Effectiveness of the Miranda Acquiescence Questionnaire for Investigating Impaired Miranda Reasoning

Richard Rogers, PhD, Tanveer Otal, BS, Eric Y. Drogin, JD, PhD, and Brittney M. Dean, BA

The capacity of arrestees to comprehend their *Miranda* rights adequately and to waive them intelligently remains largely unexamined by most defense attorneys and forensic practitioners. Although much is now known about *Miranda* comprehension, only recently has forensic research emerged on *Miranda* reasoning. This archival study utilizes an extensive dataset of 847 pretrial detainees who were administered the Standardized Assessment of Miranda Abilities. This study focuses on how forensic practitioners can evaluate *Miranda* misperceptions that may have contributed to highly consequential decisions to cooperate with law enforcement without seeking legal counsel. Specific items from the Miranda Acquiescence Questionnaire of the Standardized Assessment of Miranda Abilities clearly identified detainees with impaired *Miranda* reasoning. Two important patterns of *Miranda* misperceptions were observed: adversarial perspective on arrest and trusting law enforcement. For instance, more than 20 percent of detainees with impaired reasoning wrongly believed that cooperating with police could only have positive outcomes. Even more troubling, more than one fourth of detainees erroneously believed that they must always comply with police requests, which obviously could entail self-incrimination. These findings are then placed in a broader context when examining the professional roles of forensic practitioners in recognizing, understanding, and evaluating for impaired *Miranda* abilities.

J Am Acad Psychiatry Law 48(2) online, 2020. DOI:10.29158/JAAPL.003912-20

In the criminal forensic domain, impaired *Miranda* capacities appear to be highly prominent among psycholegal concerns, yet they are substantially under-evaluated and under-researched in forensic psychiatry. Using conservative parameters, Rogers[1] estimated that about 300,000 detainees annually fail to recall even 50 percent of their *Miranda* warnings, despite these being delivered one component at a time. Such basic failures raise fundamental questions about whether these detainees could "knowingly and intelligently waive these rights" as required by *Miranda v. Arizona* (Ref. 2, p 479). To make matters worse, it is estimated that half of all detainees with serious mental disorders or intellectual disabilities will fail at *Miranda* recall.[3] With more than 10 million arrests occurring annually in the United States, including 518,617 violent offenses in 2017,[4] the potential toll of invalid *Miranda* waivers continues to be alarmingly high.

A remarkable disparity is observed when comparing the prevalence of *Miranda* concerns to the attention paid to them in forensic practice and research. Although no survey data were found for forensic psychiatrists, a study of clinical psychologists who performed forensic evaluations found that 76 percent had never conducted *Miranda* evaluations; of those

Published online February 12, 2020

Dr. Rogers is Regents Professor of Psychology at the University of North Texas, Denton. Dr. Drogin is a member of the clinical faculty at Harvard Medical School, Boston, Massachusetts. Ms. Otal and Ms. Dean are doctoral students in clinical psychology at the University of North Texas, Denton. Address correspondence to: Richard Rogers, PhD, Department of Psychology, 1155 Union Circle, #311280, Denton, TX 76203-5017. E-mail: Richard.Rogers@unt.edu.

Disclosures of financial or other potential conflicts of interest: Drs. Rogers and Drogin receive royalties for the SAMA, which includes the MAQ.

who did participate, the number of evaluations was minimal, with a median of 2.5 per year.[5] Scholarship has also lagged behind *Miranda*-relevant case law developments (see Legal Overview below). A systematic search (i.e., MEDLINE and PsychINFO) revealed only 19 contributions regarding *Miranda* since 1970, versus 415 articles on insanity in the *Journal of the American Academy of Psychiatry and the Law* during the same time period.

Legal Overview

Chief Justice Warren wrote the majority opinion for *Miranda v. Arizona*, which acknowledged that "custodial interrogation exacts a heavy toll on individual liberty and trades on the weakness of individuals" (Ref. 2, p 455). To protect the Fifth Amendment right against self-incrimination, the Supreme Court of the United States required that the following information be conveyed to detainees:

> [U]nless other fully effective means are adopted . . . [a detainee] must be warned prior to any questioning that he has the right to remain silent, that anything he says can be used against him in a court of law, that he has the right to the presence of an attorney, and that if he cannot afford an attorney one will be appointed for him prior to any questioning if he so desires. Opportunity to exercise these rights must be afforded to him throughout the interrogation (Ref. 2, pp 478–79).

Miranda warnings include five core components.[6] Although its purpose is not explicitly stated, the right to silence is intended to communicate a constitutional protection against the use of statements as evidence in subsequent proceedings. It also included an admonition regarding the perils of talking. *Miranda* warnings further communicate the right to counsel and provide free legal services for economically disadvantaged detainees. In this regard, the Court observed the following: "The warning of a right to counsel would be hollow if not couched in terms that would convey to the indigent—the person most often subjected to interrogation—the knowledge that he too has a right to have counsel present" (Ref. 2, p 473). Finally, the Court recognized the need to stress the ongoing nature of these protections, meaning that counsel can be requested at "any stage in the process" (Ref. 2, pp 444–45).

Miranda represents one of the most impactful and lasting appellate decisions in American jurisprudence. What limits have been placed on law enforcement in securing incriminating evidence? In *Brown v. Walker* (1896), the Supreme Court had cited with approval a longstanding prejudice, predating the Constitution itself, against interrogation techniques that tended to "press," "browbeat," or "entrap" (Ref. 7, p 596) custodial arrestees; in *Blackburn v. Alabama* (1960), the Court had recognized explicitly that "coercion can be mental as well as physical" (Ref. 8, p 206). Just two years prior to *Miranda*, the Court had concluded in *Escobedo v. Illinois* (1964) that persons who have "requested and been denied" consultation with counsel and have not been advised of their "absolute constitutional right to remain silent" could prevent ensuing statements from being admitted at trial (Ref. 9, pp 490–91).

The *Miranda* Court eventually had to decide whether the language of that decision must be taken literally. In *California v. Prysock* (1981),[10] for example, the Court reached back to its earlier observation that a "fully effective equivalent" (Ref. 2, p 476) to its earlier warning examples would be sufficient, and noted further that *Miranda* itself indicated that "no talismanic incantation was required to satisfy its strictures" (Ref. 10, p 359). What the *Miranda* Court did not appear to have predicted was the subsequent explosion of appellate litigation concerning the ability of arrestees to understand their constitutionally enshrined rights.

Perhaps the most obvious context for appellate exploration of *Miranda* understanding and reasoning was destined to be that of juvenile matters. In *Fare v. Michael C.*, the Supreme Court ruled in favor of a "totality of the circumstances" standard that supported the validity of a *Miranda* waiver where the 16-year-old juvenile arrestee had "considerable experience with the police" and a "record of several arrests" (Ref. 11, p 72). More recently, the Court determined in *J.D.B. v. North Carolina* that a 13-year-old child who never received a *Miranda* warning and was told "that he could refuse to answer the investigator's questions" (Ref. 12, p 267) only after he confessed was entitled to a presumption of heightened vulnerability to custodial interrogation.

The Court's perspective on how persons "knowingly and intelligently" waive their rights might be "inferred from the actions and the words of the person being interrogated" (Ref. 13, p 373). The comparatively recent case of *Berghuis v. Thompkins* (2010)[14] found the Court willing even to find a suspect's silence, despite the existence of a right to silence, to serve as evidence of the ultimate validity of a *Miranda* waiver. Here, the Court relied on *Davis v.*

United States in which it had ruled that those invoking their *Miranda* rights "must do so unambiguously" (Ref. 15, p 381). Ultimately, the Court concluded in *Berghuis* that the "equivocal" act of not speaking did not require the police to "end the interrogation, or to ask questions to clarify whether the accused wants to invoke his or her *Miranda* rights" (Ref. 14, p 381).

The Court has not shied away from addressing what facts may invalidate a *Miranda* waiver. Well before *Miranda*, the Court specified that waivers were sufficiently "intelligent" when an arrestee "knows what he is doing, and his choice is made with eyes open" (Ref. 16, p 279). Moreover, in *Colorado v. Connelly*, the Court deemed an arrestee's statement admissible unless it was the result of "coercive police activity" (Ref. 17, p 167). Overall, the clear takeaway message from more than 50 years of post-*Miranda* jurisprudence is that what custodial suspects are able to understand of *Miranda* warnings can be every bit as important, from a legal perspective, as the warnings themselves.

Miranda Comprehension and Reasoning

Closely related professional misperceptions involve the supposed uniformity and simplicity of *Miranda* warnings. As a presumably unintended consequence, the Supreme Court's decision in *California v. Prysock*[10] enabled each jurisdiction to craft its own *Miranda* warnings and waivers. It would be understandably easy to assume that such advisements differ only minimally in their use of language. That assumption has proved to be false. Rogers and his colleagues[18,19] conducted two national surveys of general (i.e., intended for all ages) *Miranda* warnings and reported profound differences in the length and reading levels of *Miranda* warnings. For 945 examined warnings, the total advisements (warnings, waivers, and ancillary material) ranged from 49 to 547 words with a remarkable variability in required reading levels that spanned from grade 3 to postcollege. Making matters worse, approximately one half (50.4%) used 120 or more words for warnings combined with waivers, with an average requisite reading grade level of 7.6.[20] Paradoxically, surveys of juvenile (i.e., intended for youth only) *Miranda* warnings proved to be much more challenging than general advisements, with 64.7 percent including at least 175 words and requiring on average a reading grade level of 8.30.[20–22]

The ability to recall *Miranda* advisements varies by the recentness of the arrest as well as by the mode of communication. Within 24 hours of arrest, 22.8 percent of detainees failed to remember even 50 percent of an orally administered *Miranda* warning when asked for immediate recall. In sharp contrast, only 8.3 percent of detainees who had been held longer failed to recall 50 percent or more of written warnings.[1] As a critically important caution, oral *Miranda* warnings were provided one statement at a time, which maximizes immediate recall. When *Miranda* warnings are presented without interruption, *Miranda* comprehension sinks precipitously when used with legally involved juveniles[23,24] and even college undergraduates.[25,26] In these four studies, failure rates (i.e., less than 50% recall) represented the norm when detainees were asked to recall the total *Miranda* warning.

Factors contributing to poor *Miranda* comprehension have been clearly established. First and foremost, the complexity of *Miranda* warnings extends beyond their length and reading level. Obvious barriers to comprehension include difficult vocabulary, infrequently used words, legalese, and homonyms, especially for oral advisements.[27] These problems may be severely exacerbated by rapid-fire delivery of oral advisements.[28]

Miranda evaluations should routinely address the clinical status of referred examinees. The potential presence of psychotic and other symptoms of serious mental disorders should be considered on a case-by-case basis. In general, these symptoms tend not to play a major role in *Miranda* comprehension unless they are sufficiently severe to impair day-to-day functioning (Ref. 6, Appendix E). Low verbal abilities, by contrast, are far more likely to play a central role in failed *Miranda* comprehension. Looking at verbal intelligence, 79.4 percent of individuals with scores between 70 and 79 have impaired *Miranda* comprehension; this percentage jumped to 100 percent when the verbal intelligence dropped below 70 (Ref. 6, Appendix D). This same analysis established that very low reading or listening comprehension most often signaled failed *Miranda* comprehension.

Grisso pioneered the systematic evaluation of *Miranda* reasoning through his development of the Waiver Expectancy Interview (Ref. 29, Appendix E). It provided a valuable model for examining *Miranda* reasoning among legally involved juveniles. Using three vignettes, these youth were questioned about

different *Miranda*-relevant options and their likely outcomes (e.g., the value of obtaining legal counsel). To be comprehensive, their responses were rated on two parameters: positive and negative consequences, and short-term and long-term consequences. Even when faced with a violent felony charge, innocent juvenile suspects rarely opted for a lawyer; alarmingly, less than half believed that counsel might exercise a positive effect on their felony case (Ref. 29, Chapter 7). More recent research on the Waiver Expectancy Interview found that, when legally involved juveniles saw no positive reasons to remain silent or request counsel, their likelihood of confessing without the benefit of counsel increased by more than 400 percent.[30]

Rogers and his colleagues systematically investigated common *Miranda* misconceptions through the development of the Miranda Quiz[31] and, subsequently, the Juvenile Miranda Quiz.[32] *Miranda* misconceptions are not limited to detainees; they are also found with undergraduates and with a broader cross-section of the community (i.e., jury pools). Examples in which more than 25 percent of respondents are wrong include beliefs that remaining silent is tantamount to self-incrimination, off-the-record comments are protected, and asking for counsel does not stop questioning prior to the arrival of counsel.[33,34] In general, pretrial detainees tended to have higher rates of *Miranda* misconceptions than nonoffender groups. Other important misconceptions for detainees involved protection against self-incrimination when *Miranda* waivers remain unsigned or in the event of police deception. Regarding the latter, the majority wrongly believed that police were bound by probity not to accuse arrestees of fictitious crimes (55.4%) or to deceive them about an eyewitness identification (64.2%). Overall, the ability to render an intelligent waiver of *Miranda* rights may substantially be compromised by such fundamental misconceptions.

Research involving the Juvenile Miranda Quiz has expanded the coverage of *Miranda* misconceptions with an emphasis on professional role expectations (i.e., advocate or adversary) concerning law enforcement and defense counsel.[24] Legally involved juveniles often misunderstood these professional roles. For instance, 63.8 percent believed court-appointed counsel must divulge everything to the judge. In addition, 50.7 percent inaccurately believed law enforcement wanted to help rather than convict them, whereas 37.7 percent erroneously reasoned they should talk to police because of their positions of official authority.[35]

The Miranda Acquiescence Questionnaire

Forensic practitioners have two valuable tools, specifically forensic assessment instruments for directly assessing impaired *Miranda* abilities: Miranda Rights Comprehension Instruments[36] and the Standardized Assessment of Miranda Abilities (SAMA).[20] These forensic assessment instruments are intended for doctoral-level forensic practitioners; the SAMA explicitly states that training qualifications encompass "doctoral-level forensic psychologists and psychiatrists" (Ref. 20, p 16).

The Miranda Acquiescence Questionnaire (MAQ) was originally validated for the purpose of identifying detainees who engage in acquiescence (i.e., yea-saying) or disacquiescence (i.e., nay-saying).[37] MAQ item pairs are worded in discrepant if not contradictory directions, such as whether staying silent either protects or incriminates detainees. Responding in the same direction to items with dissimilar content provides solid evidence of acquiescence (i.e., true to both items) or disacquiescence (i.e., false to both items). Beyond response styles, the MAQ can also be utilized to address wrong beliefs that are relevant to *Miranda* reasoning. For instance, responding "true" to an item stating that silence is incriminating evidence and "false" to an item stating that silence is a protected right provides a multi-faceted understanding for these related and important *Miranda* misperceptions. Rogers and Drogin[38] recently recommended that the MAQ be utilized in a case-specific manner to evaluate how serious misconceptions may potentially affect a particular arrestee's waiver decision, although no criterion-based conclusions can be offered in the absence of empirical research.

The primary purpose of our study was to examine individual and aggregate MAQ scores as they relate to *Miranda* reasoning. Following the design of Sharf and colleagues,[35] the study utilized a bottom-up approach (i.e., building from single items to aggregate scores). It systematically examined whether individual MAQ items could predict impaired *Miranda* reasoning as operationalized with the Miranda Reasoning Measure (MRM).[39]

Methods

This archival investigation provided new analyses on an extensive dataset involving 847 pretrial detainees from four jail facilities in Texas (Grayson County Jail) and Oklahoma (Cherokee County Jail, Creek County Detention Center, and Okmulgee County Jail). The data were gathered as part of multiple National Science Foundation supported investigations conducted over a five-year period. All data were collected with the approval of the Institutional Review Board of the University of North Texas.

Measures

The MAQ consists of 64 true/false items related to *Miranda* and law enforcement in the context of being arrested.[37] Its items are scored as correct or incorrect. Developed specifically for use with detainees who may have limited literacy, the MAQ consists of brief sentences averaging less than 10 words with purposefully low reading grade level of 3.7. Regarding validity, even moderate levels of MAQ acquiescence results in more impaired *Miranda* abilities.[20]

The Miranda Quiz consists of 25 true/false items that assess misconceptions related to *Miranda* components and police practices.[31] For *Miranda* evaluations, the Primary Total is used, which is composed of the 15 items with the best validity.[20] The Miranda Quiz has demonstrated a high level of interrater reliability for Miranda Quiz scoring (intraclass correlation coefficient (ICC) = .97). Its validity was established via independent agreement among *Miranda* experts regarding its content (ICC = .96) and its ability to discriminate between failed and likely adequate *Miranda* reasoning (Cohen's $d = .70$).[20]

The Miranda Reasoning Measure (MRM) is a practitioner-administered questionnaire for assessing detainees' positive and negative reasons for deciding whether to exercise or waive their *Miranda* rights.[39] Responses are rated on a four-point scale: 0 for impaired reasoning, 1 for questionable reasoning, 2 for adequate reasoning limited to the immediate circumstances, and 3 for adequate reasoning taking into account long-term consequences. Two aggregate scores are generated, MRM-Exercise and MRM-Waive, both of which have excellent interrater reliability (ICCs $> .90$) between two independent evaluators. Comparisons of failed versus adequate MRM reasoning produced expected differences for intelligence and *Miranda* vocabulary.[20]

As part of the SAMA, the Miranda Vocabulary Scale[20] was used to assess an examinee's knowledge of 36 *Miranda*-relevant words that assist in differentiating between impaired and adequate *Miranda* abilities. The Miranda Vocabulary Scale was designed to assess the meaning of words within a legal context from completely incorrect to a correct and relevant definition. The Miranda Vocabulary Scale has demonstrated high interrater reliability (ICC = .98) and validity than other *Miranda* measures.[20]

The Wechsler Individual Achievement Test, Third Edition, is a well-validated test of achievement with grade-level norms. For our investigation, Listening Comprehension and Reading Comprehension were individually administered. These two subtests demonstrate high internal reliability (ICC = .84 and .88, respectively) and validity.[40]

The Wechsler Abbreviated Scale of Intelligence II is a concise measure of intelligence that assesses verbal (Verbal Comprehension Index) and nonverbal (Perceptual Reasoning Index) abilities. This scale has excellent internal reliability (ICC = .96) and validity.[41]

Procedures

Rogers and colleagues[20] utilized the MRM to operationalize *Miranda* reasoning into failed and likely intact groups regarding the waiver decision. For the failed *Miranda* reasoning group, the decision about their own *Miranda* waiver had to be compromised (e.g., psychotic or self-defeating thinking) or premised on a serious factual error (e.g., indigent suspects not receiving free legal services). For the likely intact reasoning group, the thinking had to be rational about their *Miranda* waiver, with at least one reason to exercise their rights that considered long-term consequences.

Statistical Analysis

MAQ items were selected utilizing a bottom-up approach to identify those items that significantly differentiated between the failed and likely intact *Miranda* reasoning groups. Given the number of comparisons, only p values $\leq .01$ were considered significant. In addition, nonsignificant trends were also considered (i.e., $p \leq .10$). To ensure clinical relevance, individual items were only retained if their effect sizes had a logit of $d \geq .30$. For examination of group differences (i.e., impaired versus likely adequate *Miranda* reasoning), the fo-

Table 1 Differences in Descriptive Characteristics of Exercised and Waived Groups

	Exercised[a] (n = 436)	Waived[b] (n = 389)	F	P	d
Age	32.70 (10.83)	32.50 (10.90)	0.07	.79	.02
Education level	11.73 (2.00)	11.68 (1.91)	0.13	.72	.03
Arrests	13.05 (28.81)	10.76 (20.05)	1.17	.19	.08
Psychiatric hospitalizations	0.55 (2.34)	0.85 (2.92)	2.40	.12	.12
Full-scale IQ[c]	91.24 (12.48)	91.46 (13.39)	0.05	.82	.02
Verbal IQ[c]	88.27 (12.48)	88.75 (13.47)	0.27	.60	.04
Reading grade[d]	8.64 (3.21)	9.15 (3.28)	4.91	.03	.16
Listening grade[d]	8.90 (2.90)	9.21 (2.99)	2.19	.14	.10

Data are presented as mean (SD).
[a] Exercised = Exercised *Miranda* rights (i.e., did not talk to police without lawyer); the dataset does not distinguish those who formally invoked their rights from those who implicitly exercised them by declining to talk.
[b] Waived = Waived *Miranda* rights (i.e., talked to police without lawyer).
[c] Full-scale IQ and Verbal IQ are based on the Wechsler Abbreviated Scale of Intelligence.
[d] Reading and Listening Grade levels are based on the Wechsler Individual Achievement Test (2nd edition).

cus was on at least medium effect sizes (logit of $d \geq .50$).

Results

The dataset consisted of 847 detainees ranging in age from 17 to 80 years (mean 32.61 [SD 10.86], with 635 (75.0 percent) identified as male offenders. Reflecting self-identified ethnicity, the dataset was composed of 52.7 percent European American, 17.4 percent African American, 17.1 percent Native American, and 6.0 percent Hispanic American detainees; the remaining 6.8 percent of detainees self-identified as Multiracial, Asian American, or Other. The dataset was composed of 57.0 percent single, 22.6 percent married, 19.0 percent divorced, and 1.4 percent widowed detainees. Most were reportedly employed (79.5%) at the time of their arrest. The average full-scale IQ was found to be 91.35 (SD 12.91); the reported education level averaged close to high school completion (mean 11.71 years [SD 1.96]). As expected for an adult detainee dataset, the previous arrests averaged at 11.97; a high variability was observed due to several outliers (SD 25.08). In addition, 16.6 percent disclosed a past history of psychiatric hospitalizations.

As summarized in Table 1, the Exercised and Waived groups were remarkably similar in age, number of arrests, and number of psychiatric hospitalizations. Moreover, their overall intelligence, verbal abilities, and achievement levels did not differentiate with respect to crucial exercise/waive decisions. The nonsignificant trend appears counterintuitive, with the Waived group scoring slightly higher (d = .16) on reading comprehension than their Exercised group counterparts. With a modest difference of only about one-half grade, a further examination of *Miranda* misperceptions was conducted next.

MAQ Misperceptions and Miranda *Reasoning*

Twelve of the 60 MAQ misconceptions demonstrated substantial effect sizes that often far exceeded the rigorous item-level threshold (logit $d \geq .30$). As summarized in Table 2, two general themes emerged from this study, each with six items: adversarial perspective on arrest, and trusting law enforcement. The average effect sizes for aggregate scores were medium at the item level, i.e., .56 for adversarial perspective on arrest and .61 for trusting law enforcement. For adversarial perspective on arrest, almost half of the impaired group (48.6%) did not rule out confessing to law enforcement, and one fourth did not believe police commonly used pressure tactics. For trusting law enforcement, the impaired group was much more likely to see law enforcement serving in a beneficent role; the strongest difference (d = 1.21) was observed for the absence of pressure by police to confess. Two additional trusting law enforcement items (i.e., #23 and #30) presented law enforcement in a very positive light, producing medium effect sizes (d = .68 and .63, respectively).

MAQ Misperceptions and Cognitive Abilities

The next step addressed how differences in cognitive abilities might be reflected in the aggregate scores for adversarial perspective on arrest and trusting law enforcement. As summarized in Table 3, overall intelligence produced medium differences for both an adversarial perspective on arrest (d = .59) and trusting law enforcement (d = .79), with verbal abilities remaining especially salient for the latter (d = .66).

Table 2 Differences in MAQ Misbeliefs between MRM Impaired and Likely Intact Reasoning Groups

MAQ Scale	Item	Misbelief (Inaccurate Response)	% of Errors: Impaired	% of Errors: Likely Intact	χ^2	*P*	*d*
Adversarial perspective on arrest	9.	You can disagree with the police when they are wrong. (F)	16.9	6.5	7.86	.02	**.60**
	20.	I should talk to a lawyer before I talk to the police. (F)	8.5	3.2	6.03	.05	**.56**
	28.	A person should never admit to a crime. (F)	48.6	33.5	7.27	.03	.35
	31.	You should not answer any questions or sign anything until you have a lawyer. (F)	9.9	2.6	7.32	.03	**.79**
	37.	Staying silent is the same as saying I'm guilty. (T)	12.1	3.2	9.13	**.01**	**.78**
	57.	The police usually pressure a person to confess. (F)	25.0	16.1	4.67	.10	.30
Trusting law enforcement	7.	Telling the police what you know can only help you. (T)	22.0	11.7	10.13	**< .01**	.42
	15.	If the police promise me help, then it's okay to talk. (T)	6.3	3.2	8.56	**.01**	.39
	23.	During an interrogation the police have your best interests in mind. (T)	19.1	6.5	11.67	**< .01**	**.68**
	29.	The police will not pressure a person into confessing. (T)	10.6	1.3	12.21	**< .01**	**1.21**
	30.	Talking to the police is a good idea. (T)	27.0	10.5	13.40	**< .01**	**.63**
	56.	A person should always do what the police say. (T)	37.6	25.3	5.45	.07	.32

The MRM was used for *Miranda* reasoning which was operationalized[21] as impaired (≥ 1 item scored as 0; $n = 255$) and likely intact (all items scored ≥ 2 plus ≥ 1 "exercise" item scored = 3; $n = 195$). To facilitate interpretation, statistically significant differences and medium to large effect sizes are in bold.
MAQ, Miranda Acquiescence Questionnaire; MRM, Miranda Reasoning Measure.

The average IQ for the impaired group (mean 71.86) was close to the upper threshold for mild intellectual disability. For achievement, much more modest results were produced. The impaired group, which averaged about second grade on both reading and listening comprehension, evidenced relatively modest effect sizes on the adversarial perspective on arrest aggregate scores but substantial differences for trusting law enforcement. Our first consideration involved possible differences in reading grade level. Counterintuitively, however, the adversarial perspective on arrest required a slightly higher reading grade (Flesch-Kincaid of 5.0) than trusting law enforcement (Flesch-Kincaid of 3.8).

MAQ Misperceptions and Miranda *Abilities*

As displayed in Table 4, trust in law enforcement overshadowed adversarial perspective on arrest in terms of large effect sizes on measure of *Miranda* comprehension, including *Miranda* vocabulary (1.04 versus .67) and especially free *Miranda* recall (1.12 versus .43). Regarding the latter, the likely intact group recalled on average 1.5 details (42.1%) more than the failed *Miranda* reasoning group. Consistent with previous re-

Table 3 MAQ Differences on APA and TLE Scores between Impaired and Intact Cognitive Abilities

Clinical Variable	MAQ (*n* for Impaired, Likely Intact)	Impaired[a]	Likely Intact[b]	*F*	*P*	*d*
Full-scale IQ	APA (67, 330)	4.55 (1.35)	5.13 (0.88)	19.45	**< .001**	**.59**
	TLE (68, 335)	4.29 (1.73)	5.23 (1.06)	34.92	**< .001**	**.79**
Verbal Comprehension Index	APA (97, 269)	4.76 (1.27)	5.14 (0.87)	10.43	**.001**	.38
	TLE (94, 273)	4.52 (1.66)	5.30 (0.97)	30.59	**< .001**	**.66**
Reading grade	APA (144, 197)	4.91 (1.19)	5.07 (0.86)	2.86	.06	.19
	TLE (144, 197)	4.56 (1.60)	5.28 (1.05)	15.13	**< .001**	.43
Listening grade	APA (137, 198)	4.84 (1.16)	5.06 (0.96)	6.37	**.002**	.28
	TLE (136, 197)	4.42 (1.58)	5.30 (1.00)	23.48	**< .001**	**.54**

Differences for the impaired and likely intact groups are presented as mean (SD). For intelligence, full-scale IQ score of 85 was used with a 95% CI (± 5 points): < 80 were categorized as impaired and ≥ 90 as intact. The same criterion was employed with the Verbal Comprehension Index. Given the low grade level for the MAQ, tertiles (highest and lowest thirds) were used. To facilitate interpretation, statistically significant differences and medium effect sizes are in bold.
[a] Means for impaired cognitive abilities were 71.86 (full-scale IQ), 71.24 (Verbal Comprehension Index), 2.11 (reading grade), and 2.03 (listening grade).
[b] Means for intact cognitive abilities were 100.74 (full-scale IQ), 99.80 (Verbal Comprehension Index), 10.97 (reading grade), and 10.70 (listening grade).
APA, adversarial perspective on arrest; MAQ, Miranda Acquiescence Questionnaire; TLE, trusting law enforcement.

Table 4 MAQ Differences on APA and TLE Scores between Impaired and Likely Intact *Miranda* Abilities

Miranda Abilities	MAQ (*n* for Impaired, Likely Intact)	Impaired	Likely Intact	*F*	*P*	*d*
Miranda Vocabulary Scale	APA (43, 264)	4.51 (1.45)	5.16 (0.87)	16.57	**< .001**	**.67**
	TLE (42, 266)	4.14 (1.63)	5.29 (1.00)	39.04	**< .001**	**1.04**
Miranda Comprehension Template	APA (18, 145)	4.61 (1.24)	5.05 (0.97)	3.02	.08	.43
	TLE (18, 148)	3.56 (1.82)	5.06 (1.27)	20.22	**< .001**	**1.12**
Miranda Quiz Primary Total	APA (71, 102)	4.82 (1.20)	5.15 (0.94)	2.77	.07	.26
	TLE (72, 99)	4.51 (1.47)	5.22 (1.06)	9.13	**< .001**	.47
MRM-Waive	APA (100, 279)	4.85 (1.04)	5.24 (0.85)	10.41	**< .001**	.38
	TLE (102, 275)	4.86 (1.26)	5.24 (1.08)	8.71	**< .001**	.34
MRM-Exercise	APA (47, 266)	4.55 (1.16)	5.23 (0.89)	11.64	**< .001**	**.54**
	TLE (49, 263)	4.53 (1.43)	5.26 (1.00)	10.37	**< .001**	**.50**

Differences for the impaired and likely intact groups are presented as mean (SD). The *Miranda* Vocabulary Scale compared failed (≥ 50% of items scored 0 or 1) versus likely adequate (≤ 20% of items scored 0 or 1, plus average item score ≥ 3). In addition, the Miranda Comprehension Template was operationalized as failed (< 50%) versus likely adequate (≥ 70%) comprehension. For the Miranda Quiz Primary Total, tertiles were used with failed being set at Miranda Quiz < 11 (i.e., ≥ 26.7% of *Miranda* misconceptions) and likely adequate at Miranda Quiz > 12 (i.e., ≤ 20.0% of *Miranda* misconceptions). To facilitate interpretation, statistically significant differences and medium to large effect sizes are in bold.

APA, adversarial perspective on arrest; MAQ, *Miranda* Acquiescence Questionnaire; MRM, Miranda Reasoning Measure; TLE, trusting law enforcement.

search, both groups failed to recall even half of the details included in the *Miranda* warnings.

Miranda reasoning is much more complex than *Miranda* comprehension, with emotions and situational stressors sometimes overriding rational thinking. Regarding general misconceptions on the Miranda Quiz, only the trust in law enforcement was significant with a moderate effect size of .47. Despite both MRM-Waive and MRM-Exercise being statistically significant, MRM-Exercise evidenced a stronger effect size for both aggregate scales, which differentiated between failed and likely intact *Miranda* reasoning.

Discussion

Our study contributes to the accumulated evidence on legal literacy with respect to *Miranda* reasoning. Detainees with impaired *Miranda* reasoning possessed more fundamental misbeliefs about law enforcement and the nature of the interrogation. Detainees in this impaired group were much more willing to put their trust in law enforcement than were their likely intact counterparts. For the impaired group, more than 20 percent naively believed that talking to the police is a good idea that can only lead to positive outcomes. In contrast, false assurances that investigating officers would not use pressure tactics were almost never observed with the likely intact group. Finally, it is particularly troubling that more than one fourth of both groups mistakenly believed they should always comply with police requests, which presumably includes agreeing to waive their rights and subsequently responding to all questions by investigating officers. To remain truly compliant, these detainees would then obligingly obey any requests to disclose self-incriminating information in full detail. Although the majority of impaired detainees were not affected by these trust in law enforcement misbeliefs, such lapses in reasoning should nonetheless be systematically investigated regarding potentially devastating effects on the intelligent prong of *Miranda* waivers.

An appreciation of the adversarial context of police questioning remains essential to any intelligent waiver of *Miranda* rights. Professionals and members of the public may openly wonder what it is about being physically apprehended, handcuffed, contained in a patrol car, and then locked into a holding cell that would lead arrestees to conclude that a nonadversarial relationship could possibly exist. The current data do not address this disturbing enigma. As a pivotal matter, the belief that silence constitutes self-incrimination may override all other considerations in deciding to relinquish the right to silence. Finally, the item about never confessing (#48) would have benefitted from being framed more specifically by adding the prepositional phrase "without the benefit of counsel." In the context of police questioning, it is difficult, if not impossible, to discern any long-term advantage to providing the police with incriminating evidence they may not have discovered on their own. As the case progresses, however, a plea bargain (including an admission to one or more offenses) may sometimes be viewed as a favorable outcome.[42]

Miranda *Consultations in Forensic Practice*

Forensic psychiatrists and psychologists are commonly asked to address standard pretrial referrals, such as competency to stand trial, but they rarely are referred cases regarding compromised *Miranda* comprehension and invalid *Miranda* waivers. This general oversight has been described as the "professional neglect hypothesis" because many well-intentioned defense attorneys and seasoned forensic practitioners simply do not consider *Miranda* deficits.[3] Using very conservative estimates, it is likely that more than 99 percent of pretrial detainees with significant *Miranda* concerns are not referred for *Miranda* evaluations.[5] Although defense attorneys, the primary source of such referrals, may have strategic reasons for not doing so (e.g., other compelling evidence), our concern is much more fundamental. In most cases, we surmise that the question is simply not raised by often-overworked defense counsel, their investigators, or forensic practitioners. In our view, forensic practitioners may play one of two valuable roles: informing referral sources or serving as evaluators on *Miranda* cases.

Understandably, many forensic practitioners, busy in their own successful practices, may choose not to specialize further by engaging in *Miranda* evaluations. Nonetheless, with a growing awareness of *Miranda* concerns that threaten Fifth Amendment rights against self-incrimination, forensic practitioners may wish to have a brief, informal communication with referring counsel. This role is characterized as "informing referral sources." It would be prudent to obtain general permission so that counsel is not suddenly surprised by an unexpected and possibly unwanted phone call.[38] Consider the following question being posed to counsel prior to evaluating the examinee: "If other major concerns are raised during my forensic evaluation, would you like me to share them with you informally?" Two points need to be emphasized. First, the term "referring counsel" was chosen intentionally because attorneys on either side of the bar may want to be alerted to possible complications. Second, informal verbal communications avoid establishing a written record that might be discoverable and need to be produced.[38] A strong argument may be presented for this proactive role on the basis of procedural and substantive justice for all custodial suspects, especially given the far-ranging consequences of self-incrimination following an invalid *Miranda* waiver. Forensic psychiatrists are "bound by underlying ethical principles of respect for persons, honesty, justice, and social responsibility," with the latter two being especially relevant (Ref. 43, Preamble).[1] Forensic psychologists are guided by the Principle E (i.e., Respect for People's Rights and Dignity) to safeguard the rights of those persons "whose vulnerabilities impair autonomous decision-making" (Ref. 44, p 1063).

Forensic practitioners, skilled at addressing complex pretrial matters, should experience little difficulty in obtaining appropriate training and consultation for *Miranda* evaluations. In addition, practice-based texts provide the necessary conceptual underpinnings and applied methods.[38,45] Two important and related areas of assessment address *Miranda* comprehension and *Miranda* reasoning.

Assessment of *Miranda* comprehension involves an analysis of the *Miranda* warning administered to arrestees as well as an evaluation of their abilities with reference to the particular advisement. *Miranda* warnings may quickly be gauged for length, reading level, and use of multisyllabic words,[46] perhaps utilizing versions of Microsoft Word that do not round estimates to the nearest whole grade. Of the available reading estimates, the Flesch-Kincaid grade level[47] is generally accepted as the relevant standard and has been adopted by the Department of Defense. Warnings can also be appraised systematically for the use of legalese, homonyms, and infrequently used words (Ref. 6, Appendices A and B). For examinees, forensic practitioners have standardized forensic assessment instruments for evaluating relevant *Miranda* vocabulary as well as recall of the administered *Miranda* warning.

As previously outlined, forensic practitioners have multiple forensic assessment instruments that may be readily applied to *Miranda* reasoning. The Miranda Quiz captures common misconceptions that may compromise the ability to rationally consider the waive/exercise decision. Such misconceptions are only relevant, however, if they were actively considered in making the *Miranda* waiver. Therefore, unhurried and open-ended questions are needed to avoid unnecessarily influencing the examinee's recall.[38] Regarding the decision itself, the Miranda Reasoning Measure assesses the examinee's ability to weigh the pros and cons regarding the rights to silence and counsel. For expert opinions in *Miranda* cases, forensic practitioners must determine both the

quality and substance of the examinee's thinking and ensuing decisions.

The current findings bring to light how misbeliefs about the role of law enforcement and the adversarial context of police questioning have the potential to trump all other relevant considerations. For instance, compromised decisions can arise from fundamental fallacies about cooperation with law enforcement either resulting in only positive outcomes or being required by their legal authority. In exploring these crucial considerations, some practitioners may elect to administer the MAQ, whereas others may choose to utilize the examples presented in Table 2. Whichever course of action is deemed advisable, *Miranda* evaluations may address directly how serious misbeliefs can compromise the waiver decision. In taking a balanced approach, equal attention must be paid to how accurate beliefs may protect and preserve *Miranda* reasoning.

Conclusions

This study provides insights into the complexity of *Miranda* questions and the importance of engaging forensic practitioners to conduct *Miranda* evaluations. Our findings strongly underscore how misbeliefs, such as trusting law enforcement, may compromise *Miranda* reasoning, with arrestees failing to realize the highly consequential risks of waiving rights without the benefit of legal counsel. Finally, the small but growing body of *Miranda* research with detainees may inform public policy decisions regarding *Miranda* and the rights of the accused.[48]

References

1. Rogers R: A little knowledge is a dangerous thing. Emerging Miranda research and professional roles for psychologists. Am Psychol 63:776–87, 2008
2. Miranda v. Arizona, 384 U.S. 436 (1966)
3. Rogers R: Getting it wrong about Miranda rights: false beliefs, impaired reasoning, and professional neglect. Am Psychol 66: 728–36, 2011
4. Federal Bureau of Investigation: Crime in the United States 2017, Table 29. Available at: https://ucr.fbi.gov/crime-in-the-u.s/2017/crime-in-the-u.s.-2017/topic-pages/tables/table-29, 2016. Accessed May 6, 2019
5. Ryba, NL, Brodsky SL, Shlosberg A: Evaluations of the capacity to waive Miranda rights: a survey of practitioners' use of the Grisso instruments. Assess 14:300–9, 2007
6. Rogers R, Drogin EY: Mirandized Statements: Successfully Navigating the Legal and Psychological Issues. Chicago: American Bar Association Publishing, 2014
7. Brown v. Walker, 161 U.S. 591 (1896)
8. Blackburn v. Alabama, 361 U.S. 199 (1960)
9. Escobedo v. Illinois, 378 U.S. 478 (1964)
10. California v. Prysock, 453 U.S. 355 (1981)
11. Fare v. Michael C., 442 U.S. 707 (1979)
12. J.D.B. v. North Carolina, 564 U.S. 261 (2011)
13. North Carolina v. Butler, 441 U. S. 369 (1979)
14. Berghuis v. Thompkins, 560 U.S. 370 (2010)
15. Davis v. United States, 512 U.S. 452 (1994)
16. Adams v. United States ex rel. McCann, 317 U.S. 269 (1942)
17. Colorado v. Connelly, 479 U.S. 157 (1986)
18. Rogers R, Harrison KS, Shuman DW, *et al*: An analysis of Miranda warnings and waivers: comprehension and coverage. Law & Hum Behav 31:177–92, 2007
19. Rogers R, Hazelwood LL, Sewell KW, *et al*: The language of Miranda warnings in American jurisdictions: a replication and vocabulary analysis. Law & Hum Behav 32:124–36, 2008
20. Rogers R, Sewell KW, Drogin EY, Fiduccia CE: Standardized Assessment of Miranda Abilities (SAMA) professional manual. Lutz, FL: Psychological Assessment Resources, 2012
21. Rogers R, Hazelwood LL, Sewell KW, *et al*: The comprehensibility and content of juvenile Miranda warnings. Psychol Pub Pol'y & L 14:63–87, 2008
22. Rogers R, Blackwood HL, Fiduccia CE, *et al*: Juvenile Miranda warnings: perfunctory rituals or procedural safeguards? Crim Just & Behav 3:229–49, 2012
23. Rogers R, Steadham JA, Carter RM, *et al*: An examination of juveniles' Miranda abilities: investigating differences in Miranda recall and reasoning. Behav Sci & L 34:515–38, 2016
24. Rogers R, Steadham JA, Fiduccia CE, *et al*: Mired in Miranda misconceptions: a study of legally involved juveniles at different levels of psychosocial maturity. Behav Sci & L 32:104–20, 2014
25. Rogers R, Gillard ND, Wooley C, Fiduccia CE: Decrements in Miranda abilities: an investigation of situational effects via a mock-crime paradigm. Law & Hum Behav 35:392–401, 2011
26. Gillard ND, Rogers R, Kelsey KR, Robinson EV: An investigation of implied Miranda waivers and Powell wording in a mock-crime study. Law & Hum Behav 38:501–8, 2014
27. Rogers R, Hazelwood LL, Sewell KW, et al: Development and initial validation of the Miranda Vocabulary Scale. Law & Hum Behav 33:381–92, 2009
28. Snook B, Eastwood J, MacDonald S: A descriptive analysis of how Canadian police officers administer the right-to-silence and right-to-legal-counsel cautions. Can J Criminol Crim Just 52:545–60, 2010
29. Grisso T: Juveniles' Waiver of Rights: Legal and Psychological Competence. New York: Plenum, 1981
30. Sharf AJ, Rogers R, Williams MM: Reasoning your way out of Miranda rights: how juvenile detainees relinquish their Fifth Amendment protections. Trans Issues Psychol Sci 3:121–30, 2017
31. Rogers R: Miranda Quiz. Lutz, FL: Psychological Assessment Resources, 2012
32. Rogers R: The Juvenile Miranda Quiz. Unpublished measure, University of North Texas, 2010
33. Rogers R, Fiduccia CE, Drogin EY, *et al*: General knowledge and misknowledge of Miranda rights: are effective Miranda advisements still necessary? Psychol Pub Pol'y & L 19:432–42, 2013
34. Rogers R, Rogstad JE, Gillard ND, *et al*: "Everyone knows their Miranda rights:" implicit assumptions and countervailing evidence. Psychol Pub Pol'y & L 16:300–18, 2010
35. Sharf AJ, Rogers R, Williams MM, Drogin EY: Evaluating juvenile detainees' Miranda misconceptions: the discriminant validity of the Juvenile Miranda Quiz. Psychol Assess 29:556–67, 2017
36. Goldstein NE, Zelle H, Grisso T: Miranda Rights Comprehension Instruments (MRCI): manual for juvenile and adult evaluations. Sarasota, FL: Professional Resource Press, 2014
37. Harrison KS, Rogers, R: Miranda Acquiescence Questionnaire (MAQ). Lutz, FL: Psychological Assessment Resources, 2012

38. Rogers R, Drogin, EY: Conducting Miranda Evaluations. New York: Springer, 2019
39. Rogers R: Miranda Reasoning Measure (MRM). Lutz, FL: Psychological Assessment Resources, 2012
40. Wechsler D: Wechsler Individual Achievement Test, 2nd ed. San Antonio, TX: Psychological Corporation, 2002
41. Wechsler D: Wechsler Abbreviated Scale of Intelligence. San Antonio, TX: Psychological Corporation, 1999
42. Redlich AD, Yan S, Norris RJ, Bushway SD: The influence of confessions on guilty pleas and plea discounts. Psychol Pub Pol'y & L, 24:147–57, 2018
43. American Academy of Psychiatry and the Law: Ethics Guidelines for the Practice of Forensic Psychiatry, 2005. Available at: http://www.aapl.org/docs/pdf/ethicsgdlns.pdf. Accessed May 6, 2019
44. Ethical Principles of Psychologists and Code of Conduct. Am Psychol 57:1060–73, 2002
45. Goldstein AM, Goldstein NES: Evaluating Capacity to Waive Miranda Rights. New York: Oxford University Press, 2010
46. Readability Formulas. Available at: http://www.readabilityformulas.com/free-readability-formula-tests.php. Accessed May 6, 2019
47. Flesch R: A new readability yardstick. J Appl Psychol 32:221–33, 1948
48. Rogers R, Sharf AJ, Clark JI, *et al*: One American perspective on the rights of accused: an initial survey of Miranda rights in a broader context. Behav Sci & L 34:477–94, 2016