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THE COMPREHENSIBILITY AND CONTENT OF JUVENILE MIRANDA WARNINGS

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Annually, more than 1.5 million juvenile offenders are arrested and routinely Mirandized with little consideration regarding the comprehensibility of these warnings. The current investigation examined 122 juvenile Miranda warnings from across the United States regarding their length, reading level, and content. Even more variable than general Miranda warnings, juvenile warnings ranged remarkably from 52 to 526 words; inclusion of Miranda waivers and other material substantially increased these numbers (64–1,020 words). Flesch-Kincaid reading estimates varied dramatically from Grade 2.2 to postcollege. Differences in content included such critical issues as (a) right to parent/guardian input, (b) specification of free legal services for indigent defendants, and (c) statements of right to counsel in conditional terms. Recommendations for simplified juvenile Miranda warnings are presented.

Keywords: Miranda, confessions, juvenile evaluations, self incrimination

The Supreme Court in *Miranda v. Arizona* (1966) articulated general principles and procedures that must be observed prior to the custodial interrogation of criminal suspects. The Court outlined the basic elements that must be included in Miranda warnings: (a) right to silence, (b) use of any statements as evidence against the suspect, (c) right to counsel, (d) access to counsel for indigent suspects, and (e) assertion of rights at any time. The final prong (e) is included in most but not all jurisdictions and is based on the Court's declaration immediately following the warning statement (*Miranda,* 1966, p. 479): "Opportunity to exercise these rights must be afforded to him throughout the interrogation." To afford adequate constitutional protections, custodial suspects must be "clearly informed" (*Miranda,* 1966, p. 471) of their rights to silence and counsel in "unequivocal terms" (*Miranda,* 1966, p. 468). Being clearly informed requires that suspects comprehend their Miranda rights, despite being placed in police custody and held incommunicado. The Court has never taken a formalistic approach to the language

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of Miranda warnings. In *Duckworth v. Eagan* (1989, p. 202), it affirmed that "we have never insisted that *Miranda* warnings be given in the exact form described in that decision." Even in the case of warnings given to juveniles, the Court (*California v. Prysock,* 1981, p. 359) has rejected a precise formulation: "Quite the contrary, *Miranda* itself indicated that no talismanic language was required to satisfy its strictures." Neither the order nor the language of the warnings is constitutionally compelled. Rather, the *Miranda* decision requires only that the essential information be provided. The critical inquiry is whether the accused was adequately informed of the right to be free from self-incrimination and to have counsel appointed and present before being questioned by the police (see *Rhode Island v. Innis,* 1980).

The Supreme Court has continued to affirm Miranda rights, even overturning a congressional attempt at its repeal (*Dickerson v. United States,* 2000). In *In re Gault* (1967), the application of the constitutional protections to juvenile offenders was also affirmed. The next two sections of this introduction examine the legal framework and developmental issues involved in juvenile Miranda rights.

Legal Framework

In acknowledging *Miranda,* the Supreme Court (*In re Gault,* 1967, p. 44) recognized that "the constitutional protection against self-incrimination is as applicable in the case of juveniles as it is with respect to adults." Recognizing differences between youth and adults, it ruled that "greatest care must be taken" to ensure that any admission was "not the product of ignorance of rights or of adolescent fantasy, fright, or despair" (*In re Gault,* 1967, p. 44). In the next paragraphs, we examine the development of case law as it relates to juvenile Miranda rights and waivers.

The Supreme Court's test for a constitutionally valid Miranda waiver asks whether the waiver was knowing, intelligent, and voluntary under the totality of the circumstances. The Court has not specified any structure or content for Miranda waivers, which vary across jurisdictions from a few words (e.g., "Would you like to talk to us?") to highly elaborated statements exceeding 100 words (see Rogers, Harrison, Shuman, Sewell, & Hazelwood, 2007). Although the Court had long instructed lower courts to carefully consider the impact of age and experience in judging the voluntariness of a juvenile's confession (*Fare v. Michael C.,* 1979; *Haley v. Ohio,* 1948), it rejected an argument that the Constitution demanded a per se rule entitling all children to greater protection in waiving Miranda rights (e.g., the presence of a parent or attorney). Rather than additional protections for children, the Court opted for a totality of the circumstances approach for children as well as adults. The states are free under state law to provide more safeguards than the constitutional minimum established by the Supreme Court; some states have chosen to do so, but most just require the totality of the circumstances approach approved in *Fare*. Under the totality of the circumstances approach, to determine if a juvenile's waiver was knowing, intelligent, and voluntary, courts consider factors such as the juvenile's age, education, background, circumstances of questioning, its duration, and any allegations of coercion or trickery (*West v. United States,* 1968). The burden is on the govern-

ment to prove that the juvenile has voluntarily waived Miranda rights (see *Fare,* 1979, at p. 724).

About a dozen states have adopted per se rules that treat juvenile interrogations differently from those of adults (Larson, 2003). States that have opted for a per se approach to juvenile waivers of Miranda rights have chosen various types of additional protections. A few states have a nonwaivable requirement that legal counsel be provided to the juvenile before any waiver is considered valid. For example, in New Mexico, the state court of appeals held that even when a female juvenile told officers that she understood she had a right to counsel, refused counsel, and confessed, the absence of counsel rendered her confession inadmissible under state law (*State v. Doe,* 1980). Other states require that a minor consult with a parent, guardian, or other interested adult before a waiver can be effectuated. In Indiana, for example, a juvenile Miranda waiver requires the participation of (a) a custodial parent, guardian, custodian, or guardian ad litem with no interests adverse to the child, and (b) meaningful consultation between adult and child, both of whom must join in the waiver decision (King, 2006). In *Stewart v. State* (2001), the Indiana Supreme Court determined that a male juvenile's confession to murder and robbery was inadmissible because the adult participating on his behalf, his biological father, was not in this case, a "custodial parent" (p. 494).

However, the reliance upon parental or guardian involvement leads to its own troublesome issues where the adult's interests may not coincide with those of the juvenile suspect. This issue of a right to conflict-free advice was presented by the facts in *Little v. Arkansas* (1978). In affirming her conviction, the Arkansas Supreme Court found no error in the Miranda waiver by a 13-year-old girl who subsequently confessed to the murder of her father. Relying on the totality of the circumstances test, the Arkansas court concluded that the defendant's consultation with her mother, who was on drugs and had been lying next to the father when she was awakened by the fatal shotgun blast to his head at close range, was adequate to permit admission of the confession (*Little,* 1978, p. 960). Justice Marshall dissented from the U.S. Supreme Court's denial of certiorari noting that crying and urging her daughter to confess by a mother who was herself a suspect hardly constituted dispassionate advice that should be summarily denied review.

Developmental Issues

Research data raise questions regarding whether juvenile waivers of Miranda rights constitute meaningful decisions or legal expediencies. Throughout the decades, only about 10% of juvenile suspects have exercised their Miranda rights. The classic study by Grisso and Pomicter (1977) yielded an unweighted average for 1974–1976 of 9.6%. More recent research confirms this finding (see Owen-Kostelnik, Reppucci, & Meyer, 2006; Redlich, Silverman, & Steiner, 2003), with only the small study by Feld (2006) substantially exceeding this percentage: 15.2% exercised Miranda rights immediately and 4.5% after some interrogation. Overall, the striking rarity would seem to suggest that comparatively few adolescent suspects make informed decisions, which take into account the potentially negative consequences of their choices. Although a minority of states require the presence of an interested adult, this potential safeguard has several limitations,

including the competence of parents (*In re Gault,* 1967, p. 55) and parental motivations that may not serve to protect juvenile suspects. Clearly, the mere presence of a parent, without private communication, offers only a nominal safeguard. On this point, the Indiana Supreme Court ruled a Miranda waiver was invalid in *Williams v. State* (1982, p. 772) because the father and the child were not allowed a "meaningful conversation." Regarding parental competence, the Louisiana Court of Appeals (*State in Interest of Jones,* 1979) required that when a juvenile suspect consults with an interested adult rather than an attorney, it must be "affirmatively shown that the adult understood the import of the constitutional rights waived by the juvenile" (p. 780). Regarding parental objectivity, the Vermont Supreme Court (*In re E. T. C.,* 1982) ruled that a parent, guardian, or custodian participating in a waiver decision must not only be interested in the child's welfare but also be totally uninvolved with the offenses being investigated. In summary, appellate decisions have recognized that the use of an interested adult is a hollow protection unless that person (a) actively consults with the juvenile, (b) competently understands Miranda rights, (c) seeks to protect the juvenile's welfare, and (d) has no conflicting interests.

Early research (see Oberlander & Goldstein, 2001) suggested that parents often failed to provide any advice regarding Miranda rights and sometimes pressured their children to participate. A recent study by Viljoen, Klaver, and Roesch (2005) found that most parents did not advise their children to remain silent. When parents provided input, they usually wanted their children to confess (55.6%) or tell the truth (33.3%). These data suggest that parental practices may fall far short of providing meaningful communications about Miranda rights that serve to preserve constitutional protections.

Miranda warnings and waivers require sufficient ability to understand their constitutional protections and rationally apply them to waiver decisions at the preinterrogation stage. As outlined by Rogers and Shuman (2005), suspects may be markedly impaired by limited cognitive abilities (e.g., mental retardation or dementia), psychotic disorders (e.g., schizophrenia or delusional disorders), or impaired states (e.g., alcohol intoxication). In a study of legal competency, Warren, Aaron, Ryan, Chauhan, and DuVal (2003) found that learning disorders, mental retardation, and psychotic symptoms were each linked to poor understanding. Miranda determinations in juvenile suspects are further complicated by developmental considerations, especially those related to age and maturity.

Younger ages are clearly associated with a higher likelihood of waiving rights and providing confessions. Using a vignette design, Grisso et al. (2003) studied age and maturity in a multicentered study of 927 adolescents drawn from the community and juvenile detention. More than 40% of younger youth (ages 11–15 years) opted to relinquish their rights and confess; this is more than double the percentage found with young adults (i.e., $<$20%). Using an experimental paradigm (i.e., falsely accusing participants in a simulated computer crash), Redlich and Goodman (2003) easily obtained false confessions from most youth (75%), which was substantially higher than from young adults. Studying the preinterrogation patterns of juvenile suspects, Viljoen et al. (2005) found detained youth under age 14 rarely exercised their Miranda rights to silence (7.4%) or counsel (0.0%). Age is closely associated with maturity and the capacity to make rational decisions. Two conceptual models (Cauffman & Steinberg, 2000; Grisso, 1997)

provide a formal analysis of legal decision making and have been applied to juvenile offenders.

Using a formal analysis of alternatives, consequences, and probabilities, Grisso's (1997) seminal review identified developmental differences that likely affect the decision making of adolescent offenders. Delinquent youth often give the most weight to anticipated and immediate gains (e.g., stopping the preinterrogation), without due consideration of long-term negative consequences (e.g., convictions and lengthy sentences). Developmentally, adolescent offenders often have difficulty grasping the full meaning and implications of Miranda constructs. For example, Grisso found delinquents often misunderstand the concept of a right; most inaccurately believe that exercising this option would result in court sanctions. Grisso et al. (2003) corroborated earlier findings about risk appraisal and time perspective (immediate vs. long term) and found that compliance with authority also affected the legal decision making of young adolescents. Taken together, data from Grisso's model revealed that adolescent offenders have deficits in understanding their alternatives, considering the likelihood of different alternatives, and appreciating the long-term negative consequences.

Cauffman and Steinberg (2000) developed a maturity-of-judgment model comprising responsibility (i.e., self-reliance and independence), perspective taking, and temperance (i.e., critical thinking before acting). In a large school sample, 10th graders ($M = 15.5$ years) showed less responsibility ($d = .46$), perspective taking ($d = .75$), and temperance ($d = .68$) than young adults. The latter two components predicted willingness to engage in antisocial behavior. In applying this model to male juvenile offenders, Colwell et al. (2005) found only responsibility was related to Miranda comprehension and understanding. Responsibility was particularly important to juvenile decision making on Miranda rights, with a strong effect size ($r = .47$; $d = 1.07$) that remained significant even when age and intelligence were taken into account.

Most research has evaluated general rather than juvenile Miranda warnings[1] that are intended for all populations and are written in English. Helms (2003) conducted groundbreaking research on differences in required reading comprehension for Miranda warnings across state and federal jurisdictions. His work was followed by two large-scale studies by Rogers and his colleagues (Rogers, Harrison, Shuman, et al., 2007; Rogers, Hazelwood, Sewell, Harrison, & Shuman, 2008). Together, these two studies found 886 unique (i.e., nonduplicated in that jurisdiction) variations of Miranda warnings from 945 different jurisdictions. These warnings with waivers varied dramatically in length (49–547 words), sentence complexity (12–100, with 100 representing the highest level of complexity), and reading level (Grade 2.8–postcollege). In addition, substantive differences were found in the content of Miranda warnings. A major source of these differences was whether Miranda components were stated generally or explained in further detail.

Very little research has investigated juveniles' abilities to comprehend Miranda warnings. Ferguson and Douglas (1970) studied juveniles' listening

[1] For purposes of clarification, general warnings are applicable to all age groups (i.e., no age is specified); juvenile warnings are those designated specifically for children and adolescents.

comprehension when presented with standard and simplified Miranda warnings. Juveniles, irrespective of their delinquent histories, had substantial problems in understanding when they could access an attorney and who would be responsible for attorney costs. In his classic study, Grisso (1981) found age, intelligence, and prior arrests were predictors of Miranda comprehension by juvenile offenders. For reading comprehension, Helms and Kemp (2005) examined six juvenile warnings and found their reading level was usually higher than general warnings. Similarly, Kahn, Zapf, and Cooper (2006) found that reading levels for five juvenile warnings ($M = 7.22$) were much higher than general versions ($M = 6.28$; $d = 1.95$).[2] With many juvenile offenders having limited verbal abilities and academic skills (Grisso, 1981; Osman, 2005), the comprehensibility of juvenile Miranda warnings is essential.

The heterogeneity and comprehensibility of juvenile Miranda warnings remain virtually unexplored, with reading levels reported on fewer than a dozen jurisdictions. The current investigation examined four important and related issues in Miranda understanding: length, reading comprehension, vocabulary, and content. Different levels of reading comprehension had to be considered: The widely used Flesch-Kincaid estimates the required grade level for comprehending 75% of the material, whereas the SMOG reading estimate (described in *Reading Analysis,* below) approximates full comprehension (90%–100%; DuBay, 2004). Beyond Miranda comprehension, we examined Miranda vocabulary and provide a content analysis of key Miranda components.

Method

The current investigation is an outgrowth of two prior studies (Rogers et al., 2008; Rogers, Harrison, Shuman, et al., 2007) on Miranda warnings and waivers. As part of programmatic research supported by the Law and Social Sciences Program of the National Science Foundation, 122 juvenile Miranda warnings were previously collected. Importantly, all the juvenile data and analyses in this article are unpublished and completely original.

Surveys

Both surveys used contact and descriptive information available from three Web sites: (a) the National Association of Counties (NACo; available at http://naco.org), (b) U.S. counties (http://www.us-counties.com) and (c) state and local governments (http://www.statelocalgov.net). Agencies were asked to send (via fax, mail, or e-mail) all versions of Miranda warnings used in their county. They were specifically asked to send both general and juvenile Miranda warnings written in English and Spanish.

Rogers, Harrison, Shuman, et al. (2007) conducted the original survey of U.S. counties by contacting sheriff's departments and county public defender offices through a combination of phone calls, e-mails, and letters. More specifically, sheriff's departments were contacted by approximately 200 phone calls (estimated response rate of 10.5%) and e-mails to 1,639 sheriffs with e-mail addresses listed

[2] The study lacked sufficient power to yield statistically significant results.

on the NACo Web site. With one reminder message, their response rate was 11.7%. In addition, 592 public defenders and 2 state public defender organizations were contacted by mail; they returned 210 warnings from 112 counties, for a response rate of 18.9%.

A total of 324 agencies sent 453 general Miranda warnings, which were augmented with 124 general warnings from Miranda researchers and consultants that were identified through publications and presentations. After removing 17 redundant warnings, the totals were 560 general English, 65 juvenile English, and 73 Spanish warnings. To examine their representativeness, surveyed counties were compared with nonsurveyed counties. Although surveyed counties tended to be more urbanized (i.e., higher populations and incomes, greater minority representation), post hoc comparisons failed to find any significant differences in Miranda reading comprehension between urban and nonurban counties.

Rogers et al. (2008) conducted a second survey that targeted those states whose counties were not extensively represented (i.e., $\leq$20%). They were contacted via the previous Web sites and national and state prosecutor associations plus U.S. attorney Web sites (available at http://www.eatoncounty.org/prosecutor/pa-misc.htm). A total of 589 prosecutors were contacted by mail; 116 prosecutors' offices sent 266 general Miranda warnings, for a response rate of 20.0%. We also included data from 74 public defenders that sent 122 Miranda warnings months after the completion of the first survey; they increased the response rate to 48.3%. With redundant warnings from the same jurisdictions removed, the totals were 385 general English, 57 juvenile English, and 56 Spanish warnings.

Summarized across both surveys, 12.9% of counties responding with general warnings also provided juvenile warnings. Of the 122 juvenile Miranda warnings, approximately one half (53.3%) were provided by sheriff's departments, with comparable numbers from public defenders (23.0%) and prosecutors (23.8%).

Reading Analysis

The analysis of reading comprehension paralleled the previous research conducted by Rogers and his colleagues (2008; Rogers, Harrison, Shuman et al., 2007). We used commercial software to calculate a total of four readability estimates of the Miranda warnings. Vocabulary Assessor—Windows version (http://www.micropowerandlight.com/) was utilized to calculate Flesch-Kincaid and SMOG.

Flesch-Kincaid. The Flesch-Kincaid (Flesch, 1950) is the most widely used estimate of grade-equivalent reading level that is needed to achieve $\geq$75% comprehension of the material (DuBay, 2004). Its formula combines the average number of syllables per word with sentence length to provide an estimated grade level needed to comprehend a written passage. Although the formula does not measure comprehension directly, it is strongly correlated with standardized reading tests; grade levels estimated for at least 75% correct understanding. The Flesch-Kincaid is a well-regarded and reliable formula (Paasche-Orlow, Taylor, & Brancati, 2003) that is widely used by researchers for the Department of Defense (Schinka & Borum, 1993). It is also the standard estimate used in Miranda research (e.g., Cooper, Zapf, & Griffin, 2003; Helms, 2003; Kahn et al., 2006).

SMOG. The SMOG formula (McLaughlin, 1969) estimates the required grade reading level for full comprehension (90%–100%) of the written material (DuBay, 2004). Its formula uses the number of polysyllabic (≥3 syllables) words per sentence to estimate the number of years of education needed to comprehend a particular written passage. The SMOG index was developed for use in public education settings, and it is a reliable measure that is highly correlated (i.e., .98) with the grade level of students who achieve total comprehension of test materials. It is most efficient when used with longer passages and has a standard error of 1.5 years of education.

Vocabulary Analysis

The vocabulary analysis corresponded to previous research conducted by Rogers and his colleagues (2008; Rogers, Harrison, Shuman, et al., 2007). We first compiled the entire text of all juvenile Miranda warnings and waivers into a single word-processing file. Mechanical search-and-replace functions were used to replace all spaces and punctuations with single hard returns. The comprehensive word list was transferred to an Excel spreadsheet and sorted alphabetically. Finally, redundancies and simple articles and conjunctions were manually removed via visual inspection. This process resulted in a total list of 684 unique words.

We used the national vocabulary inventory of 44,000 words developed by Dale and O'Rourke (1981). It establishes the minimum grade level needed via a multiple-choice format (i.e., correct definition by 67%–84% of individuals at that grade level) in schools and colleges across the United States. In his critical review, DuBay (2004, p. 13) concluded, "This work is exceptional in every respect and is considered by many to be the best aid in writing at a targeted grade level."

Content Analysis

Rogers, Harrison, Shuman, et al. (2007) performed a content analysis on general Miranda warnings and established 2–6 major variations for each Miranda component. For example, the purpose of an attorney resulted in three major variations: The purpose was (a) unexplained, (b) described only as a passive function (e.g., *be present*), or (c) presented as an active function (e.g., *advise* or *consult*). High levels of interrater reliability ($M\ \kappa = .88$; range from .82 to .96) were achieved by graduate research assistants in applying these major variations. The current investigation used the Rogers et al. content analysis for comparative purposes. It was supplemented with the right to consult with a parent or an interested adult, which is included in 56 of the 122 (45.9%) juvenile Miranda warnings. It used the same categories, such as right to counsel (Rogers, Harrison, Shuman, et al., 2007), plus additional categories for clarification. For example, variations for parent/guardian include a parent, guardian, custodian, relative, or adult friend. Two simple categories related to explanations of the court process were also added.

Results

The sample of 122 juvenile Miranda warnings represents 109 counties from 29 states as well as 11 state warnings. Of the 122 warnings, 120 (98.4%) are

unique in their wording. On the basis of 2000 Census data (http://www.quickfacts.census.gov), the surveyed counties range dramatically in population (M = 415,942.51, SD = 897,676.66; range from 4,099 to 5,376,741), average income (M = $39,632.07, SD = $8,722.99; range from $26,250 to $66,973), and percentage of minorities (M = 21.42, SD = 13.30; range 6.6%–66.1%).

Juvenile Miranda warnings and waivers vary dramatically in their lengths, from 64 to 1,020 words (see Table 1). Their mean total length of 213.63 words is substantially greater than that of general warnings (d = .74), which they exceed by an average of more than 60 words. The inclusion of an additional component in the juvenile warnings, parent/guardian (Component 3b), does not explain this difference. Even with its removal, juvenile warnings average more than 40 words longer than their general counterparts. Five of six individual components are significantly longer (M d = .63) in juvenile than general warnings. Expressed as percentages, the increased lengths ranged from 10.1% (Component 5: continuing rights) to 54.1% (Component 2: evidence against you). These longer lengths place additional demands on the cognitive capacities of juvenile suspects.

Juvenile Miranda warnings and waivers typically provide lengthy written material to youth in custodial interrogation. Interestingly, their length is not associated with higher reading levels; the nonsignificant correlation (r = −.18) suggests, if anything, a slight inverse relationship. Moreover, 41.0% of juvenile warnings above the median length (189 words) have low reading levels (i.e., ≤Grade 6.0).

Table 1
Comparisons of Word Length in Juvenile and General Miranda Warnings

	Word length							
	Juvenile			General				
Miranda	*M*	*SD*	Range	*M*	*SD*	Range	*F*	*d*
1. Silence	12.33	9.46	7–69	9.21	5.12	4–43	**31.33**	0.54
2. Evidence against you	22.62	18.37	8–132	14.68	4.29	8–39	**123.79**	1.08
3a. Attorney[a]	26.42	13.14	6–88	22.14	4.98	7–60	**47.43**	0.66
3b. Parent/guardian	22.34	9.24	11–44					
4. Free legal services	25.16	10.61	11–80	22.24	6.92	9–72	**16.67**	0.39
5. Continuing rights[b]	29.21	16.97	8–93	26.53	11.27	7–69	4.32	0.22
6. Waiver	57.19	30.57	12–168	43.96	26.02	4–184	**22.15**	0.50
Total warning	149.35	80.31	52–526	95.61	25.85	34–408	**238.56**	1.49
Total Miranda[c]	213.63	120.89	64–1,020	148.99	81.95	49–547	**59.32**	0.74
Parent/adult waiver	52.73	18.99	14–73					

Note. Component 3b and parent/adult waivers do not apply to general Miranda warnings. F ratios that are significant with ps < .01 are bolded.
[a] In 12 versions, the option of consulting with a parent or interested adult is included in the attorney component.
[b] In seven versions, the reassertion of rights includes a parent or interested adult.
[c] Because some Miranda warnings include additional material, these values are different from the average of the total warnings plus waivers.

Reading Comprehension

The Flesch-Kincaid reading levels for juvenile Miranda warnings are approximately one-half grade more difficult than for general warnings (see Table 2). Differences in grade level range from slight (<.25) to very large (i.e., Component 2 was 1.37). An interesting counterfinding was observed for Component 5 (continuing rights) for which general warnings are more difficult than their juvenile counterparts. For full comprehension (90%–100%), SMOG estimates parallel Flesch-Kincaid for the first three components, requiring higher reading levels for juvenile than general warnings. Levels for Component 4 (free legal services), Component 5 (continuing rights), and waivers require comparable levels of reading comprehension across juvenile and general warnings.

The most fundamental issue is whether the reading levels for juvenile Miranda warnings are consistent with the abilities of juvenile offenders for 75% comprehension (Flesch-Kincaid) or full comprehension (i.e., 90%–100% on the SMOG). The good news is that the right to silence (Component 1) is written in simple language, averaging less than fifth grade, and should be understandable by most juvenile suspects. In contrast, all other Miranda components require an average of at least a sixth-grade education for 75% comprehension and close to a ninth-grade education (8.80) for full comprehension. These findings are especially problematic for younger adolescents, ages 13 to 15 years, who lack sufficient reading comprehension even when their academic attainment is at the expected levels.

A unique feature for 45.9% of juvenile Miranda warnings is the inclusion of an additional protection via consultation with a parent or guardian.[3] The problem appears to be the understandability of this additional protection. On average, the parent/guardian protection requires at least a 10th-grade education, which is beyond the capacity of most adolescent suspects.

Focusing on the totality of juvenile Miranda warnings and waivers, a critical issue concerns the comprehensibility of the overall warning and its individual components. Put simply, what percentage of juvenile warnings and waivers are consistently easy (≤sixth grade) to comprehend? For Flesch-Kincaid, the percentage is 41.0%. For SMOG, none of the warnings/waivers (0.0%) meet this standard, with the lowest grade level for all components being 6.8.

Miranda Vocabulary

The most commonly used words in typical reading passages are simple and often monosyllabic. As summarized in Table 3, 19 words (38.0%) meet both criteria; an additional 11 (22.0%) are two syllables and easily understood. Focusing on more difficult vocabulary, the specialized meanings of words play a central role in comprehension. Most salient is the use of *right* in the legal context, which requires at least an eighth-grade reading level. This specialized meaning is more difficult than other definitions, such as *correct.* Of common words, the term *appointed* is especially problematic and requires a high school education.

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[3] A small percentage of juvenile Miranda warnings expands this category to include other adult relatives or friends.

Table 2
Comparisons of Juvenile and General Miranda Warnings: Flesch-Kincaid and SMOG Reading Estimates

	Flesch-Kincaid[a]								SMOG							
	Juvenile			General					Juvenile			General				
Miranda	*M*	*SD*	Range	*M*	*SD*	Range	*F*	*d*	*M*	*SD*	Range	*M*	*SD*	Range	*F*	*d*
1. Silence	3.55	2.17	1.6–14.2	3.15	2.03	1.0–15.0	4.10	0.20	4.85	2.65	3.0–12.5	3.88	2.13	3.0–14.0	**21.08**	0.44
2. Evidence against you	6.24	3.27	3.6–18.0	4.87	1.71	3.3–17.8	**51.99**	0.70	9.87	2.34	6.2–18.0	8.87	1.25	3.0–18.0	**52.31**	0.70
3a. Attorney[b]	8.81	2.83	1.0–14.2	8.57	2.23	1.0–16.0	1.15	0.10	8.80	2.90	3.0–14.0	7.46	3.56	3.0–15.3	**15.95**	0.38
3b. Parent/guardian	10.79	3.08	2.7–17.0						11.57	2.70	3.0–16.4					
4. Free legal services	10.36	2.76	3.8–18.0	10.22	2.13	3.7–18.0	0.47	0.07	11.74	2.68	3.0–18.0	11.55	2.03	3.0–18.0	0.81	0.09
5. Continuing rights[c]	8.83	3.50	3.1–18.0	9.49	2.70	2.5–18.0	4.84	0.24	9.52	2.51	3.0–17.5	9.87	2.36	3.0–18.0	1.87	0.15
6. Waiver	6.44	3.26	1.0–18.0	6.20	3.53	1.0–18.0	0.41	0.07	9.07	1.98	3.0–17.5	9.09	2.69	3.0–18.0	0.004	0.01
Total warning	7.25	2.43	2.2–18.0	7.02	2.02	2.0–18.0	1.46	0.12	9.71	1.92	1.7–15.9	9.06	1.46	3.0–18.0	**20.55**	0.44
Total Miranda[d]	6.73	2.00	3.2–12.5	6.22	1.94	2.8–18.0	**7.41**	0.26	9.56	1.54	6.8–14.0	8.92	1.37	3.0–18.0	**22.22**	0.45
Parent/guardian waiver	10.31	3.76	4.7–18.0						12.63	2.73	9.1–18.0					

Note. Component 3b and parent/guardian waivers do not apply to general Miranda warnings. *F* ratios that are significant with *p*s $< .01$ are bolded.
[a] This estimate represents the grade level required to be able to understand 75% of the material. Because these upper range estimates are less accurate, we imposed an upper limit of Grade 18.
[b] In 12 versions, the option of consulting with a parent or interested adult is included in the attorney component.
[c] In seven versions, the reassertion of rights includes a parent or interested adult.
[d] Because some Miranda warnings include additional material, these values are different from the average of the total warnings plus waivers.

Table 3
Fifty Most Common Juvenile Miranda Vocabulary: Definitions and Specialized Meanings

Word	Grade	Frequency	Specialized meaning (when applicable)
Adult	4	60	
Afford	4	98	Able to pay for
Against	4	189	
Answer	4	205	Reply
Answering[a]		85	
Any	4	593	No special one
Anything	4	145	Doesn't matter what
Appointed	13	97	
Ask	4	80	
Attorney	6	143	
Before	4	240	Earlier in time
Cannot	4	115	
Court	4	183	Where judge rules
Decide	4	62	
During	4	174	
Guardian	6	96	
Have	4	938	
If	4	371	Supposing that
Juvenile	6	85	
Law	4	74	The rule
Lawyer	4	460	
Make	8	132	To cause
May	6	143	Is likely to
Means	8	64	Way of doing
No	4	105	I won't
Not	4	156	
Now	4	78	
One	4	147	A person
Parent	4	94	Father or mother
Present	4	198	Here
Questioning[a]		275	
Questions	4	373	What is asked
Read	4	92	Understood the writing
Remain	4	137	To stay
Right	8	462	Legal claim
Rights	8	345	Legal claims
Say	4	160	To tell or speak
Silent	4	135	
Statement	4	162	Something said or written
Stop	4	106	
Talk	4	176	
Time	4	205	Hour and minute
Understand	4	282	
Used	4	192	Made use of
Want	4	123	
What	4	106	
Willing	4	72	
Wish	4	109	To want something
With	4	220	In the company of
Without	4	89	Not having

Note. Grade = grade level at which between 67% and 84% of individuals at that grade can identify the correct meaning; Frequency = number of occurrences per 10,319 words from 122 Miranda warnings; Specialized meaning = the meaning most applicable to Miranda warnings when multiple meanings were tested.
[a] Grade is not reported.

Many juvenile Miranda warnings include less common terms that require high levels (≥10th grade) of reading comprehension (see Table 4). These terms can directly affect the comprehension of Miranda components. For example, the correct understanding of the right to an attorney can be impaired by such words such as *retain* (Grade 12) and *counsel* (Grade 12). Understanding the voluntary and unforced basis of Miranda waivers may be affected by difficult words such as *coerced* (Grade 16), *coercion* (Grade 13), *duress* (Grade 13), *induce* (Grade 10), and *pressure* (Grade 10). Other highly problematic terms require word knowledge commensurate with a college education, including *hereby, indigent, renounce,* and *waiver.*

Content of Miranda Warnings

In general, juvenile warnings make a greater effort than general warnings to explain Miranda components (see Table 5). For example, the right to silence is explicated for nearly half (45.1%) of the juvenile warnings. Although not required by *Miranda,* a small number of juvenile warnings even attempt to explain the purpose of the judge and the court; however, some attorneys may take issue with analogizing the judge's role to a sports official (e.g., "A judge is like an umpire in a baseball game"). Regarding the reassertion of rights (Component 5), the use of nonlegalistic terms is increased in nearly 90% of the juvenile Miranda warnings.

A major consideration for juvenile warnings is the addition of a further protection, namely, access to a parent, guardian, or other involved adult. Its inclusion increases the complexity of both the Miranda warning and juvenile decision making. Empirically unknown, do juveniles misunderstand these warnings as choice between legal counsel and parental input? In most warnings, these protections are delineated in consecutive sentences. In others, they are placed in the same sentence: "You have the right to a lawyer. You have the right to have that lawyer or your parent or guardian with you while you are being questioned." Irrespective of the specific wording, juvenile suspects might reasonably conclude that they must choose between legal expertise and parental input.

Explanations of constitutional protections are much more common in juvenile than general warnings. For 22.1% of juvenile warnings, the immediate consequences of asserting rights (i.e., the cessation of the preinterrogation) are explained to custodial suspects; this percentage is much higher than with general warnings (i.e., 3.9%, with $d = .99$). A small proportion (4.1%) of juvenile versions explains that nonparticipation cannot be used against the suspect, while such an explanation is virtually nonexistent in general warnings (0.1%).

Discussion

Comprehension of Juvenile Miranda Warnings

The most obvious and far-reaching conclusion from the current data is that typical juvenile Miranda warnings are far beyond the abilities of the more than 115,000 preteen offenders charged annually with criminal offenses (Federal Bureau of Investigation, 2005). This conclusion still stands even when making these unrealistically optimistic assumptions:

Table 4
Juvenile Miranda Vocabulary: Definitions and Specialized Meanings Requiring at Least a 10th-Grade Education

Word	Grade	Frequency	Specialized meaning (when applicable)
Admission	10	6	
Advisement	13	—	
Alleged	13	2	
Along	12	474	
Appointed	13	19	
Coerced	16	0.18	
Coercion	13	0.72	
Commitment	10	9	Promise given
Confront	10	2	
Confrontation	10	1	
Counsel	12	3	Lawyer
Declined	12	8	Refused
Degree	10	48	Amount or extent
Disposition	12	4	An arrangement
Duress	13	0.15	
Effect	10	112	What one thing does to another
Filed	12	9	Handed in for consideration
Forcible	10	0.33	Done by violence
Given	12	280	Stated or fixed
Hereby	16	0.89	
Impairment	12	1	
Incompetent	12	2	Not legally qualified
Indigent	16	0.26	
Induce	10	3	Persuade
Instances	12	14	Examples
Intensive	10	5	Thorough
Jurisdiction	10	3	Legal power
Magistrate	10	1	
Named	12	145	Appointed
Offense	10	4	Breaking the law
Parties	10	46	Persons
Pressure	10	119	Trying to influence
Promising	10	9	
Prompt	13	3	To remind
Provided	10	82	
Question	13	176	To challenge
Regarding	10	14	
Render	10	2	To hand over
Renounce	16	0.45	
Restitution	12	—	
Retain	12	9	To engage the services of
Revoked	12	0.51	Took back
Sodomy	12	0.002	
Subsequent	12	9	
Terminate	12	1	
Undersigned	12	0.02	
Waive	13	0.16	Give up right
Waiver	16	0.04	Release of right

Note. Dashes indicate that frequency data are not available. Grade = grade level at which between 67% and 84% of individuals at that grade can identify the correct meaning; Frequency = number of occurrences per 100,000,000 words; Specialized meaning = the applicable definition.

Table 5
Content Analysis of Juvenile Versus General Miranda Warnings: Major Variations for Each Miranda Component

Miranda component	Major variations	Percentages for surveys		
		Juvenile	General	*d*
1. Right to silence	Unexplained	54.9	80.0	−0.72
	Not have to answer questions	11.5	7.8	0.22
	Not have to make a statement	15.6	6.7	0.49
	Not have to talk	18.0	5.5	0.68
2a. Evidence against you	Unspecified context	8.2	2.9	0.50
	Evidence in court, trial, etc.	91.8	97.1	−0.50
2b. Explanation of court	Analogy: like an umpire	1.6		
	Define a judge	3.3		
	Define a court of law	1.6		
2c. Adult court	Certified as adult	2.5		
	Transfer to adult court	5.7		
	Prosecuted/tried in adult court	6.6		
3a. Right to an attorney	Purpose is unexplained	3.3	5.2	−0.21
	Passive function only: "be present"	34.4	50.8	−0.42
	Active function: "advise" or "consult"	62.3	44.0	0.46
3b. Timing of attorney access	During questioning only	18.0	43.7	−0.76
	Before and during questioning	73.0	52.2	0.56
	At any time	6.6	2.5	0.45
3c. Specify guilt	Confession	1.6		
	Admission	1.6		
3d. Right to guardian	Parent	41.0		
	Guardian	32.0		
	Custodian	11.5		
	Relative	3.3		
	Adult friend or other person	9.0		
	More than one person	13.9		
3e. Guardian considerations	Efforts to locate parent	4.9		
	Guardian requirement: "must have parent or guardian"	1.6		
4. Access to free legal services	Possible cost is not addressed	57.4	65.5	−0.21
	Free services are specified	42.6	34.5	0.21
5a. Reassertion of rights	Legalistic only (e.g., "withdraw your waiver" or "exercise rights')	10.7	28.6	−0.68
	Simple (e.g., "stop at anytime")	89.3	71.4	0.68
5b. Timing of reassertion	During questioning only	3.3	5.4	−0.23
	Before and during questioning	0.8	2.0	−0.36
	At any time	74.6	73.2	0.04
5c. Limits on right to silence	Limited reassertion of silence: can remain silent *until* counsel is available	20.5	24.1	−0.12
	Not limited	79.5	75.9	0.12
5d. Reassertion of right to guardian	Parent	3.3		
	Guardian	1.6		
	Custodian	0.0		
	Relative	3.3		
	Adult friend or other person	3.3		
Constitutional protections	Unexplained	73.8	96.0	−1.11
	Assertion of rights stops the preinterrogation	22.1	3.9	0.99
	Assertion of rights cannot be used as evidence of guilt	4.1	0.1	1.35

Note. Estimates of Cohen's *d* were calculated for dichotomous proportions using the probit method.

1. Juvenile offenders have continued their schooling in regular classes and have reading levels commensurate with their educational level.

2. Most juvenile offenders will start first grade at the age of 5 rather than 6.

3. Adequate Miranda comprehension can be achieved at the ≥75% level (i.e., Flesch-Kincaid estimates).

In light of the current Miranda warnings and consistent with past research (e.g., Grisso, 1981; Sevin Goldstein, Condie, Kalbeitzer, Osman, & Geier, 2003), most juveniles ages 13 and younger are simply unlikely to grasp key Miranda components related to their right to an attorney or parental assistance. Typical warnings require at least an eighth-grade education for understanding Components 2 (right to an attorney) and 5 (continuing rights). Access to free legal services and the option to consult with a parent or guardian generally require at least a 10th-grade education. A constructive solution would be to replace all Miranda components with easily read alternatives (≤fourth grade). After a further discussion of the current findings, we provide a model juvenile Miranda warning constructed from the current data set. Even with simplified warnings, developmental considerations raise very important concerns about the capacity of preteen youth to understand the significance of their constitutional protections (Grisso et al., 2003; Viljoen et al., 2005).

Reading levels do not fully account for the presence of unfamiliar words or legalistic terms. In examining the 50 most common words (see Table 3), several legal terms are likely to be misunderstood by juvenile suspects. For example, the word *right* and its plural *rights* have a legal meaning that requires at least an eighth-grade education before about three fourths of students can recognize the correct definition. Most adolescent suspects cannot understand the term *appointed* or its relevance to securing counsel. Of even greater concern, many juvenile warnings expect youthful suspects to understand and accurately apply the word *waive* as a key component of their decision making. However, *waive* requires more than a high school education for adequate comprehension. As summarized in Table 4, dozens of words whose meanings are likely to be obscure to most youthful suspects are occasionally used in juvenile Miranda warnings. Fortunately, this problem is partly remediated by simplifying the words. However, comprehension entails more than the capacity to define words and paraphrase Miranda components . For genuine understanding, juvenile suspects must be able to integrate the whole message and apply its meaning to their own cases.

Word length of juvenile Miranda warnings does matter. Rogers, Harrison, Shuman, et al. (2007) estimated the upper limits of word length for adequate Miranda comprehension. For adults in nonstressful circumstances, the maximum word length was estimated at approximately 73 words. As summarized in Table 1, the average juvenile warning is more than double that number (149 words). When the waiver and other information are presented, the average is nearly triple (291.8%) the upper limit for adults. When developmental (e.g., maturity) and situational (e.g., arrest) factors are considered, most juveniles are likely overwhelmed by the sheer amount of material that is presented to them.

A substantial number of jurisdictions (17.2%) segment the Miranda warning by asking after each component whether the juvenile suspect has understood its

content. While superficially appealing, these repeated interruptions of the warning may potentially reduce the overall comprehension. Understanding elements in isolation is very different from an intelligent appreciation of the total warning. Researchers could easily test whether segmented warnings with interposed questions impede Miranda understanding.

Clinical Issues and Juvenile Miranda Comprehension

The previous section assumed for the sake of argument that juvenile suspects are well adjusted, with at least average intelligence and good academic preparation. This best case scenario approach is useful for understanding the upper bounds of Miranda comprehension in juvenile populations. In this section, we consider the clinical realities (i.e., cognitive abilities and mental disorders) of juvenile suspects and their potential impact on Miranda comprehension.

What are the cognitive abilities of juvenile offenders? The Texas Youth Commission (2006) systematically examined 12,837 delinquents entering its facilities across the fiscal years from 2002 to 2006. With a median age of 16 years, delinquents' average reading levels ranged from 5.8 to 6.0 across these 5 years and were 4 years below the expected achievement levels. Most had not completed the ninth grade. On intelligence testing, 48.6% had IQ scores below 90 (i.e., below the 25th-percentile rank), with 15.3% being substantially impaired (70–79) and 2.7% falling in the range of mental retardation (<70). Using Grade 6.0 as a benchmark, three of the five Miranda components are typically beyond the reading capacities of these juvenile offenders. As reported in Table 2, average reading levels for 75% comprehension are 8.81 for right to an attorney (Component 3a), 10.79 for access to parent/guardian (Component 3b), 10.36 for free legal services (Component 4), and 8.83 for continuing rights (Component 5). These disparities are large, ranging from 2.81 to 4.79 grades. When full comprehension (90%–100%) is considered, the estimates for two prongs exceed the 11th grade.

What is the prevalence of diagnosable mental disorders in juvenile offender populations? Shufelt and Cocozza (2006) conducted the National Center for Mental Health and Juvenile Justice prevalence study of mental disorders for more than 1,400 youth across a broad spectrum of juvenile justice settings: community-based programs, detention, and secure residential facilities. Approximately 70% warranted at least one diagnosis, and the majority of those diagnosed qualified for three or more diagnoses. Although conduct disorder and substance abuse disorders were common, they did not predominate the diagnoses. With these disorders removed, 45.5% of the youth involved in juvenile justice still warranted a diagnosis. Approximately 27% of the total sample had severe disorders that required immediate treatment.

In a large-scale study of 1,829 juvenile detainees, Abram, Teplin, McClelland, and Dulcan (2003) found approximately one half (i.e., 45.9% of males, 56.5% of females) warranted two or more diagnoses of mental disorders. In addition to attention-deficit/hyperactivity disorder (ADHD), substance abuse, and behavioral disorders, these investigators observed substantial numbers of mood (i.e., males = 12.8%, females = 30.0%) and anxiety (i.e., males = 19.7%, females = 31.4%) disorders. Moreover, comorbidity between major mental disorders and substance abuse was high.

The effects of mental disorders on Miranda comprehension have not been formally investigated in juvenile offender populations. Viljoen and Roesch (2005) explored symptom constellations based on the 21-item Brief Psychiatric Rating Scale for Children (Hughes, Rintelmann, Emslie, Lopez, & MacCabe, 2001); they found that the ADHD symptom constellation significantly predicted poor Miranda comprehension. Regarding adult populations, Rogers, Harrison, Hazelwood, and Sewell (2007) found that forensic inpatients with poor Miranda comprehension had greater psychological impairment (i.e., global assessment functioning or GAF) than those with better comprehension. Their findings were limited by the circumscribed range in GAF scores and their use of an adult population. With juvenile populations, we anticipate that comorbid disorders combined with situational effects (e.g., stresses of being arrested and custodial preinterrogation) will result in major decrements in Miranda comprehension.

The synergistic effects of poor reading comprehension, low intelligence, and comorbid mental disorders are likely to have catastrophic effects on Miranda comprehension and subsequent reasoning. Reading comprehension alone may render most Miranda warnings ineffective for the majority of juvenile offenders. Classic research by Grisso (1981) demonstrated that intellectual impairment often impedes Miranda understanding in juvenile populations. When coupled with comorbid mental disorders, poor reading comprehension and low intelligence may nullify the Supreme Court's intent that the Miranda warnings clearly inform defendants of their constitutional protections.

Untested Assumptions About Juvenile Miranda Safeguards

The intent of juvenile Miranda warnings is to provide constitutional protections for youthful suspects held in custodial settings. Extrapolated from their content, juvenile Miranda warnings appear to make certain assumptions about what juvenile suspects can understand and apply to their own cases. Most juvenile warnings assume that youth, irrespective of their age and maturity, will have an adequate understanding of the judge's responsibilities and duties. Nearly one half of the warnings provide an additional safeguard to juvenile suspects in the form of parental assistance. However, the issue of parental competence (*State in Interest of Jones,* 1979) to adequately advise an arrested offspring remains untested. As noted in the introduction, research data suggest that parents are not likely to see themselves in the role of quasi-legal counsel. Instead, many parents adopt a disciplinarian role and align themselves with police officers. Parental pressure to confess or provide inculpatory information (Viljoen et al., 2005) seems at odds with protecting the child's welfare (*In re E. T. C.,* 1982). Rather than "greatest care must be taken" (*In re Gault,* 1967, p. 44), the majority of parents may be unwittingly sabotaging their children's constitutional protections. Siding with authority is an understandable role in many contexts, such as school discipline. Nonetheless, its misapplication to juvenile Miranda waivers may have profound effects on both constitutional protections and children's welfare.

The provision of legal services to indigent juvenile suspects, as delineated in Miranda warnings, may appear especially salient to those youth without any viable means of financial support, who may perceive themselves at the mercy of their parents. Most youth may not know that the police, in the application of

Miranda, do not participate in decisions to appoint counsel. On the contrary, *Miranda* requires only that law enforcement halt their questions unless a suspect waives his or her right to counsel, not that attorneys be producible on call (*State v. Jackson,* 1999). Instead, the determination of indigence and appointment of counsel are a judicial function. The Court has not constitutionalized the eligibility criteria; these decisions are fact specific and grant substantial discretion to the trial judge's fact-finding. A defendant is entitled to the appointment of counsel upon a showing that he or she is financially unable to obtain adequate representation (*United States v. Kodzis,* 2003). The test is not whether the defendant's family or friends could provide the funds to retain counsel but whether the defendant could (*Keur v. State,* 1963). As refined for appointment of counsel under the Criminal Justice Act of 1964, the question is whether the defendant's financial resources and income permit him or her to retain counsel.

Juvenile Miranda warnings do not clarify the source (i.e., the juvenile or the juvenile's family) of financial means when informing juvenile suspects of their potential eligibility for appointed counsel. As an important empirical question, we do not know what assumptions are made by youthful suspects about the source of financial means and how these assumptions affect their waiver decisions. This issue appears to be particularly salient when a juvenile's violent offenses have targeted other family members. Even more basic, the majority of juvenile Miranda warnings do not make explicit the financial responsibility for requested legal services. Do custodial youth interpret "a lawyer will be appointed for you" as the provision of free legal services? If not, their decisions to waive Miranda rights may be based on a false premise regarding affordability. These vexing issues could easily be avoided by simply specifying free legal services based on the juvenile's own financial needs.

Rogers et al. (2008) raised several critical issues affecting Miranda comprehension and waiver decisions in adult populations.[4] Although Miranda rights cannot be permanently waived, approximately 20% of general warnings do not include the fifth prong and leave suspects uninformed regarding their ongoing Miranda rights and continuing constitutional protections. For juvenile Miranda warnings, 18.9% omit the fifth prong. Expecting juvenile suspects to intuit the revocability of their Miranda waivers is inconsistent with the Supreme Court's requirement of the "greatest care" standard (*In re Gault,* 1967, p. 44). Even when provided, approximately 10% of the juvenile Miranda warnings resort to legalistic terms, such as *exercise your rights* or *the decision to renounce these rights is not final and can be revoked.* Use of legal terminology obscures rather than elucidates this fifth prong.

Juvenile suspects, like their adult counterparts, have a fundamental right to silence that remains with them throughout the trial and sentencing phases. Conditional statements regarding the right to silence (i.e., "*until* counsel is available") dilute this constitutional protection against self-incrimination. For juvenile Miranda warnings, about one fifth (20.5%) mischaracterize the right to silence as temporary rather than permanent. Warnings that misinform the defendant about the right to have an attorney present during questioning do not satisfy

[4] The number of juvenile suspects receiving general Miranda warnings is unknown.

the requirements of *Miranda* (*United States v. Toliver,* 2007). A confession obtained during that time, based on misinformation, is highly suspect.

In summary, findings from the current study combined with early research make it clear that preteen suspects are rarely able to appreciate the typical Miranda warnings presented to them, thus making any waiver of questionable validity. Even older adolescent suspects are unlikely to understand critical components of the warnings and waivers in current use, particularly when educational, intellectual, and mental health limitations are considered. Although some of the problems with juvenile Miranda warnings are isomorphic with those found in general Miranda warnings, others appear to be caused by well-intentioned efforts to provide adolescents with further explanations and putative safeguards beyond those afforded to adult suspects. However, the current findings suggest a paradoxical effect: The increased complexity of juvenile Miranda warnings makes it less likely they will be accurately understood and rationally applied. The most firm conclusion derived from the current study is that a simplified and clarified version of Miranda warnings is needed for use with juvenile suspects.

A Model Juvenile Miranda Warning

An important lesson from the Ferguson and Douglas (1970) study is that simplified Miranda warnings must use brief, easily read statements. Their simplified warning still had comparatively long sentences ($M = 19.6$ words) requiring a moderate reading level (Flesch-Kincaid = 6.5). It is especially instructive to examine the two problematic components of their simplified warning. Both Miranda components were embedded in a convoluted sentence of 32 words with a difficult reading level (Flesch-Kincaid = 12.3).

We reexamined our database of 122 juvenile Miranda warnings with the objective of developing a simplified warning. All information about jurisdiction (e.g., state and county) was removed to avoid any potential biases. The warnings were disaggregated into individual Miranda components and sorted by reading level. As an informal process, we started with the lowest reading level and selected Miranda components that did not have any difficult vocabulary (see Table 4). When ties occurred in reading levels, we generally selected the shortest component to assist with listening comprehension. The one exception was the right to silence; we opted for a two-sentence version (each less than 10 words) that explained what the right to silence means. Our objective was to identify clear examples written below a fourth-grade Flesch-Kincaid level and composed of short sentences ($\leq$10 words).

The model juvenile Miranda warning (see Table 6) was mostly successful at achieving its reading level objective ($<$fourth grade). Clear explanations often required more than 10 words. For reading levels, the one challenge occurred with Component 4 (free legal services); its only easy example did not clarify the financial responsibility for legal counsel. The clearest example has a Flesch-Kincaid of 5.4; however, slight modifications (see Table 6) simplified this Miranda component to a 3.3 grade level. Focusing on the five components of the Miranda warning and using the simplified versions, we produced a model juvenile Miranda warning with individual components averaging a very low 2.8 Flesch-Kincaid level. For full comprehension, the SMOG estimates are substantially higher ($M = 5.8$). An empirical

Table 6
A Model Juvenile Miranda Warning

Component	Reading level	Length	Wording
1. Silence	2.2	16	You have the right to remain silent. That means you do not have to say anything.
2. Evidence against you	3.6	10	Anything you say can be used against you in court.
3a. Attorney	3.6	9	You have the right to consult with an attorney.
3a. Attorney	1.2	10	You have the right to get help from a lawyer.[a]
3b. Parents	2.6	11	You have the right to have one or both parents present.
4. Free legal services	5.4	16	If you cannot afford a lawyer, the court will appoint one for you free of charge.[b]
4. Free legal services	3.3	14	If you cannot pay a lawyer, the court will get you one for free.[c]
5. Continuing rights	3.7	11	You have the right to stop this interview at any time.
6. Waiver	1.6	30	Do you want to talk to me? Do you want to have a lawyer? Do you want your mother, father, or person who takes care of you to be here?[d]

Note. The Vocabulary Assessor—Windows version uses Grade 3.0 as its lowest score; reading levels were recalculated using the Microsoft Flesch-Kincaid program.
[a] This simplified version eliminates two potentially problematic words: the ambiguity of *consult* and vocabulary level of *attorney* (sixth grade).
[b] None of the juvenile Miranda components below the fourth grade clarified the concept of free legal services.
[c] This simplified version eliminates two potentially problematic words: *afford* and *appoint.*
[d] This version could be made much easier by using only the relevant person (e.g., mother, father, or caretaker).

question is whether this simplified warning fully captures the meaning of Miranda rights. In addition, research is needed on how to explain the meaning of the word *right* as a constitutional protection in easily understood language.

Regarding listening comprehension, the length of the model juvenile Miranda warning is relatively short. The warning itself is 61 words without the parental/guardian component and 72 words with it included. The waiver could be as long as 30 words, although the provided recommendation would shorten this substantially; for many single-parent families, the last question would be reduced by eight words (e.g., "Do you want your mother to be here?"). The model warning is a marked improvement over the length of most Miranda warnings ($M = 149.35$ words; see Table 1). However, juvenile suspects, especially those with attentional problems (Viljoen & Roesch, 2005), are still likely to find the length to be problematic for listening comprehension.

Written Miranda waivers are commonly used, although not constitutionally required. Most waivers are worded so that an affirmative reply indicates a desire to relinquish a suspect's constitutional protections. Youthful suspects are vulnerable to acquiescence, which is characterized by affirmative responses or yea-saying (Gudjonnson, 2003). As applied to Miranda rights, acquiescence can nullify intelligent waivers because the affirmative response is devoid of reasoning. In a Miranda study of mentally disordered adult defendants, Harrison (2007) found varying degrees of acquiescence that were negatively correlated with intelligence and grade levels for reading and listening comprehension. Extensive data from the Texas Youth Commission (2006) highlighted similar deficits in arrested youth. Given the propensity for some juvenile offenders to simply comply with authority (Grisso et al., 2003), we recommend that the effects of acquiescence be minimized. A reasonable approach is to provide several options stated separately (see Table 6): "Do you want to talk to me?" "Do you want to have a lawyer?" "Do you want your mother to be here?"

Concluding Remarks

With the great majority of juvenile suspects waiving their rights and providing confessions, sometimes at the insistence of their parents, it is vital that Miranda issues be thoroughly examined. The current findings document the immense variability in the content and complexity of juvenile Miranda warnings across American jurisdictions. As a positive finding, juvenile warnings tend to explain the Miranda rights more than general warnings. They are also more likely (22.1% juvenile vs. 3.9% general) to explain immediate effects (i.e., termination of preinterrogation) of exercising Miranda rights. However, these additional details result in significantly longer warnings that place increased demands on juveniles' comprehension. The inclusion of complex vocabulary and legalistic terms may further challenge the capacity of juveniles to grasp the significance of their constitutional protections.

A limitation of the current study is its reliance on reading formulas to estimate minimum grade levels for adequate comprehension. While this is valuable as an important first step, future research will need to identify representative Miranda warnings that are tested on recently arrested juvenile offenders. Such investigations can improve on the current findings by evaluating how youthful detainees understand and apply Miranda warnings. These investigations should take into account how abilities relate to Miranda language (e.g., sentence complexity and legalistic terms) and how prior misconceptions affect Miranda understanding.

In closing, current juvenile Miranda warnings appear well intentioned but largely irrelevant to procedural justice. Even under the best of circumstances, preteen suspects are likely to find Miranda vocabulary and reading levels are far beyond their understanding. For juvenile suspects irrespective of age, the clinical realities must be considered. Previously cited studies have amply demonstrated widespread problems with intellectual deficits, low achievement, and psychological impairment that should not be ignored. In the case of juvenile Miranda waivers, we have no empirical data on what proportion of severely impaired youth are evaluated regarding the validity of their waivers.

A model juvenile Miranda warning is an important step in addressing problems with simple comprehension. It deserves serious consideration, with critical evaluation of alternative wordings. Beyond simple comprehension, the next step is to investigate the meaning of Miranda warnings for juvenile suspects. Although they may comprehend its statements, how do they interpret their relevance to their own arrest and detainment? From this perspective, Grisso's (1997) far-reaching work on the decision-making abilities of adolescent offenders may serve as an important template for studies of intelligent Miranda waivers.

Future studies need to evaluate the understandability of Miranda warnings by testing different versions on recently arrested detainees. Of critical importance is the format of Miranda warnings (oral vs. written) and its effect on comprehension. With the majority of Miranda warnings presented in an oral format (Kassin et al., 2007), the role of listening comprehension must be featured. Finally, McCann (1998) suggested that false confessions might be linked to invalid Miranda waivers. Clearly, the relations between Miranda comprehension, invalid waivers, and false confessions deserve a rigorous examination.

References

Abram, K. M., Teplin, L. A., McClelland, G. M., & Dulcan, M. K. (2003). Comorbid psychiatric disorders in youth in juvenile detention. *Archives of General Psychiatry, 60,* 1097–1108.

California v. Prysock, 453 U.S. 355 (1981).

Cauffman, E., & Steinberg, L. (2000). (Im)maturity of judgment in adolescents: Why adolescents may be less culpable. *Behavioral Sciences and the Law, 18,* 741–760.

Colwell, L. H., Cruise, K. R., Guy, L. S., McCoy, W. K., Fernandez, K., & Ross, H. H. (2005). The influence of psychosocial maturity on male juvenile offenders' comprehension and understanding of the Miranda warning. *Journal of the American Academy of Psychiatry and the Law, 33,* 444–454.

Cooper, V. G., Zapf, P. A., & Griffin, M. P. (2003, August). *Appreciation of Miranda rights in interrogation situations.* Paper presented at the annual convention of the American Psychological Association, Toronto, Ontario, Canada.

Criminal Justice Act of 1964, 18 U.S.C. § 3006A (2006).

Dale, E., & O'Rourke, J. (1981). *The living vocabulary: A national vocabulary inventory.* Chicago: World Book–Childcraft International.

Dickerson v. United States, 530 U.S. 428 (2000).

DuBay, W. H. (2004). *The principles of readability.* Costa Mesa, CA: Impact Information. Retrieved September 23, 2006, from http://libproxy.library.unt.edu:5881/ERICDocs/data/ericdocs2/content_storage_01/0000000b/80/31/a4/7f.pdf

Duckworth v. Eagan, 492 U.S. 195 (1989).

Fare v. Michael C., 442 U.S. 707 (1979).

Federal Bureau of Investigation. (2005). Uniform Crime Reporting Program, 2005. Washington, DC: Author. Retrieved September 9, 2007, from http://www.fbi.gov/ucr/05cius/data/table38.html

Feld, B. C. (2006). Juveniles' competence to exercise Miranda rights: An empirical study of policy and practice. *Minnesota Law Review, 91,* 26–100.

Ferguson, A. B., & Douglas, A. C. (1970). A study of juvenile waiver. *San Diego Law Review, 7,* 39–54.

Flesch, R. (1950). Measuring the level of abstraction. *Journal of Applied Psychology, 34,* 384–390.

Grisso, T. (1981). *Juveniles' waiver of rights: Legal and psychological competence.* New York: Plenum Press.

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

Grisso, T., & Pomicter, C. (1977). Interrogation of juveniles: An empirical study of procedures, safeguards, and rights waiver. *Law and Human Behavior, 1,* 321–342.

Grisso, T., Steinberg, L., Woolard, J., Cauffman, E., Scott, E., Graham, S., et al. (2003). Juveniles' competence to stand trial: A comparison of adolescents' and adults' capacities as trial defendants. *Law and Human Behavior, 27,* 333–363.

Gudjoussou, G. H. (2003). *The psychology of interrogations and confessions handbook.* London: Wiley.

Haley v. Ohio, 332 U.S. 596 (1948).

Harrison, K. S. (2007). *Totality of the circumstances: Factors affecting competence to waive Miranda rights.* Unpublished doctoral dissertation, University of North Texas.

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

Helms, J. L., & Kemp, D. J. (2005, March). *Readability statistics of the juvenile Miranda warnings across jurisdictions.* Paper presented at the conference of the American Psychology–Law Society, La Jolla, CA.

Hughes, C. W., Rintelmann, J., Emslie, G. J., Lopez, M., & MacCabe, N. (2001). A revised and anchored version of the BPRS-C for childhood psychiatric disorders. *Journal of Child and Adolescent Psychopharmacology, 11,* 77–93.

In re E. T. C., 449 A.2d 937 (Vt. 1982).

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

Kahn, R., Zapf, P. A., & Cooper, V. G. (2006). Readability of Miranda warnings and waivers: Implications for evaluating Miranda comprehension. *Law and Psychology Review, 30,* 119–142.

Kassin, S. M., Leo, R. A., Meissner, C. A., Richma, K. D., Colwell, L. H., Leach, A. M., et al. (2007). Police interviewing and interrogation: A self-report survey of police practices and beliefs. *Law and Human Behavior, 31,* 381–400.

Keur v. State, 160 So.2d 546 (Fla. Dist. Ct. App. 1963).

King, K. J. (2006). Waiving childhood goodbye: How juvenile courts fail to protect children from unknowing, unintelligent, and involuntary waivers of Miranda rights. *Wisconsin Law Review, 2006,* 431–478.

Larson, K. (2003). Improving the "kangaroo courts:" A proposal for reform in evaluating juveniles' waiver of Miranda. *Villanova Law Review, 48,* 629–668.

Little v. Arkansas, 435 U.S. 957 (1978).

McCann, J. T. (1998). A conceptual framework for identifying various types of confessions. *Behavioral Sciences and the Law, 16,* 441–453.

McLaughlin, G. (1969). SMOG grading: A new readability formula. *Journal of Reading, 12,* 639–646.

Miranda v. Arizona, 384 U.S. 436 (1966).

Oberlander, L., & Goldstein, N. (2001). A review and update on the practice of evaluating Miranda comprehension. *Behavioral Sciences and the Law, 19,* 453–471.

Osman, D. A. (2005). *Relationship between academic achievement and Miranda rights: Comprehension and false confessions.* Unpublished doctoral dissertation, Drexel University.

Owen-Kostelnik, J., Reppucci, N. D., & Meyer, J. R. (2006). Testimony and interrogation of minors: Assumptions about maturity and morality. *American Psychologist, 61,* 286–404.

Paasche-Orlow, M. K., Taylor, H. A., & Brancati, F. L. (2003). Readability standard for

informed-consent forms as compared with actual readability. *New England Journal of Medicine, 348,* 721–727.
Redlich, A. D., & Goodman, G. S. (2003). Taking responsibility for an act not committed. *Law and Human Behavior, 27,* 141–156.
Redlich, A. D., Silverman, M., & Steiner, H. (2003). Pre-adjudicative and adjudicative competence in juvenile and young adults. *Behavioral Sciences and the Law, 21,* 393–410.
Rhode Island v. Innis, 446 U.S. 291 (1980).
Rogers, R., Harrison, K. S., Hazelwood, L. L., & Sewell, K. W. (2007). Knowing and intelligent: A study of Miranda warnings in mentally disordered defendants. *Law and Human Behavior, 31,* 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,* 177–192.
Rogers, R., Hazelwood, L. L., Sewell, K. W., Harrison, K. S., & Shuman, D. W. (2008). The language of Miranda warnings in American jurisdictions: A replication and vocabulary analysis. *Law and Human Behavior, 32,* 124–136.
Rogers, R., & Shuman, D. W. (2005). *Fundamentals of forensic practice: Mental health and criminal law.* New York: Springer.
Schinka, J. A., & Borum, R. (1993). Readability of adult psychopathology inventories. *Psychological Assessment, 5,* 384–386.
Sevin Goldstein, N. E., Condie, L. O., Kalbeitzer, R., Osman, D., & Geier, J. L. (2003). Juvenile offenders' Miranda rights comprehension and self-reported likelihood of offering false confessions. *Assessment, 10,* 359–369.
Shufelt, J. L., & Cocozza, J. J. (2006). *Youth with mental health disorders in the juvenile justice system: Results from a multi-state prevalence study.* Delmar, NY: National Center for Mental Health and Juvenile Justice. Retrieved September 8, 2007, from http://ncmhjj.com/pdfs/publications/PrevalenceRPB.pdf
State in Interest of Jones, 372 So.2d 779 (La. Ct. App. 1979).
State v. Doe, 621 P.2d 519 (N.M. Ct. App. 1980).
State v. Jackson, 600 N.W.2d 39 (Wis. Ct. App. 1999).
Stewart v. State, 754 N.E.2d 492 (Ind. 2001).
Texas Youth Commission. (2006). *Commitment profile for new commitments: Fiscal years 2002*–2006. Retrieved September 5, 2007, from http://www.tyc.state.tx.us/research/profile.html
United States v. Kodzis, 255 F. Supp. 2d 1140 (S.D. Cal. 2003).
United States v. Toliver, 480 F. Supp. 2d 1216 (D. Nev. 2007).
Viljoen, J. L., Klaver, J., & Roesch, R. (2005). Legal decisions of preadolescent and adolescent defendants: Predictors of confessions, pleas, communication with attorneys and appeals. *Law and Human Behavior, 29,* 253–277.
Viljoen, J. L., & Roesch, R. (2005). Competence to waive interrogation rights and adjudicative competence in adolescent defendants: Cognitive development, attorney contact, and psychological symptoms. *Law and Human Behavior, 29,* 723–742.
Warren, J. I., Aaron, J., Ryan, E., Chauhan, P., & DuVal, J. (2003). Correlates of adjudicative competence among psychiatrically impaired juveniles. *Journal of the American Academy of Psychiatry and the Law, 31,* 299–309.
West v. United States, 399 F.2d 467 (5th Cir. 1968).
Williams v. State, 433 N.E.2d 769 (Ind. 1982).

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