparatory school virtually eliminated potentially important, confounding variables, such as low IQ, learning difficulties, poor verbal skills, severe mental health issues, and pervasive attentional difficulties.

No control group. The current study did not include a control group for two reasons. First, the small school size would have prevented enrolling a sufficient number of students in each condition. Although we could have increased sample size by adding an additional school, we felt that we would confound the results of the study by introducing variance generated by the different educational and social culture at another school. Thus, for this first study on the curriculum, we decided it was better to have fewer subjects and omit a control group than to include a second (or third or fourth) school that might differ from the primary site in important ways. Second, as the post-evaluation period occurred within weeks of the pre-evaluation period, pre-test scores were able to serve as a baseline measure, and maturation should not have played a critical role in improving *Miranda* comprehension and legal reasoning from pre- to post-test.

The omission of a control group might generate concern that participation in the curriculum would result in outside conversations about *Miranda* rights and interrogations, thereby introducing the possibility that these conversations, rather than the curriculum itself, could account for improvements in rights comprehension and legal reasoning. To address this concern, school faculty agreed to refrain from providing any instruction about *Miranda* rights and interrogations after the administration of the curriculum. Nevertheless, students probably discussed the curriculum with peers and/or family members. Although these discussions may have contributed to the improvement in scores, these discussions are an integral part of deep-level processing and conceptual change learning (Chinn & Brewer, 1992); thus, rather than confounding our results, we anticipated these conversations as resulting from our curriculum and believe that peer and family discussions played an important and expected role in facilitating youths' learning about rights. Future research should examine the occurrence of such conversations following participation in the curriculum and the role of such discussions in youths' learning about *Miranda* rights and legal decision making.

Despite these limitations, we believe that, when conceptualized as the first study in a programmatic series of research, the *Miranda* Rights Education Project provides several unique contributions to the field. To our knowledge, this is the first project to collect quantitative and qualitative data on adolescents' understanding of rights at two time points (and we will be collecting it at a third time point); thus, our data provide an important first glance at how youths' legal decision-making skills change over time. Furthermore, results of the current study suggest that qualitative measurements

yield important data, not captured by the *MRCI-II*. Specifically, improvements in factual knowledge on the *MRCI-II*, did not necessarily translate into decision–making changes on the *JILC*. Thus, administering the *MRCI-II* and *JILC* together may generate a more comprehensive picture of youths' legal reasoning.

Furthermore, in accordance with Dishion and Patterson (as cited in Lochman, 1999), we characterized this study as "model building," rather than "model testing" (p. 362). Indeed, we did not suggest that our data would provide any definitive answers regarding the role of cognitive conflict in the development of legal reasoning. Dishion and Patterson (as cited in Lochman, 1999) argued that basic intervention studies are not meant to answer specific questions about a phenomenon (in their case, antisocial behavior) "once and for all" (p. 362) Rather, the results from such studies should be used to clarify or revise the conceptual model on which the intervention is based.

Furthermore, results provide evidence that even younger youth can learn about rights. Indeed, the curriculum appears to have produced significant improvements in *Miranda* comprehension and appreciation within each age group. Our robust age-related results provide further evidence that, although legal reasoning can be improved by an educational intervention, it may be, largely, a developmental capacity. To our knowledge, this was the first study to assess adolescents' understanding of the content, significance, and function of the *Miranda* warnings in a high IQ, high SES sample. We found relationships between age and *Miranda* comprehension that closely parallel those found in previous research; this is particularly noteworthy, given that participants from the current study have little in

common with participants from previous studies. These findings suggest that the role of age in *Miranda* understanding and appreciation and, perhaps, legal reasoning more broadly, may transcend important demographic characteristics and provide further evidence that legal reasoning is a developmental capacity.

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Appendix A: The Miranda Rights Educational Curriculum

Miranda Rights Educational Assembly: "An Armed Robbery in LOCAL Park"

Participants:

Narrator

Police Officer

Student suspect

(Slide 1 - Blank Slide)

Narrator: This is an interactive play. Today, we would like you to pretend that you are suspects in a crime. This is Detective Smith. He is here to ask you some questions.

(Detective Smith takes center stage and announces details of the crime)

Officer: Hello, my name is Detective Smith. I am here to find out if any of you have any information about an armed robbery that occurred in LOCAL Park last Friday afternoon.

(Slide 2: The Crime)

On Friday afternoon, February 17th, Jeffrey Murphy, a 14 year-old, 9th grade student from NIEGHBORING High School was skateboarding in LOCAL Park. At approximately 3:15 P.M., a teenage girl walked up to Jeff was. The girl asked Jeff if she could use his cell phone to make a phone call. As Jeff searched his backpack for his phone, two boys walked up to Jeff from behind.

One of the boys had a WEAPON and threatened to hurt Jeff if he didn't hand over his money, his skateboard, and his back-pack. Jeff screamed for help, at which point the boy holding the WEAPON pushed Jeff to the sidewalk and kicked him in the head and stomach. The girl grabbed Jeff's backpack and the other boy grabbed the skateboard; the three teenagers ran down the street. Jeff was injured in the head and neck. In addition, he received injuries to his face, lower stomach, and rib cage.

(Slide 3: The Suspects)

We are looking for three suspects: two boys between the ages of 14 and 16 and a girl approximately 15 years old. The boys were between 5 feet 6 inches and 5 feet 11 inches tall and dressed similarly wearing jeans, tee-shirts, and baseball caps. The girl was about 5 feet 5 inches tall and is described having light brown hair pulled back in a ponytail. She was seen wearing a red sweater and blue jeans.

We have reason to believe that someone in this auditorium may have some information that can help us solve the crime.

(Slide 4: Blank Slide)

Two people saw the crime happen and were able to help us come up with this sketch of the suspect. Could everyone take a minute to look at this?

(Detective Smith walks around the auditorium with the sketch, searching for the suspect. He approaches the confederate in the audience.)

Officer: (*to the confederate*) Excuse me, what is your name?

Student: (*To ease readability of this curriculum, the name "Andrew Brown" will be used for the suspect. However the name of the suspect should be the actual name of the student used to play the role.)* Andrew Brown. Ummmm…. is something wrong?

Officer: Andrew, would you mind coming with me? I want to find out if you have any information about the crime that occurred on Friday.

Andrew: (*confused*) Sure, whatever I can do to help.

(*Police officer walks with the student onto the stage. There are two chairs. No other furniture is on stage*).

Officer: Why don't you have a seat, Andrew.

Andrew: Is everything okay?

Officer: (*reassuring tone*) Everything is fine. Andrew, I'm hoping that you might know something that can help us solve this crime. I just need you to answer some questions and then, hopefully, we can get out of here.

Andrew: Okay. I hope I can help.

Officer: (*Pages through his chart*) So did you know this kid, Jeff Murphy?

Andrew: Yeah, I knew who he was but we weren't friends or anything. We played POPULAR SPORT together for the LOCAL League.

Officer: Yeah, other kids have told us about Jeff Murphy…seems like he has quite the reputation. Nobody likes a kid who brags and shows off his stuff. Some people might say he deserved what he got.

Andrew: Yeah, I hate kids who brag.

Officer: (*approvingly*) You seem like a pretty down to earth kid, seems like you wouldn't stand for this kind of show-off business.

Andrew: Yeah, I really don't spend too much time with kids like that.

Officer: Kids like Jeff Murphy make a lot of enemies. Andrew, can you think of anybody who might want might want to hurt him?

Andrew: I don't know-lots of kids I guess. He was always talking about all the stuff he had. A lot of kids thought he was cool-but a lot of kids just thought he was a real jerk.

Officer: (*changes tone slightly*) So, where were you last Friday afternoon between 2:15-3:30?

Andrew: Ummm… Let's see. I got home from school and my mom was still at work, so I took my dog out for a walk. It's something that I do everyday after school.

Officer: Andrew, I need to take this call. Sit tight for a moment.
(Det. Smith gets up, and has a whispered conversation on the side of the stage. Det. Smith walks back towards Andrew and sits down in a chair.)

Officer: (heavy sigh) Andrew…, what are we going to do here?

Andrew: Ummmm… (*pauses, and then, as if reading the officer's demeanor*), is everything ok?

Officer: I don't know Andrew. (*Pauses and stares at Andrew*) Why might someone have reason to think that they saw you at LOCAL Park around 3:00 on the afternoon of the crime?

Andrew: (*Puzzled***)** They wouldn't. I don't know-unless they were confused or something. (*Pauses, he's beginning to recognize where this is going*) Wait a minute-is there something wrong?

Officer: (*pulls seat closer to Andrew*) Andrew we have reason to believe that you might not be telling us the whole truth here. We have two witnesses who say they saw you at LOCAL Park on Friday afternoon. Now, I don't want you to get accused of something that you didn't do. That's why I'm talking to you now-you can probably tell that I'm trying to help you out. Can you see that?

Andrew: Yeah… But I didn't do…

Officer: (interrupts) Alright, Andrew, before I ask you any more questions, I need to advise you of your rights. It's very important that you listen carefully and that you tell me if you do not understand something.

(*Officer reads Andrew the Miranda Rights and hands him a card with these rights on them*)

(1) You have the right to remain silent.
(2) Anything you say can be used against you in court.
(3) You have the right to talk to a lawyer and to have him present with you while you are being questioned.
(4) If you cannot afford to hire a lawyer, one will be appointed to represent you before any questioning if you wish.
(5) If you decide to answer questions now without a lawyer present, you still have the right to stop questioning at any time until you talk to a lawyer

Andrew, do you understand each of these rights I have explained to you?

Andrew: Yes.

Officer: Understanding what these rights mean, do you wish to talk to me now?

Andrew: Sure. I guess. I mean I'd like to help but you have to know that I didn't have anything to do…

Officer: (*interrupts*) Andrew, we have two witnesses that say they saw you in LOCAL Park last Friday-but you're telling me that you were at home walking the dog. Now why would people say that they saw you?

Andrew: (*flustered*) I don't know… Sometimes I walk the dog there… People see me with the dog all the time. Maybe they got confused? Wait a minute this is all wrong… I wouldn't… I didn't…

Officer: (*interrupts*) You're telling me that you were doing one thing, and now I've got two people telling me you were doing something else. Can you see why I'm confused? Can you help me out here? I'd like to understand.

Andrew: But-I don't understand-who said they saw me? I-

Officer: (*interrupts, getting impatient*) Andrew let me make myself clear. We have two *eyewitness* accounts here, that means that people are telling us that they saw you push Jeffrey to the sidewalk, kick him, and grab his backpack. Do you know how big that is in terms of the case we're building against you? I mean we're questioning some of your friends now-and you know what they're doing? They're cooperating and answering our questions. I'd hate to see all

the blame get put on you. Now, how could it be that two people say they saw you there?

Andrew: But I didn't-(*pauses*) I don't think I walked the dog in LOCAL Park – (*bewildered and confused*) I don't know maybe I did and just don't remember?

Officer: (*Irritable and impatient*) You don't *think* you walked the dog in LOCAL Park, but *maybe* you did? (*Pauses*). Andrew, I got to tell you-things don't look so good for you right now. We have eyewitnesses saying you were there, you yourself don't seem so clear about where you were, we have motive…

Andrew: Motive? What motive? I didn't do this! I swear! What reason would I have to hurt Jeff Murphy?

Officer: Andrew, you told me that you hated kids who bragged, that Jeff had a lot of enemies…

Andrew: Yeah-but I didn't-

Officer: (*in a calm, slow, quiet voice*) Okay, Andrew, let me give you some advice. I'd like to help you out, but you're going to have to tell me what happened *(Andrew is showing visible signs of stress e.g., wringing his hands, furrowed brow, etc.)(Moving his chair closer to Andrew)* Andrew, I can tell that you're about ready to breakdown so I'm going to help you. You are going to have to make a decision here. Am I going to cooperate, am I going to do the right thing and help out? Or am I going to make a mess of things for myself? Am I going to do the right thing here, or am I going to disappoint my parents and possibly ruin my life? This doesn't have to be the worst day of your life-but if I can't get you to talk to me, well who knows?

Andrew: But what should I do?

Officer: People make mistakes, Andrew. Everybody makes mistakes. And there's no crime in saying, "you know what? I made a mistake and I'm sorry." I mean things happen. Maybe you got involved in this because your parents don't pay enough attention to you. Take it from me, I know where you're coming from. I've been there. You're not a violent guy, but you were fed up! You had to take action. Look Andrew, when kids try to outsmart the police, try to cover up something they did-it usually doesn't work out too well for them. The bottom line is I'd hate to think this is the end of the road for you. Now I'm going to leave for few minutes so you can think about these things. But I need you to really think about what you are going to do.

(*Narrator **FREEZES** the play*)

Narrator: Let's stop for a minute. (*To the audience*) First, what's going on here? (*Discussion)*

(Slide 5: Recap)

Narrator: Some of the things we just watched are events that might occur when police officers question suspects about a crime. Why don't we review the important points. (1) On February 17th, Jeff Murphy was robbed in LOCAL Park. (2) Andrew is a suspect in this crime (that means that Detective Smith thinks that Andrew is involved in the crime). (3) Andrew is being interrogated (or questioned) by Det. Smith about the crime. Is everybody clear?

(Slide 6: Blank Slide)

Okay, why don't we check in with Andrew. (*Narrator UNFREEZES suspect*) Andrew, looks like you're in some trouble here. What are you going to do?

Andrew: (*scared and anxious*) I don't know. I feel like I need to tell him *something*, or else I'm going to straight to jail. I feel like I don't have any options.

Narrator: (*to the audience*) Does Andrew have any options? What are Andrew's options? (*Discussion with the audience*).

Narrator: Andrew, do you mind if I take a look at the card you're holding?

(*Andrew hands the narrator the card. It is a Miranda rights waiver form. The narrator reads the Miranda rights aloud to the audience).*

(1)You have the right to remain silent.

(2)Anything you say can be used against you in court

(3)You have a right to talk to a lawyer before we ask you any questions and to have him or her with you during questioning.

(4)If you cannot afford a lawyer, one will be appointed for you before questioning if you wish.

(5) If you decide to answer questions now without a lawyer present, you still have the right to stop questioning at any time until you talk to a lawyer.

Narrator: (*to audience*) What are these called? *(Discussion: Students should recognize these rights as the Miranda rights. Allow students to discuss how they are familiar with the Miranda rights).*

(Slide 7: The Miranda Rights)

Didactic # 1: "These Are Your Miranda Rights"/Explanation of the *Miranda* Rights

These are your *Miranda* Rights sometimes called the *Miranda* Warning. The Miranda rights are named after an important Supreme Court Case in which the Court that police officers should be required to inform suspects that they have certain rights before questioning them about the crime. You've probably heard police officers read these to suspects on television shows and movies. If the police take you into custody, you have certain rights, like the right to remain silent and the right to an attorney. Before the police ask any questions about the crime, they usually read you the *Miranda* rights and will give you a piece of paper or a card with your rights written on them.

Andrew, in order for you to make a decision about what you might do in this situation, it's important that you are VERY clear about what these rights mean. So tell me, what does "you have the right to remain silent mean?"

Andrew: I think it means, "If I'm innocent, I don't have to talk."

Narrator: (*To the audience*) Is that what the right to remain silent means?

(*Discussion*)

(Narrator goes through the explanation slides)

You might find this surprising, but a lot of people, including adults, are not sure about what these rights actually mean. So let's go through some definitions.

(Slide 8: The Miranda Rights - You have the right to remain silent)

1. **You have the right to remain silent.**
   This means you can choose not to answer any questions the police ask you about the crime. No one can force you talk about the crime, not the police, not the judge, not your parents-you can choose to keep quiet.

(Slide 9: The Miranda Rights - Anything you say can be used against you in court.)

2. **Anything you say can and will be used against you in a court of law.**
   Consider this to be a warning about something that could happen later in court. The police can use what you say to them during questioning as evidence that will help a judge or jury decide if you are guilty.

(Slide 10: The Miranda Rights - Anything you say can be used against you in court. con't)

Remember the police can use anything you say to them during questioning even if you cooperate with them and even if they tell you they won't.

(Slide 11: The Miranda Rights - You have the right to talk to a lawyer)

3. **You have a right to talk to a lawyer before we ask you any questions and to have him or her with you during questioning.**
   This means that you can have an attorney with you while the police are questioning you. Sometimes the police may refer to an attorney as a lawyer, legal counsel, or public defender. Attorney, lawyer, legal counsel, and public defender are four words that mean the same thing: someone who is an expert

in the law who helps people like you and me when we get into legal trouble—it is someone who helps us with the police and in court, whether we are innocent or guilty of the crime we are accused of.

(Slide 12: The Miranda Rights - If you cannot afford a lawyer…)

4. **If you cannot afford to hire a lawyer, one will be appointed to represent you before questioning if you wish.**

This means that the court will give you a lawyer for free if you do not have money to pay for one.

(Slide 13: The Miranda Rights: If you cannot afford a lawyer con't)

Even kids who have no money at all or whose parents cannot afford lawyers can have a lawyer for free.

(Slide 14: The Miranda Rights: If you decide to answer questions now…)

5. **If you decide to answer questions now without a lawyer present, you still have the right to stop questioning at any time until you talk to a lawyer.** This means that if you start talking to the police about the crime or about anything else, you can stop talking at any time and tell the police you want to talk to a lawyer.

(Slide 15: You have choices)

Narrator: So believe it or not Andrew, you do have options here. You don't *have* to talk to the police about the crime. You can ask for a lawyer to help you out. And finally, even if you start talking about the crime-you can stop talking at any time and ask for a lawyer.

Andrew: Yea, but he's a police officer, can't he take these rights away? I mean I'm stuck in a police station-- if he tells me that I need to talk about a crime, don't I have to do it?

Narrator: (*to audience***)** That's a good question. If the police officer tells Andrew he has to talk about the crime, does he have to do it? Can the police officer decide to take Andrew's rights away? Does anyone have the ability to take Andrew's rights away? (*Discussion)*

(Slide 16: Rights are Guaranteed)

Didactic # 2: Miranda Rights Are Based on Constitutional Amendments

Even though police officers read you these rights, these rights do not come from the police; the police officers do not give you these rights, and can they take them away.

(Slide 17: Rights are Guaranteed con't)

The decision about whether or not to exercise, or use, these rights is in *your* hands. By definition, rights are guaranteed. This means that you can decide not to use them, but no one- not the police, not the judge, not your parents, no one - can take them away from you.

(Slide 18: Rights are universal)

No one can tell you not to use your rights. No one can make you talk to the police. It doesn't matter if you are guilty or innocent, a child or an adult, these rights are yours -- the decision to use or not to use them is *always* in your hands-that's what having a right means.

Andrew: But if these rights do not come from the police, where do they come from?

(Slide 19: "Constitution" slide. Allow for audio.)

Narrator: The right to remain silent when police are questioning you about a crime and the right to have an attorney to help you out when you get into trouble *are your Constitutional rights*.

(Slide 20: Your Constitutional Rights)

Specifically, the Miranda rights are based on the 5th and 6th amendments from the Bill of Rights. The 5th amendment protects people accused of crimes from self-incrimination, or being forced by the police or judge to say things that will get you in trouble. The 6th amendment says that people who have been accused of crimes can have a lawyer, their own personal legal expert, who can help them out during questioning or in court. These amendments prevent the government from unfairly accusing people of crimes and unfairly putting them in jail-but we'll talk more about that later.

So Andrew, the right to silence and the right to an attorney actually come from two of the most important documents in this nation's history, the Constitution and the Bill of Rights.

(Slide 21: Blank Slide)

Andrew: Okay, so these rights are my Constitutional rights and no one can take them away from me. But, I'm still not sure that using my rights in this situation is my best option. I mean the police officer said that two witnesses saw me in LOCAL Park around that time. Given that they have that kind of evidence- shouldn't I make things easier for myself and talk to the police about the crime? I mean, he said he's trying to help me. Shouldn't I let him? Shouldn't I tell him what he wants to hear to make it easier on myself? Wouldn't that be in my best interest?

Narrator: (*to audience*) Is the police officer trying to help Andrew out in this situation? Is that the police officer's goal in this situation? Is that the police officer's job? Do you think Andrew should talk to the police about the crime in order to make things easier for himself? What do you think? (*Discussion*)

Didactic #3: Police Officer's Role/Purpose of Interrogation/Purpose of Confessions

Narrator: I think it comes down to understanding why Detective Smith wants to ask Andrew these questions. Why don't we ask the Detective Smith what his role is, what his job is? (*Narrator UNFREEZES the police officer*). Detective Smith, we were hoping you could tell us what your goal in this situation is.

Officer: My job in this situation is to … (*Looks at Andrew and stops himself. Then to the narrator*), wait a minute, can you get him to FREEZE, I don't want him hearing this (*Narrator FREEZES suspect*). When we question someone we think is involved in a crime, we ask that suspect what he or she knows about the crime. If we have good reason to believe that a suspect is involved in a crime, our goal when we question him is to get the suspect to say he was involved, to confess.

Narrator: Why do you want the suspect to confess?

Officer: Because the suspect's confession is a piece of evidence that can be used to convince the judge or jury that the suspect is guilty of the crime. Lots of types of evidence-fingerprints at the crime scene, witness reports, DNA - can be used to convict suspects of the crime. But confessions - when suspects say they were involved in the crime - are very powerful pieces of evidence. If you were serving on a jury, would you ever think that someone would falsely confess to a crime? Isn't it hard to imagine someone saying they committed a crime when they didn't? Because that's so hard to imagine, a confession is the most convincing piece of evidence that exists. When judges and juries hear that a suspect confessed to the police about a crime, the suspect is usually found guilty of the crime.

Narrator: So confessions are important and getting the suspect to confess is important?

Officer: Very important. I mean, it's my job to keep criminals off the streets, to protect the people of this community. Therefore, when I question a suspect whom I have good reason to think committed the crime, I need to do everything in my power to get the suspect to confess, or say he did it.

Narrator: Everything in your power?

Officer: Everything within the limits of the law.

Narrator: Like what?

(Slide 22: Police Questioning Do's and Don'ts)

Officer: Well, first I might try to convince the suspect that confessing to the crime is no big deal. Like I might act really laid back when I'm questioning the suspect

and say something like, “Listen, you’re tired. I’m tired. Why don’t you just help us both out and tell me what happened so we can get on with this.”

Narrator: But a confession is a big deal?

Officer: Oh, it’s a huge deal-again confessions are the most convincing piece of evidence that judges and juries can use to decide that a person is guilty.

Narrator: What else might you do?

(Slide 22: Police Questioning Do's and Don'ts - Next point)

Officer: Do you mind if I use that for a minute? Well, I might imply things that are not completely true. I might go so far as to give the suspect the idea that I have evidence against him that I don’t actually have. For example, let’s say that we are also questioning the suspect’s friend about the crime. I might tell the suspect that his friend is sharing some really important information when the friend really hasn’t said much at all. I might tell the suspect that we found his fingerprints at the crime scene even though we haven’t. I also might say something that would make the suspect think we’re about to uncover some really big evidence against him-like I might say to the suspect, “We’ve got police officers on the scene, combing the area for DNA evidence - is there any reason we might find your hair at the crime site?”

Narrator: Anything else you might do?

(Slide 22: Police Questioning Do's and Don'ts - Next point)

Officer: Well, I might try to convince the suspect that confessing to the crime is the right thing to do. Like I might say to the suspect, “Listen, I know you’re under a lot of pressure. If you just come out and say that you were part of this, I

think you're going to feel a lot of relief." I might go so far as to make the suspect feel that, by not talking about the crime, he's being uncooperative. Kind of like what I did with Andrew. Like I might say, "I really need you cooperate and tell me the truth about what you were doing on the night of the crime."

Narrator: Is there anything that you *can't* do when you're questioning a suspect?

(Slide 22: Police Questioning Do's and Don'ts - Next point)

Officer: Sure. I can't use physical force against a suspect, like I can't hit, or kick, or punch a suspect to make him or her talk about the crime. I also can't threaten to use physical force, like I can't say to the suspect, "If you don't confess to the crime, I'll beat you up."

(Slide 22: Police Questioning Do's and Don'ts - Last point)

Also, I can't continue to ask the suspect questions once he has asked for a lawyer. I also can't stop the suspect from calling a lawyer once he's asked for one.

I mean it's important for me to do my job right, which means I would never physically harm or threaten a suspect to get a confession. I would also never continue to question a suspect once they asked for a lawyer.

(*Narrator **FREEZEs** the police officer)*

(Slide 23: Police Questioning Recap Slide)

Narrator: (*to audience*) So, we just learned a few things. We learned that the job of the police is to protect the public, to keep criminals off the streets. Part of this

job involves questioning suspects. We also learned that confessions are very important pieces of evidence-like fingerprints or blood found at the crime scene-that can be used to help convince judges and juries that the suspect is guilty of the crime. So, if the police officer has good reason to think that the suspect is involved in the crime, he will try to get the suspect to confess to the crime during questioning. Finally, we learned that police officers are allowed to tell the suspect information that may not be completely true during questioning. For instance, the police officer can suggest that the police have evidence against the suspect that they may not actually have-like the suspect's fingerprints at the crime scene.

Did anything we just learned surprise you? (*Discussion*). Do you think this information is important for Andrew to know? (*Discussion*). Why? (*Discussion*). Okay, when I unfreeze him, you need to tell him this information and why you think this may be important for him to know.

(Narrator selects an audience member to tell Andrew the important information. Narrator unfreezes suspect. Audience member reports the important information to Andrew.)

Narrator: Andrew, given what you've just been told, do you think that Detective Smith is concerned with helping you out? Do you think he has your best interests in mind?

Andrew: Probably not. If he thinks that I am somehow involved in this crime, he probably wants to get me to confess. He wants to use the information I tell him to convince the judge or jury that I'm guilty.

Narrator: So, what do you think you're going to do?

Andrew: I'm still not sure. I mean, if I refuse to talk won't I look guilty? Won't that look pretty bad to a judge or jury? I mean I feel like if I don't say anything, it's going to make me look like I have something to hide.

Narrator: That's a good question. (*To the audience*) Will Andrew look guilty if he refuses to talk? (*Discussion*). Can not talking to the police be used against Andrew in court? (*Discussion*)

Didactic # 4: "Be Proud to Assert Your Rights"/ "Imagine Living in a Country Where You Did Not Have These Rights"

(Slide 24: Be Proud to Assert Your Rights)

Refusing to answer questions about the crime or asking to speak with a lawyer cannot be used against you in court.

The bottom line is that you shouldn't feel guilty about asserting your rights at all. In fact, you should feel proud to assert these rights because having these rights sets the United States apart from other countries.

(Slide 25: Constitutional Congress)

When the founding fathers got together in 1776 to write the Constitution, they wanted to create a legal system that was different from any other legal system in the world.

Benjamin Franklin (Slide 26),

James Madison (Slide 27),

George Washington (Slide 28),

realized that by guaranteeing rights to people accused of crimes, *they were actually protecting all suspects regardless of whether they were innocent or guilty.*

(Slide 29 Creating an Equal Playing Field)

You see these rights make sure that the government plays fair. They can't threaten to beat you up to make you confess to some crime. They can't throw you into a court room by yourself without anyone there to defend you. They can't refuse to let you call a lawyer until you confess.

Imagine that you lived in a country where people accused of crimes did not have these rights. What would happen? What might the police be able to do to suspects during questioning? (*Discussion*) If the police were allowed to do these things, do you think that we could be sure that these confessions were truthful? Why or why not? (*Discussion*) What purpose do these rights serve? (*Discussion).* How do these rights protect guilty people? Innocent people?

Andrew: Okay. I think I get it. These rights are extremely important-they're actually there to protect suspects, both innocent and guilty. I mean I guess if criminal suspects didn't have certain rights-if the government could do whatever they wanted to suspects-hit them, beat them up to get you to talk, how could we ever be sure that what a suspect said during police questioning was true? I get it.

But this is a stressful situation and I just want it to be over with. What should I do?

Narrator: You're right, Andrew. Like we said earlier, interrogations *are* stressful. Suspects who are being questioned by the police may feel scared and stressed out.

Some things you might do during a police interrogation, may make the situation worse, some things may make the situation better. Why don't we go over the Do's and Don't's for handling the stress of a police interrogation.

(Slide 30: How to deal with the stress of an interrogation - Don'ts)

Don'ts

(1) Try to outsmart the police. It's not a good idea to make up stories or lie to the police. This can get you into more trouble later in court.

(2) Don't mouth off to the police or be rude. This may irritate the police officer and make the situation even more stressful.

(3) Don't decide to just tell the police what you think they want to hear. Some suspects think believe that if they talk about the crime to the police, the judge will go easier on them in court. But this is almost never the case. In fact, just the opposite is true: Talking about the crime can only add to the evidence they are using to build a case against you in court.

Suspects in a police interrogation may feel pressure to talk about the crime, so much pressure in fact that even innocent suspects sometimes believe that the best thing for them to do is to talk about the crime and admit to something they didn't do. They may think that they can end an interrogation and go home by saying something about the crime. They may feel that they'll be able to take back

anything they say during the interrogation later in court. But this simply isn't true. Remember confessions are very convincing pieces of evidence. Once you've said something about the crime, it will be really hard to take it back.

(Slide 31: How to deal with the stress of an interrogation - Do's)

The good news is that there are some things you can do to help you deal with the stress.

Do

(1) Be polite. Be courteous and respectful to the police officers.

(2) Tell the police that you want to speak with a lawyer.

a. Once you tell the police that you would like to speak to a lawyer, the police have to stop asking you questions until your lawyer arrives.

(Slide 32: Interrogations are Stressful)

Like we said, interrogations are stressful situations.

(Slide 33: Scream slide - allow for audio)

(Slide 34: How to deal with the stress of interrogation…Con't)

(Slide 35: How to deal with the stress of interrogation…boxer picture)

(Slide 36: How to deal with the stress of interrogation…last piece)

You may want someone there who's on your side to help you figure stuff out- someone who will fight for you in court- that's the lawyer's job.

The legal system is complicated-you need an expert on your side to help explain things to you and help you make good decisions. Think of a lawyer as your own "personal expert" to the legal system.

(Slide 37: Blank Slide)

Andrew: Okay, so I realize there may be some good reasons to tell the police I would like to speak to a lawyer. But I've already answered some of Detective Smith's questions. Isn't it too late to ask for a lawyer?

Narrator: (*To the audience*) Is it too late for Andrew? Does anyone remember what the 5th Miranda right stated? (*Discussion: Wait to see if anyone recalls the 5th Miranda right, "If you decide to answer questions now without a lawyer present, you still have the right to stop questioning at any time until you talk to a lawyer." If students do not recall or cannot approximate the right, provide prompts.)*

Andrew: Okay, so I can still exercise my rights if I want to. But how should I assert my rights?

Narrator: The easiest way to exercise your rights is to tell the police you want to speak to a lawyer. Use the "magic words." Say, "I would like to speak to a lawyer." Once you firmly and politely tell the police that you would like to

speak to a lawyer, the police have to stop asking you questions until your lawyer arrives.

Andrew: So all I need to do is say, "I would like to speak to a lawyer?"

Narrator: That's all you need to do. Say it firmly and politely. "I would like to speak to a lawyer."

Andrew: I think I can do that…

(Narrator UNFREEZES police officer)

Officer: Okay, Andrew. You've had some time to think about this. What's it going to be, are you going to cooperate and tell me what happened?

Andrew: (*nervous*) Well, should I have a lawyer?

Narrator: (*FREEZES the play. Then, to the audience*), did Andrew just assert his rights? (*Discussion*) That's right. In order to assert his rights, Andrew has to say, I want to speak to my lawyer. Asking a question like "Should I have a lawyer" or "Do I need I a lawyer" is not the same as politely telling the police that you would like to speak to a lawyer. Ok, let's try this again.

Officer: What's it going to be Andrew?

Andrew: I would like to speak to a lawyer.

(Slide 38 "The End")

END PLAY

(Slide 39: *Miranda* Rights Interactive Assembly)

Narrator: Thank you for participating in our play today. You've been a great audience.. We hoped that you learned a little about things that might happen during a police interrogation, about your *Miranda* rights and how to use them.

We are very interested to get some of your feedback about the assembly. At the beginning of the assembly, we passed out some index cards. Please take a minute to write down any questions or comments you might have, and we will collect them. Thank you again!

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Vita

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Predoctoral Internship	Medical University of South Carolina (current)
Doctor of Philosophy	Drexel University (expected June 2008)
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Publications

Sheidow, A., Strachan, M., Minden, J., Henry, D., Tolan, P., Gorman-Smith, D. (2007) The relation of antisocial behavior patterns and changes in internalizing symptoms for a sample of inner-city youth: Comorbidity within a developmental framework. *Journal of Youth and Adolescence*

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Honors and Awards

Recipient of NIMH T-32 Training Grant, August 2006-July 2007
Summa Cumme Laude, University of Delaware, Spring 2000;
Lewis Beck Book Prize, Spring, 2000;
David Norton Book Prize, Spring, 1999;
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