AJSLP

Research Article

Miranda Rights Comprehension in Young Adults With Specific Language Impairment

Gwyneth C. Rost[a] and Karla K. McGregor[a]

Purpose: The purpose of this study was to determine whether citizens with language impairment understand legal rights as conveyed in Miranda warnings.
Method: Grisso's Instruments for Assessing Understanding and Appreciation of Miranda Rights (1998) was administered to 34 young adults, half of whom met the diagnostic criteria for specific language impairment (SLI). A correlational analysis of the relationship between language scores and Miranda rights comprehension was conducted, as were tests of differences between individuals with SLI (n = 17) and individuals without SLI.
Results: Language ability was positively correlated with overall performance on the Miranda measure. As a group, individuals with SLI were significantly poorer than their peers with normal language at defining Miranda vocabulary and applying Miranda rights in hypothetical situations. The group with SLI was also marginally less able to paraphrase Miranda sentences.
Conclusion: Language impairment limits comprehension of Miranda warnings. As a result, citizens with language impairment are at risk of being denied their constitutional rights.

Key Words: specific language impairment, language comprehension, Miranda rights

People with language impairments are overrepresented in our courts and prisons (Blanton & Dagenais, 2007; Kavanagh, Rowe, Hersch, Barnett, & Reznik, 2010). In fact, the majority of prisoners in the United States have language impairments that are either acquired (see Shiroma, Ferguson, & Pickelsimer, 2010, for a review) or developmental (Bryan, Freer, & Furlong, 2007; Sanger, Hux, & Belau, 1997). To better understand the relationship between language impairment and the legal system, we asked whether citizens with specific language impairment (SLI, also called language learning disability or developmental language disorder) comprehend the protections awarded to those who have been accused of a crime as expressed in Miranda warnings. We focused on SLI, defined as language impairment in the absence of cognitive or neurological impairment, because it represents the best opportunity possible to isolate language deficits from broader cognitive or psychological deficits.

Low educational and vocational attainment (Brownlie et al., 2004), problems with socialization (Botting & Conti-Ramsden, 2008), and high risk of psychiatric disease (Beitchman, 1985) have been considered as explanations for the high representation of people with language impairment in prison populations. There are potential indirect links between language impairment and incarceration. We were interested in the direct effects of language impairment on the understanding and application of one's legal rights. We sampled non-offending young adults with and without SLI to determine the extent to which they comprehend the legal language that is commonly used in Miranda warnings. In the United States, Miranda warnings are formal notice of the right to silence and the right to legal council that are read to suspects at the time of arrest.[1]

SLI

SLI is a high-incidence developmental impairment that affects 7% of the population (Tomblin et al., 1997). It is diagnosable in the preschool years as inefficient and underdeveloped language skills in the presence of normal nonverbal skills. Greater than 70% of SLI cases persist into adulthood; thus, the prevalence of SLI is 5% in the adolescent and adult population (see Nippold & Schwarz, 2002, for a review). By these estimates, roughly 15 million American adults have SLI. Individuals with SLI have clinically and educationally significant impairments in the expression and comprehension of verbal and written language, but they do not have mental retardation or associated syndromes, developmental disorders, or acquired neurocognitive impairments.

[a]The University of Iowa, Iowa City

Correspondence to Gwyneth Rost, who is now at the University of Massachusetts, Amherst: grost@comdis.umass.edu

Editor: Laura Justice
Associate Editor: Sandra Gillam
Received November 4, 2010
Revision received May 13, 2011
Accepted December 14, 2011
DOI: 10.1044/1058-0360(2011/10-0094)

[1]Following the construct of Grisso's *Instruments for Assessing Understanding and Appreciation of Miranda Rights* (1998), the ability to understand and apply Miranda warnings is referred to as comprehension of Miranda rights.

In adolescents and adults, symptoms of SLI include weak vocabulary (Beitchman et al., 2008); failure to use complex grammatical structures (Nippold, Mansfield, Billow, & Tomblin, 2009); and difficulty telling and understanding stories, jokes, and speeches (Wetherell, Botting, & Conti-Ramsden, 2007). Importantly, these are skills that might be necessary to comprehend legal language. Such language may contain infrequent vocabulary (i.e., *attorney* rather than *lawyer*) or secondary or idiomatic meanings of vocabulary items (i.e., *counsel* or *representation* rather than *lawyer*) and complex grammatical structures (i.e., *if you choose to waive this right, anything you do say can and will be used against you in a court of law*). However, because most conversational contexts do not require people to use infrequent vocabulary words or highly complex grammatical structures, the impairment is often unnoticeable to the layperson, including laypersons who are police interrogators.

Individuals with SLI may be virtually indistinguishable in conversation from those without SLI; however, the disabling effects of SLI are wide ranging. For example, people with SLI are more likely than the general population to have impairments of reading and writing (Catts, Fey, Zhang, & Tomblin, 2001; Clegg, Hollis, Mawhood, & Rutter, 2005). Eighty-nine percent of children identified as having SLI in preschool also merit special education services in areas other than speech and language by age 15 (Aram, Ekelman, & Nation, 1984). Reported educational outcomes for this population are quite varied. Recent estimates of completion of compulsory education by individuals with SLI range from 50% (Whitehouse, Watt, Line, & Bishop, 2009) to 91% (Durkin, Simkin, Knox, & Conti-Ramsden, 2009), with adequate provision of special education services in broad academic areas being an important factor in the completion of high school requirements.

The disabilities associated with SLI extend beyond the academic realm. Adults with language impairment typically work low-paying, blue-collar jobs (Whitehouse et al., 2009). Up to 65% of adults with SLI report extended periods of unemployment, 64% report receiving unemployment benefits, and 18% report that they have never been employed (Clegg et al., 2005, but see Durkin et al., 2009).

Additionally, individuals with language impairment report high levels of social anxiety (Voci, Beitchman, Brownlie, & Wilson, 2006) and low numbers of friends (Clegg et al., 2005). Impaired social cognition with particular problems in prosocial skills and peer interaction is a common sequela (Botting & Conti-Ramsden, 2008). To some extent, this seems to be mediated by gender: Boys with SLI have greater increased aggression than girls (Brownlie et al., 2004) and poorer mediation of social situations (Beichtman et al., 1996; see also Sanger et al., 1997). Additionally, language impairment has high concordance rates with behavioral psychopathologies (see Im-Bolter & Cohen, 2007, for a review). Depression and social isolation are also common in children with language impairment (Im-Bolter & Cohen, 2007), and adults with language impairment have significantly higher rates of depression and psychiatric malaise than their siblings without impairments (Clegg et al., 2005; Howlin, Mawhood, & Rutter, 2000).

Finally, as would be expected of a population with lower than average completion of compulsory education and high likelihood of working menial jobs, the mean socioeconomic status of individuals with SLI is typically lower than that of individuals without SLI.

All of these aspects of the SLI phenotype, broadly defined, may represent indirect links between language impairment and adjudication, in that associated educational, socioemotional, and socioeconomic difficulties could increase the risk of committing a crime. However, we were interested in direct links between the language deficits associated with SLI and a person's ability to understand legal rights. Whether a person is justly or falsely accused, the ability to understand legal rights affects the likelihood of adjudication, indictment, and incarceration.

The U.S. Supreme Court has ruled that a person's ability to navigate the legal system can be measured by his or her ability to assert those rights that are constitutionally guaranteed to accused persons (*Godinez v. Moran,* 1993). Adequate comprehension of these rights is necessary before they can be properly asserted. In the United States, these constitutionally guaranteed rights include, among others, the Fifth Amendment prohibitions against imprisonment without due process, double jeopardy, and forced self-incrimination; and the Sixth Amendment guarantees of a speedy trial, impartial jury, being informed of charges, confronting witnesses, and having counsel for defense. To ensure that the complex psychological situations surrounding a person's arrest, interrogation, and adjudication do not interfere with the rights that have been promised to the accused, many countries, including the United Kingdom, Australia, Canada, France, Germany, Hong Kong, India, Israel, Japan, New Zealand, Pakistan, the Philippines, South Africa, and Russia, to name only a few, require that citizens be informed of those rights at the time of arrest. In the United States, the formal caution of the Fifth Amendment right to not incriminate oneself and the Sixth Amendment right to legal council is called a "Miranda warning," named after the 1966 U.S. Supreme Court ruling in *Miranda v. Arizona* (1966) that mandated these cautions.

Miranda Warnings

Laws, interrogations, and courtroom proceedings have long been accepted in the American legal system as being linguistically complex (see *Miranda v. Arizona,* 1966). To mitigate this complexity, the *Miranda v. Arizona* (384 U.S. 486, 1966) ruling stated that criminal suspects must be informed of their rights at the time of arrest. The majority opinion acknowledged that even when police interrogators are not physically intimidating, they use psychological and linguistic trickery to deceive, cajole, or persuade suspects to incriminate themselves. More recently, the court has acknowledged that the communication between interrogators and suspects may be ambiguous for interrogators, too (*Berghuis v. Thompkins,* 2010). This raises the question of whether Miranda warnings are successful in helping to counter the psychological and linguistic difficulties of interrogation: Do Miranda warnings inform citizens of their rights in straightforward, linguistically simple, applicable ways? More specific to the current paper, do citizens with language impairment understand these rights?

Miranda v. Arizona (1966) does not specify what wording is to be used in the Miranda warning; therefore, each

jurisdiction has the opportunity to write its warning as simply or complexly as it wishes. Miranda warnings must be presented to the suspect in both written and oral (i.e., read aloud) forms at the time of arrest. Reading level is therefore a reasonable proxy for the difficulty of language used in Miranda warnings. An analysis of Flesh-Kincaid reading levels for a variety of Miranda warnings across jurisdictions indicates that the average Miranda warning is written at the 6th- to 7th-grade level (Rogers, Harrison, Shuman, Sewell, & Hazelwood, 2007), yet close analysis of the components of warnings reveals variation around that mean: Statements concerning the right to silence and evidentiary use of statements are easy to read (3rd- to 5th-grade levels), but statements on free legal services and the continuation of rights are much more difficult (9th- to 11th-grade level).

Words commonly used in Miranda warnings also vary from the highly frequent and easily understood (e.g., *afford*) to the infrequent and difficult to understand (e.g., *accord*) (Rogers, Harrison, Shuman, et al., 2007). Many jurisdictions have multiple versions of Miranda warnings and use separate warnings for juvenile and adult suspects (see Helms, 2003; Rogers, Harrison, Shuman, et al., 2007); however, and somewhat surprisingly, juvenile warnings are sometimes more difficult than adult ones (Helms, 2003).

Given the difficult syntax, infrequent vocabulary, and complex and nuanced pragmatics of Miranda warnings, we hypothesized that young adults with SLI would not fully comprehend the rights afforded to them by *Miranda v. Arizona* (1966). One indication that this would be the case is the recent report that, among persons with cognitive and psychiatric disorders, poor language abilities are most strongly linked to inappropriate waiving of Miranda rights (Rogers, Harrison, Hazelwood, & Sewell, 2007).

The goal of this study was to determine whether a person's language ability affects his or her comprehension of Miranda warnings, and if so, whether language ability affects comprehension to the extent that adults with language impairments, in this case, young adults with SLI, inadequately comprehend Miranda warnings. We predicted a relationship between language ability and Miranda warning comprehension, with individuals with SLI having poorer comprehension of rights than their typically developing (TD) peers. We further predicted that individuals with SLI would score lower than their TD peers on three areas of Miranda comprehension: Their deficits in syntax would impede their comprehension of the sentence structures used in legal proceedings (as measured by a paraphrasing task), their relatively weak lexicons would impede their comprehension of specific words and concepts necessary for complete Miranda comprehension (as measured by a definition task), and their poor pragmatic language would affect their ability to respond appropriately to the subtext of interrogation and legal proceedings (as measured by an application to hypothetical situations task).

Method

Participants

Participants were 34 young adults (ages 18–25 years) who were recruited by word of mouth, advertisements, and letters sent through university and community college offices of student disability services. All of the participants were attending postsecondary education at the university or community college level. It should be noted that this method of participant recruitment netted us a group of high-achieving, literate individuals with SLI who were all high-school graduates. All participants self-identified as white, non-Hispanic. To ensure adequate hearing, all participants were given and passed a pure-tone audiometric screening before participation. To ensure similar knowledge of the law, we recruited only individuals who had never been arrested and excluded those who had been enrolled in prelaw coursework.

Seventeen participants (8 males, 9 females) had a diagnosis consistent with SLI (i.e., language impaired, language learning disabled) and were receiving classroom accommodations for this reason. To receive accommodations for this diagnosis from the university or community college office of students disability services, students had to have demonstrated (a) average or above IQ based on the Wechsler Adult Intelligence Scale—III (Wechsler, 1997), and (b) academic impairment based on the Wechsler Individual Achievement Test (Wechsler, 1992) or the Woodcock-Johnson Psychoeducational Battery—Third Edition (Woodcock, McGrew, & Mather, 2001). We further verified this diagnosis by administering the Test of Adolescent and Adult Language—Fourth Edition (TOAL–4; Hammill, Brown, Larsen, & Wiederholt, 2007; individuals had to score <1 *SD* from the mean on at least two subtests) and the Matrices subtest of the Kaufman Brief Intelligence Test, Second Edition (KBIT; Kaufman & Kaufman, 2004; individuals had to score >1 *SD* below the mean). All participants with SLI therefore had nonverbal intelligence in the average or above average ranges with language skills below that range. Spoken and general language scores on the TOAL–4 are highly correlated (correlation coefficients of .79–.86) with scores on the verbal subtests of the third and fourth editions of the Weschler Intelligence Scale for Children (WISC–III, Verbal Scale; WISC–IV, Verbal Comprehension), but less strongly correlated (correlation coefficients of .15–.39) with scores on the nonverbal subtests (WISC–III, Performance Scale; WISC–IV, Perceptual Reasoning), indicating that the TOAL–4 measures verbal abilities with high validity (Hammill, Brown, Larsen, & Wiederholt, 2007).

Seventeen participants (8 males, 9 females) had TD language ability; they were without diagnoses consistent with SLI and scored >1 *SD* from the mean on all subtests of the TOAL–4 and on the KBIT Matrices subtest.

The SLI and TD groups did not differ in age, M_{SLI} = 21;10 (years;months), SD_{SLI} = 1,7; M_{TD} = 21;11, SD_{TD} = 2,0; $t(32) = .25$, $p = .80$, or educational attainment, M_{SLI} = 14.7, SD_{SLI} = 1.9; M_{TD} = 15.4, SD_{TD} = 1.4; $t(32) = 1.14$, $p = .26$. However, the two groups did differ in language ability (TOAL–4 subtests omnibus score measure: M_{SLI} = 32.0, SD_{SLI} = 7.7; M_{TD} = 54.5, SD_{TD} = 5.8; $t(32) = 9.5$, $p < .001$), as was expected. Scores for the TOAL–4 subtests and the TOAL–4 omnibus score for the two groups are shown in Table 1.

Both groups had nonverbal IQs in the normal range as measured by the KBIT Matrices subtest. However, the SLI group scored significantly lower than the TD group

TABLE 1. Group characteristics of study participants: typically developing young adults (TD) and young adults with specific language impairment (SLI).

	TD		SLI		
Characteristic	*M*	*SD*	*M*	*SD*	*p* value
Age (in years;months)	21;11	2;0	21;10	1;7	.800
Education (in years)	15.4	1.4	14.7	1.9	.260
TOAL–4					
Word Opposites	11.6	2.3	6.5	2.5	<.001
Word Derivations	11.0	1.9	6.4	2.2	<.001
Word Similarities	10.5	2.3	6.5	3.1	<.001
Sentence Combining	9.7	1.9	5.4	2.7	<.001
Orthographic Usage	11.6	2.5	7.2	2.7	<.001
Omnibus	54.5	5.8	32.0	7.7	<.001
KBIT					
Matrices	112.6	12.7	97.8	10.4	<.001

Note. The Test of Adolescent and Adult Language—Fourth Edition (TOAL–4; Hammill, Brown, Larsen, & Wiederholt, 2007) subtest means are reported in scaled scores; Kaufman Brief Intelligence Test, Second Edition (KBIT; Kaufman & Kaufman, 2004) Matrices subtest scores are reported in standard scores.

on this measure, $M_{SLI} = 97.8$, $SD_{SLI} = 10.4$; $M_{TD} = 112.6$, $SD_{TD} = 12.7$; $t(32) = 3.74$, $p < .001$. Low average nonverbal IQs are characteristic of the phenotype of SLI (Leonard et al., 2007), but we nonetheless used the KBIT standard scores as a covariate in subsequent analyses to isolate the effect of language ability on Miranda rights comprehension.

Procedure

We assessed participants' comprehension of Miranda rights using the Instruments for Assessing Understanding and Appreciation of Miranda Rights (Grisso, 1998). This measure was standardized for clinical use in the judicial system. The Instruments for Assessing Understanding and Appreciation of Miranda Rights was normed in 1980–1982 in the St. Louis, MO, metropolitan area on a population of 431 youths and 260 adults. Of the adults, 203 were offenders, 80% were male, and 40% were White (58% African American); therefore, the measure is weighted toward offenders. Additionally, males and African Americans are overrepresented in comparison to the general population. This measure was chosen because practitioners report using it as part of a battery of standardized tests to determine adjudicative competence, and it is a commonly used research tool (Ryba, Brodsky, & Shlosberg, 2007). The particular language of the warning used in this test is considered average in difficulty compared to other variations (Helms, 2003).

The Instruments for Assessing Understanding and Appreciation of Miranda Rights has three subtests: Comprehension of Miranda Rights, Comprehension of Miranda Vocabulary, and Function of Rights in Interrogation. As the title of the instrument implies, all three subtests are intended to measure comprehension. However, it should be noted that the response format for each subtest is expressive; therefore, the level of language ability required to perform well on this test may be greater than that required in a more traditional recognition format.

In the Comprehension of Miranda Rights subtest, participants are asked to reword each of four statements that are typical of a Miranda warning. The subtest is scored on a scale from 0 to 2 based on the extent to which the rewording conveys basic comprehension of each clause in the statement. For example, "Anything you say can and will be used against you in a court of law" receives a full score for paraphrases indicating that the content of what the accused says (one point) will be included as evidence for prosecution (one point). We shall refer to this as the ability to paraphrase the Miranda warning. In the Comprehension of Miranda Vocabulary subtest, participants are asked to define seven key words that are consistent with Miranda warnings (e.g., *right, appoint, attorney*). This subtest is scored on a two-point scale. The correct definitions of these words were determined by a team of legal experts and stress definition of the legal use of the words. For example, a two-point definition of the word *right* includes one point for privilege (one has the choice) and one point for protection (the choice is protected by law). We shall refer to this as the ability to define Miranda vocabulary. Finally, in the Function of Rights in Interrogation subtest, participants are asked to apply the rights to stories about individuals who are being interrogated. In one story, for example, the participant is asked to describe what the police should do when a character has been brought in for questioning and has said that he does not want to talk. Again, two points are awarded for a correct response, in this case, that the police should cease questioning or that they should contact his lawyer. We shall refer to this as the ability to apply Miranda rights. Importantly, in all three subtests, participants can answer in as many sentences as they like. From these subtests, we obtained total scores as well as subtest scores on paraphrasing, defining, and applying aspects of the Miranda warning.

Audio recordings of the participants' responses to the Instruments for Assessing Understanding and Appreciation of Miranda Rights were transcribed and scored offline by two examiners who were blinded to the participants' diagnoses.

Overall interexaminer reliability was .93, and all responses where the two scorers disagreed were rescored collaboratively to achieve consensus. The Instruments for Assessing Understanding and Appreciation of Miranda Rights does not scale or standardize scores, so raw scores on the full measure or on individual subtests were used as a dependent variable in the statistical analyses.

Results

Language Ability

Scaled scores from five subtests (Word Opposites, Word Derivations, Word Similarities, Sentence Combining, and Orthographic Usage) of the TOAL–4 were summed to produce a TOAL–4 omnibus score. This omnibus language measure correlated significantly with the scores on the Instruments for Assessing Understanding and Appreciation of Miranda Rights, $r = .73$, $p < .001$, capturing 54% of the variance in performance (see Figure 1). Thus, overall language ability does relate to an individual's ability to comprehend—and in theory, take advantage of—his or her rights as measured by paraphrasing, defining, and applying aspects of the Miranda warning.

Group Differences

Group differences in the total score on the Instruments for Assessing Understanding and Appreciation of Miranda Rights were evaluated using an analysis of covariance (ANCOVA), with nonverbal IQ (as measured by scores on the Matrices subtest of the KBIT) as a covariate. On total score, the SLI group performed more poorly than the TD group, $F(3, 31) = 13.14$, $p = .001$, $\eta_p^2 = .30$. The effect of nonverbal IQ as a covariate was not significant, $F(3, 31) = 1.76$, $p = .19$, indicating that these results were not caused by poorer nonverbal cognition. Subtest scores revealed marginally poorer paraphrasing of Miranda sentences for the participants with SLI, $M_{SLI} = 6.3$, $SD_{SLI} = 2.0$, $M_{TD} = 7.7$, $SD_{TD} = 0.6$, $F(3, 31) = 3.9$, $p = .058$, $\eta_p^2 = .11$, and significantly poorer ability to define court-related vocabulary, $M_{SLI} = 8.5$, $SD_{SLI} = 1.7$, $M_{TD} = 11.1$, $SD_{TD} = 0.9$, $F(3, 31) = 17.8$, $p < .001$, $\eta_p^2 = .36$, and to apply rights to situations, $M_{SLI} = 20.5$, $SD_{SLI} = 4.9$, $M_{TD} = 25.9$, $SD_{TD} = 2.3$, $F(3, 31) = 7.4$, $p = .01$, $\eta_p^2 = .19$ (see Table 2). These are all moderate-to-large effect sizes (Olejnik & Algina, 2003). The effect of nonverbal IQ as the covariate was not significant for paraphrasing, $F < 1$, defining vocabulary items, $F < 1$, or applying rights to situations, $F(3, 31) = 1.69$, $p = .20$.

Grisso (1998) recommends that examiners use the mean from his group samples sorted by age and IQ as a cutoff score on the Instruments for Assessing Understanding and Appreciation of Miranda Rights. This allows the measure to be used as a screening instrument; that is, it has better sensitivity than specificity. Thus, anyone scoring below the mean of the standardization sample is considered to be at risk for failure to fully understand the Miranda warning. In this case, Grisso recommends that questioning should cease until further testing can be done to ensure that the person's rights have been knowingly waived or attested. By this measure, 13 of the 17 individuals in our SLI group fell below the cutoff, compared to two individuals in the TD group. The SLI average score (35.3, $SD = 6.9$) was

FIGURE 1. Correlation between overall language ability and Miranda rights comprehension, *r* = .73, *p* < .001, with 95% confidence interval. Filled circles represent individuals with specific language impairment (SLI), unfilled circles represent the typically developing (TD) cohort. The horizontal dotted line indicates the cutoff score below which individuals should be further tested for competence to waive or attest rights.

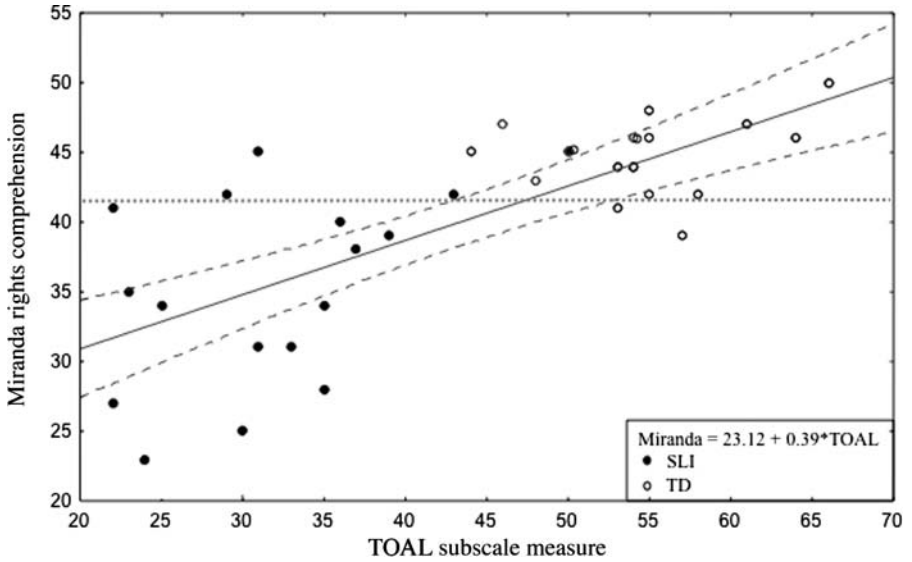

TABLE 2. Raw scores of participants on the Instruments for Assessing Understanding and Appreciation of Miranda Rights (Grisso, 1998).

	TD		SLI		
Score	Raw score	*SD*	Raw score	*SD*	*p* value
Comprehension of Miranda Rights	7.7	0.6	6.3	2.0	.058
Comprehension of Miranda Vocabulary	11.1	0.9	8.5	1.7	<.001
Function of Rights in Interrogation	25.9	2.3	20.5	4.9	.010
Total	44.7	2.7	35.3	6.9	.001

significantly below the recommended test cutoff (41.5), $t(17) = 3.38$, $p < .01$.

Discussion

An adequate understanding of Miranda warnings is related to a person's language abilities. In our sample of young adults, those with SLI comprehended Miranda rights more poorly than peers of similar age and education, and scored, as a group, below the screening cutoff on Grisso's (1998) Instruments for Assessing Understanding and Appreciation of Miranda Rights. Specifically, the participants with SLI were marginally less able to paraphrase Miranda sentences, and they were significantly less able to define Miranda vocabulary and apply Miranda rights in hypothetical situations. The effect sizes for differences between participants with SLI and those without were also moderate (paraphrasing sentences and applying rights to situations) to large (defining vocabulary). These results must be interpreted with caution, as there was a small number of participants in this study, three of the individuals in our SLI group scored above the cutoff, and two TD individuals scored below the cutoff.

Clearly not every individual with SLI lacks comprehension of Miranda warnings, nor does every TD young adult fully understand them. However, this sample contained only highly successful individuals with SLI—literate, middle-class high-school graduates. In other words, this is likely a best-case scenario. The strong positive correlation between Miranda rights comprehension and language suggests that other, less successful individuals with SLI—those who have worse language skills, poorer literacy, and lower educational achievement—may be even less likely to understand their Miranda rights. This hypothesis awaits further study.

It has been demonstrated that individuals with mental retardation, that is, full-scale IQ (both verbal and nonverbal) <70, have disabled comprehension of Miranda rights (Fulero & Everington, 1995). With this study, we have now demonstrated that some individuals with low verbal IQ only—those who do not qualify as mentally retarded—share this disability. However, current legal precedent (see *Atkins v. Virginia,* 2002) protects only individuals with mental retardation from overzealous adjudication. Individuals with SLI who are deficient in their understanding of Miranda warnings do not have these same legal protections. Importantly, nothing about individuals with SLI would necessarily raise red flags for the police: Clinical markers of poor comprehension in these young adults may be so subtle as to be unnoticeable to laypersons. Therefore, police interrogators may proceed under the false assumption that these individuals' Miranda rights have been secured.

There are two reasons why the linguistic transparency of Miranda warnings might be important to clinicians and to society as a whole. First, clinicians must plan appropriate interventions to help their clients achieve optimum success. Second, clinicians are called on to advocate in general society for the clinical populations they serve. In the first vein, the current results suggest a focus of clinical intervention for adolescents with language impairment. Individual education plans already require that special education teams consult on the prospects for "living, learning, and working" for all individuals over the age of 14. It is already known that recidivism is less common among juveniles and adults who receive instruction in language, reading, and job skills while incarcerated than among those who do not receive instruction (Rogers-Adkinson, Melloy, Stuart, Fletcher, & Rinaldi, 2008, for a review). For unincarcerated juveniles and adults who have SLI, similar instruction might be useful as a means of ensuring their rights—whether in the legal system or in the larger community. Language processes that impede comprehension of these laws, such as impaired sentence comprehension, vocabulary knowledge, and executive function or forward-thinking skills, could be potential targets for remediation. The content of actual laws and legal paperwork such as contracts could be considered as relevant materials for study and practice.

Second, speech-language pathologists can advocate for the use of clear and simple language in the Miranda warnings used by their localities. The wording of Miranda warnings is not enshrined in federal law or judicial opinion. Each jurisdiction writes its own versions of the warnings; sometimes, multiple warnings are presented (see *Berghuis v. Thompkins,* 2010). Recall that two of the young adults in our TD cohort scored below the cutoff for this test: this suggests that the wording of the "typical" warning in Grisso's (1998) Instruments for Assessing Understanding and Appreciation of Miranda Rights is difficult even for well-educated people without impairments. To ensure the equal rights of citizenship, much simpler warnings should be used.

Rogers, Hazelwood, Sewell, Shuman, and Blackwood (2008) suggested that an appropriate rule of thumb for juvenile warnings is that they conform to principles of low reading level and short, bullet point–like phrases. This same type of advice could be used for all Miranda warnings, thereby reducing uncertainty about whether a person's rights have been secured. Society as a whole is likely unaware

of the struggles that people with language impairment face, and speech-language pathologists can educate police, lawyers, justices, and other members of society on the subtle disabilities of this clinical population and on the need to provide appropriate accommodations for them.

A two-pronged approach—intervention that targets the language of Miranda warnings and other legal documents plus advocacy for clear language in such documents—may help to ensure that people with language impairment are not denied the rights of citizenship.

Acknowledgments

The authors would like to thank Mark Harris, Director of Students Disability Services at the University of Iowa, and Nichole Eden for assistance with participant recruitment. We also acknowledge Jessica J. Johnson for transcription and coding and Melissa Duff for her comments on an early draft. This work was funded in part by National Institutes of Health/National Institute on Deafness and Other Communication Disorders 122270001 to K. K. McGregor.

References

Aram, D., Ekelman, B. L., & Nation, J. E. (1984). Preschoolers with language disorders 10 years later. *Journal of Speech and Hearing Research, 27,* 232–244.

Atkins v. Virginia, 536 U.S. 304 (2002).

Beitchman, J. H. (1985). Speech and language development and psychiatric risk: Towards a model of neurodevelopmental immaturity. *Psychiatric Clinics of North America, 8*(4), 721–735.

Beitchman, J. H., Jiang, H., Koyama, E., Johnson, C. J., Escobar, M., Atkinson, L., . . . Vida, R. (2008). Models and determinants of vocabulary growth from kindergarten to adulthood. *Journal of Child Psychology and Psychiatry, 49*(6), 626–634.

Beitchman, J. H., Wilson, B., Brownlie, E. B., Walters, H., Inglis, A., & Lancee, W. (1996). Long-term consistency in speech/language profiles: II. Behavioral, emotional, and social outcomes. *Journal of the American Academy of Child & Adolescent Psychiatry, 35*(6), 815–825.

Berghuis v. Thompkins, 590 U.S. ___ (2010).

Blanton, D. J., & Dagenais, P. A. (2007). Comparison of language skills of adjudicated and nonadjudicated adolescent males and females. *Language, Speech, and Hearing Services in Schools, 38,* 309–314.

Botting, N., & Conti-Ramsden, G. (2008). The role of language, social cognition, and social skill in the functional social outcomes of young adolescents with and without a history of SLI. *British Journal of Developmental Psychology, 26*(2), 281–300.

Brownlie, E. B., Beitchman, J. H., Escobar, M., Young, A., Atkinson, L., Johnson, C., . . . Douglas, L. (2004). Early language impairment and young adult delinquent and aggressive behavior. *Journal of Abnormal Child Psychology, 32*(4), 453–467.

Bryan, K., Freer, J., & Furlong, C. (2007). Language and communication difficulties in juvenile offenders. *International Journal of Language & Communication Disorders, 42*(5), 505–520.

Catts, H. W., Fey, M. E., Zhang, X., & Tomblin, J. B. (2001). Estimating the risk of future reading difficulties in kindergarten children: A research-based model and its clinical implementation. *Language, Speech, and Hearing Services in Schools, 32*(1), 38–50.

Clegg, J., Hollis, C., Mawhood, L., & Rutter, M. (2005). Developmental language disorders—A follow-up in later adult life. Cognitive, language and psychosocial outcomes. *Journal of Child Psychology and Psychiatry, 46*(2), 128–149.

Durkin, K., Simkin, Z., Knox, E., & Conti-Ramsden, G. (2009). Specific language impairment and school outcomes. II: Educational context, student satisfaction, and post-compulsory progress. *International Journal of Language & Communication Disorders, 44*(1), 36–55.

Fulero, S. M., & Everington, C. (1995). Assessing competency to waive Miranda rights in defendants with mental retardation. *Law and Human Behavior, 19*(5), 533–543.

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

Grisso, T. (1998). *Instruments for Assessing Understanding and Appreciation of Miranda Rights*. Sarasota, FL: Professional Resource Press.

Hammill, D. D., Brown, V. L., Larsen, S. C., & Wiederholt, J. L. (2007). *Test of Adolescent and Adult Language—4th Edition*. San Antonio, TX: Pearson.

Helms, J. L. (2003). Analysis of *Miranda* reading levels across jurisdictions: Implications for evaluating waiver competency. *Journal of Forensic Psychology Practice, 3*(1), 25–37.

Howlin, P., Mawhood, L., & Rutter, M. (2000). Autism and developmental receptive language disorder; a follow-up comparison in early adult life. II: Social, behavioural, and psychiatric outcomes. *Journal of Child Psychology and Psychiatry, 41*(5), 561–578.

Im-Bolter, N., & Cohen, N. (2007). Language impairment and psychiatric comorbidities. *Pediatric Clinics of North America, 54*(3), 525–542.

Kaufman, A. S., & Kaufman, N. L. (2004). *Kaufman Brief Intelligence Test, 2nd Edition*. Circle Pines, MN: AGS.

Kavanagh, L., Rowe, D., Hersch, J., Barnett, K. J., & Reznik, R. (2010). Neurocognitive deficits and psychiatric disorders in a NSW prison population. *International Journal of Law and Psychiatry, 33*(1), 20–26.

Leonard, L. B., Ellis Weismer, S., Miller, C. A., Francis, D. J., Tomblin, J. B., & Kail, R. V. (2007). Speed of processing, working memory, and language impairment in children. *Journal of Speech, Language, and Hearing Research, 50,* 408–428.

Miranda v. Arizona, 384 U.S. 486 (1966).

Nippold, M. A., Mansfield, T. C., Billow, J. L., & Tomblin, J. B. (2009). Syntactic development in adolescents with a history of language impairments: A follow-up investigation. *American Journal of Speech-Language Pathology, 18*(3), 241–251.

Nippold, M. A., & Schwarz, I. E. (2002). Do children recover from specific language impairment? *International Journal of Speech-Language Pathology, 4*(1), 41–49.

Olejnik, S., & Algina, J. (2003). Generalized eta and omega squared statistics: Measures of effect size for some common research designs. *Psychological Methods, 8*(4), 434–447.

Rogers, R., Harrison, K., Hazelwood, L., & Sewell, K. (2007). Knowing and intelligent: A study of Miranda warnings in mentally disordered defendants. *Law and Human Behavior, 31*(4), 401–418.

Rogers, R., Harrison, K. S., Shuman, D. W., Sewell, K. W., & Hazelwood, L. L. (2007). An analysis of Miranda warnings and waivers: Comprehension and coverage. *Law and Human Behavior, 31*(2), 177–192.

Rogers, R., Hazelwood, L. L., Sewell, K. W., Shuman, D. W., & Blackwood, H. L. (2008). The comprehensibility and content of juvenile Miranda warnings. *Psychology, Public Policy, and Law, 14*(1), 63–87.

Rogers-Adkinson, D., Melloy, K., Stuart, S., Fletcher, L., & Rinaldi, C. (2008). Reading and written language competency

of incarcerated youth. *Reading & Writing Quarterly, 24*(2), 197–218.

Ryba, N. L., Brodsky, S. L., & Shlosberg, A. (2007). Evaluations of capacity to waive Miranda rights: A survey of practitioners' use of the Grisso instruments. *Assessment, 14*(3), 300–309.

Sanger, D. D., Hux, K., & Belau, D. (1997). Oral language skills of female juvenile delinquents. *American Journal of Speech-Language Pathology, 6*(1), 70–76.

Shiroma, E. J., Ferguson, P. L., & Pickelsimer, E. E. (2010). Prevalence of traumatic brain injury in an offender population: A meta-analysis. *Journal of Correctional Health Care, 16*(2), 147–159.

Tomblin, J. B., Records, N. L., Buckwalter, P., Zhang, X., Smith, E., & O'Brien, M. (1997). Prevalence of specific language impairment in kindergarten children. *Journal of Speech, Language, and Hearing Research, 40,* 1245–1260.

Voci, S. C., Beitchman, J. H., Brownlie, E. B., & Wilson, B. (2006). Social anxiety in late adolescence: The importance of early childhood language impairment. *Journal of Anxiety Disorders, 20*(7), 915–930.

Wechsler, D. (1992). *Wechsler Individual Achievement Test*. San Antonio, TX: The Psychological Corporation.

Wechsler, D. (1997). *Wechsler Adult Intelligence Scale—III* (WAIS–III). San Antonio, TX: The Psychological Corporation.

Wetherell, D., Botting, N., & Conti-Ramsden, G. (2007). Narrative in adolescent specific language impairment (SLI): A comparison with peers across two different narrative genres. *International Journal of Language & Communication Disorders, 42*(5), 583–605.

Whitehouse, A. J. O., Watt, H. J., Line, E. A., & Bishop, D. V. M. (2009). Adult psychosocial outcomes of children with specific language impairment, pragmatic language impairment and autism. *International Journal of Language & Communication Disorders, 44*(4), 511–528.

Woodcock, R. W., McGrew, K. S., & Mather, N. (2001). *Woodcock-Johnson Psychoeducational Battery III*. Itasca, IL: Riverside.

Miranda Rights Comprehension in Young Adults With Specific Language Impairment

Gwyneth C. Rost, and Karla K. McGregor
Am J Speech Lang Pathol 2012;21;101-108; originally published online Jan 9, 2012;
DOI: 10.1044/1058-0360(2011/10-0094)