


Miranda in Actual Juvenile Interrogations: Delivery, Waiver, and Readability

Criminal Justice Review
2016, Vol. 41(1) 98-115
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DOI: 10.1177/0734016814538650
cjr.sagepub.com


Hayley M. D. Cleary¹ and Sarah Vidal²

Abstract

Though laboratory and self-report research proliferates on youths' Miranda comprehension and reasoning, little is known about how Miranda actually takes place inside the juvenile interrogation room. This study is among the first to present data on the Miranda processes and outcomes that occur in actual juvenile interrogations. Fifty-seven electronically recorded police interrogations with juvenile suspects were coded using software designed especially for observational research; this article examines a subset of those interrogations ($N = 28$) that contained a filmed Miranda component. Key variables include the manner of Miranda delivery, youths' behavioral indicators of comprehension, and Miranda waiver rates. Additionally, the language used to present Miranda warnings to juvenile suspects was transcribed and analyzed. Results indicate that Miranda delivery typically occurred in a neutral manner, immediately upon interview commencement or after a brief period of booking questions. Miranda warnings were presented in various formats (verbal, written, and combination), and youth-specific modifications to the standard Miranda language were uncommon. The Miranda waiver rate in our subsample was 90%. The specific Miranda language used in these interrogations read approximately at a seventh-grade reading level. Implications of Miranda delivery, waiver, and readability are discussed.

Keywords

juvenile justice, police processes, law enforcement/security, legal issues, courts/law

Introduction

In 1966, the U.S. Supreme Court held that criminal suspects in police custody must be advised of certain rights to protect themselves against self-incrimination (*Miranda v. Arizona*, 1966). While the same Miranda rights are extended to adolescent suspects, researchers have questioned whether cognitive and social vulnerabilities unique to this developmental period may disadvantage youth in the

¹L. Douglas Wilder School of Government and Public Affairs, Virginia Commonwealth University, Richmond, VA, USA

²Department of Psychology, Georgetown University, Washington, DC, USA

Corresponding Author:

Hayley M. D. Cleary, L. Douglas Wilder School of Government and Public Affairs, Virginia Commonwealth University, P.O. Box 842028, Richmond, VA 23284, USA.

Email: hmcleary@vcu.edu

interrogation room relative to their adult counterparts (Grisso, 1981; Viljoen & Roesch, 2005). Addressing this question requires greater knowledge about the manner and context in which these rights are administered as well as adolescent suspects' behavior in actual interrogations. To date, most research on juvenile suspects and Miranda has focused on youths' capacities to comprehend and waive their Miranda rights and has occurred in laboratory-based settings using self-report or vignette measures. Very little is known about the actual context of the Miranda exchange between adolescent suspects and police investigators—for example, the strategies police employ to obtain Miranda waivers, youths' responses to those strategies, or the frequency with which youth waive their Miranda rights in real interrogation settings.

Though progress has been made in the domain of youths' Miranda comprehension as well as the content of standardized juvenile Miranda language, research has yet to explore fundamental questions about how Miranda warnings are actually administered to juvenile suspects in real interrogations. Rigid requirements for specific Miranda language do not exist, and departmental templates vary widely (Rogers, Hazelwood, Sewell, Shuman, & Blackwood, 2008), suggesting that juvenile suspects may encounter substantially different Miranda experiences. Though minor variations in wording or framing may seem insignificant, prior research has demonstrated that adolescent suspects often misunderstand even basic components of typical Miranda warnings (Grisso, 1981). It is important to examine Miranda administration in context in order to document the actual Miranda experiences youth encounter—from actual police officers—in real interrogation settings. To date, only a few studies have documented Miranda administration and waiver using actual juvenile cases (Feld, 2006, 2013).

This study addresses this gap by examining electronically recorded juvenile interrogations to explore juvenile Miranda warnings in context. First, it characterizes police officers' portrayal of Miranda warnings to juveniles, building on the few existing field studies of juveniles and Miranda (Feld, 2006, 2013) by drawing from a diverse multijurisdictional sample of police agencies. Second, it adds to vignette- and self-report studies of Miranda waiver (e.g., Grisso et al., 2003; Viljoen, Klaver, & Roesch, 2005) by documenting how frequently and in what manner youth waive their Miranda rights in actual interrogation settings. Finally, the study augments existing research on Miranda warning readability (Rogers et al., 2008) by generating estimates of approximate reading grade level and reading difficulty based on warnings delivered in actual interrogations, since the Miranda language spoken in vivo during interrogations may vary widely from standard department templates.

Literature Review

Juvenile Miranda Delivery and Comprehension

The timing and manner in which police administer Miranda warnings have been the subject of much debate and speculation. Though Miranda is constitutionally required prior to any accusatory custodial questioning, police are legally permitted to ask routine booking questions (e.g., age, address, level of education) before warnings are administered and questioning commences (*Pennsylvania v. Muniz*, 1990). Some legal scholars have argued that police use this ambiguous preinterrogation period as an opportunity to establish rapport with the suspect, not only to facilitate conversation, but especially to encourage Miranda waivers (Feld, 2013; Leo & White, 1999). Rapport building is one of the numerous tactics police may use to “predispose” suspects to waive their rights, sometimes quite skillfully; Leo and White (1999) argued that “interrogators are able to de-emphasize the warnings to such an extent that suspects often perceive that waiver of their rights is the natural and expected course of action” (p. 413).

Because such strategies may be particularly problematic with young suspects, it is important to examine law enforcement interactions with actual juvenile suspects during interrogations. Currently,

very little is known about when and how police administer Miranda warnings to youth. Feld (2006, 2013) conducted studies with recorded juvenile interrogations from four Minnesota counties and reported that nearly all Miranda warnings were administered immediately (52.8%) or during booking questions (41.7%). Additionally, officers in over 90% of the cases delivered the warnings in a neutral manner as opposed to de-emphasizing (or, alternately, emphasizing) Miranda's importance (Feld, 2013). While these findings constitute an extraordinary contribution to the juvenile interrogation literature, it is important to investigate whether similar patterns exist in other states and jurisdictions.

Regardless of when and how the Miranda warnings are delivered, extant research suggests that adolescents as a group inadequately comprehend the warnings to a degree that may compromise the validity of their Miranda waiver. Younger adolescents are more likely than older adolescents and adults to demonstrate significant knowledge deficits about the components of the Miranda warning (Grisso, 1981; Grisso et al., 2003; Viljoen & Roesch, 2005; Woolard, Cleary, Harvell, & Chen, 2008), although determinations of what constitutes "sufficient" Miranda understanding vary according to the legal standard being applied (Viljoen, Zapf, & Roesch, 2007). Youth younger than 15 are significantly more impaired than older youth in their understanding and appreciation of the four specific Miranda warnings (Abramovitch, Peterson-Badali, & Rohan, 1995; Viljoen et al., 2007). Grisso (1981) reported that more than half of the juveniles demonstrated inadequate comprehension of at least one of the four Miranda warnings (compared to 23% of adults) and that age, race, and IQ were related to Miranda comprehension. A more recent study also found that age and IQ were predictors of Miranda comprehension (Goldstein, Condie, Kalbeitzer, Osman, & Geier, 2003). Rogers, Steadham, Fiduccia, Drogin, and Robinson (2014) adopted a different approach by examining comprehension differences based on psychosocial maturity (e.g., autonomy, moral development) instead of age; they reported that while all juveniles exhibited substantial Miranda misconceptions, those with lower levels of maturity demonstrated particularly troubling misconceptions pertaining to several of the Miranda components.

These age-correlated patterns in impaired Miranda comprehension are not simply a function of lower IQ or lack of justice system experience. Studies generally report that prior justice system experience, typically measured by police contact, arrests, court experience, or convictions, is not a reliable predictor of Miranda comprehension. Grisso (1981) reported that juveniles with prior court experience were no more or less likely to understand the words and phrases of the Miranda warnings than non-involved youth, though they better understood the functional significance of the rights to silence and counsel. Viljoen and Roesch (2005) found that arrests predicted functional understanding of the right to counsel and general understanding of the legal process, but arrest experience was not related to any other psycholegal capacities examined. Individuals with lower IQ tend to perform more poorly on Miranda comprehension tests regardless of age, but effects are greater for youth than adults (Grisso, 1981).

As many have previously speculated (e.g., Feld, 2006; Redlich & Goodman, 2003), if age-based deficits in Miranda comprehension are apparent in an innocuous laboratory environment, then the stresses and pressures of real interrogation may further amplify youths' deficits. Perhaps the most accessible method of evaluating suspects' Miranda comprehension would involve observing any indications of comprehension they may exhibit, such as verbal or behavioral affirmations of understanding (e.g., "mm-hmm" utterances or nodding head in agreement), failure to ask questions or request clarification, or failure to exhibit outward signs of cognitive struggle (Feld, 2006). Though such behavioral indicators are clearly insufficient for determining actual comprehension from a clinical standpoint, the law relies heavily on these "objective" indicators when determining the validity of youth waivers because police cannot be expected to assess suspects' Miranda comprehension (Feld, 2006). Indeed, the Supreme Court has consistently protected police officers' lack of obligation to judge suspects' capacities, knowledge, or mental states (*Berkemer v. McCarty*, 1984;

Stansbury v. California, 1994). Feld (2006) suggested that even the slightest affirmation (verbal or nonverbal) is typically enough to find a waiver knowing and intelligent in a juvenile waiver hearing.

Examining Miranda in Context

Given the courts' reliance on observable indicia when making legal determinations about juvenile defendants, it is important to examine those indicia in the context in which they occur. Because we cannot experimentally uncouple Miranda comprehension from Miranda waiver in actual interrogations, we must use both laboratory paradigms and naturalistic observations to understand more about these constructs. Laboratory studies can use carefully developed forensic measures to evaluate individuals' subjective comprehension of Miranda vocabulary and content, but they can only associate comprehension with waiver by using hypothetical vignettes or retrospective self-report of past interrogations. Field studies, by contrast, can document waiver rates and other interrogation decision making in practice but cannot assess suspects' subjective Miranda comprehension. It has been suggested that juvenile suspects' outward indicators of comprehension may in fact reflect compliance with authority instead of actual comprehension (Feld, 2006).

Studies using data from actual police interrogations (Grisso, 1981; Grisso & Pomicter, 1977; Pearse, Gudjonsson, Clare, & Rutter, 1998) and vignettes (Abramovitch, Higgins-Biss, & Biss, 1993; Abramovitch et al., 1995; Ferguson & Douglas, 1970; Grisso et al., 2003) indicate that younger adolescents are more likely to waive the right to silence, although waiver rates may remain high throughout adolescence. For example, a recent interrogation study (Feld, 2013) documented a 92.8% waiver rate among 16- to 18-year-old felony suspects. This is on par with Grisso and Pomicter's (1977) review of 707 felony cases, of which approximately 90% of juveniles chose to talk to police. In one self-report study, 87% of detained youth who were interrogated voluntarily waived their right to silence and spoke with the police (Viljoen et al., 2005). Regrettably, these few studies represent the majority of our knowledge about actual juvenile Miranda waiver rates.

A related program of research examines variations in the length, vocabulary, and orientation of Miranda warnings and procedures. In mandating that police advise suspects of their constitutional protections against self-incrimination, the Miranda Court did not delineate explicit language to be used, stating only that "the person in custody must, prior to interrogation, be clearly informed that he has the right to remain silent, and that anything he says will be used against him in court; he must be clearly informed that he has the right to consult with a lawyer and to have the lawyer with him during interrogation, and that, if he is indigent, a lawyer will be appointed to represent him" (*Miranda v. Arizona*, 1966, p. 437). Police departments are free to formulate their own verbal and/or written Miranda warnings as long as they adequately communicate these constitutional protections. Not surprisingly, modern versions of Miranda warnings vary widely in form, language, and complexity (Rogers et al., 2012; Rogers, Harrison, Shuman, Sewell, & Hazelwood, 2007).

Such dramatic Miranda variation begs the question of whether the typical criminal suspect is able to sufficiently comprehend the warnings in order to waive them knowingly, intelligently, and voluntarily as the law requires (*Miranda v. Arizona*, 1966). This question—ignored by social science for the better part of four decades—has spurred recent research on the readability of police departments' standard Miranda forms. Researchers have employed measures from the Flesch (1948) system to examine various Miranda forms' average readability scores and grade levels using both general (i.e., specific neither to adult nor juvenile suspects) and juvenile versions of Miranda forms.

Research on the readability of police departments' written Miranda templates consistently documents wide variation in readability across jurisdictions (Rogers et al., 2012, 2007, 2008). Samples drawn from jurisdictions/counties within a single state (Greenfield, Dougherty, Jackson, Podboy, & Zimmermann, 2001; Kahn, Zapf, & Cooper, 2006) as well as jurisdictions across the nation (Helms, 2003, 2007; Rogers et al., 2007) report Flesch–Kincaid scores from the elementary to postgraduate

level. Moreover, comparisons of general and juvenile Miranda versions reveal that juvenile Miranda forms may actually be more difficult to comprehend than general versions; several studies reported lower reading ease scores and higher grade-level estimates for juvenile forms as compared to general forms (Helms, 2007; Kahn et al., 2006; Rogers et al., 2008). This is cause for concern not only for youth in general but for juvenile offenders in particular, given that this population is typically less educated and has lower IQs than same-aged community youth (Moffitt, Lynam, & Silva, 1994). In fact, some data suggest that the average juvenile detainee reads below the fourth-grade level, the functional equivalent of illiteracy (Hodges, Giuliani, & Porpotage, 1994; Leone, Krezmien, Mason, & Meisel, 2005).

In sum, recent research using self-report, vignettes, or experimental designs has highlighted youths' vulnerabilities inside the interrogation room, particularly concerning their comprehension of the basic tenets of Miranda warnings and their predisposition to waive Miranda rights in the absence of legal counsel. Additionally, research on police presentation of Miranda warnings suggests that tremendous variation exists across locales and that standard Miranda templates can be impractically complex. Missing from the emerging body of work on Miranda are field studies that provide data about how the Miranda exchange transpires in actual interrogation settings. Such studies can provide valuable ecological context for laboratory-based research, but they are notoriously difficult to execute. This study contributes to our knowledge of youth and Miranda by examining actual Miranda exchanges in a small nonprobability sample of electronically recorded juvenile interrogations.

Method

Participants

We first identified states, jurisdictions, and local departments that presumably recorded juvenile interviews as required by state law or voluntary department policy. At the time of data collection, 13 states were required to electronically record custodial interrogations due to legislative mandates or state supreme court decisions. Additionally, Sullivan (2004) identified 238 individual law enforcement agencies in 38 states that record interrogations, most of which do so voluntarily. A total of 3,230 police departments were identified for potential participation. Agencies were sent letters via postal mail informing them of the study and requesting voluntary participation. Follow-up phone calls were placed to approximately 22% of randomly selected agencies ($n = 714$) that received the initial letter. Even after placing the follow-up phone calls, the response rate was extremely low (less than 1%).

Nineteen police agencies and one county prosecutors' office contributed a total of 85 electronically recorded interrogations to the project. Data came from agencies in all four U.S. Census Bureau geographic regions: Northeast (2 agencies), South (12), Midwest (1), and West (5; U.S. Census Bureau, 2009; see Cleary, 2014, for a full sample description). Two interrogations were excluded because the disks contained only audio files, 16 due to technological difficulties or poor image quality, and 10 because the interviewee was 18 years or older, yielding 57 viable interviews. From this sample of 57 interviews, we identified a subsample of 28 recordings in which suspects were Mirandized on camera; this article presents data related to Miranda delivery, comprehension, waiver, and readability drawn from those 28 recordings.

Coding Scheme

Delivery, comprehension and waiver, and readability of Miranda were coded from the interrogation recordings using Observer XT (Noldus Information Technology, 2009), a software program designed for coding and analyzing observational data. Originally developed for animal research, Observer XT has recently been adopted by a wide range of disciplines and applied to numerous

research questions, from infant-feeding behaviors to jury deliberations. Its functionality enables substantial improvements over traditional observational methods, including detailed logged coding schemes, time stamping, and data filtering. Observer XT can be particularly useful for coding complex social interactions such as interrogations, since multiple coding sessions are usually necessary to capture the nuances of both individual and process characteristics. This study is the first to employ Noldus Observer XT to study the police interrogation context.

Delivery. This section captured the variation in the form and delivery of police administration of the Miranda warnings. First, we coded for any delay in Miranda administration and subsequent pre-Miranda strategies to encourage waiver. Consistent with existing literature (Feld, 2006, 2013; Leo & White, 1999), we coded the timing and context of Miranda delivery using the following mutually exclusive categories: (1) immediate Miranda administration, (2) a delay in Miranda delivery to ask *routine booking* questions, (3) a delay in Miranda to *build rapport* with the suspect, (4) a delay in Miranda in which Miranda waiver is cast as a *benefit* to the suspect (e.g., the opportunity to “tell your side of the story”), and (5) a delay in Miranda with speech that dismisses warnings as a *bureaucratic ritual* that must be dispensed with before conversation may commence.

Second, we coded the manner in which officers administered the warnings. This included (1) downplaying the significance of rights to waiver or, conversely, (2) strongly communicating both positive and negative potential consequences of waiver. Finally, we also recorded whether Miranda was presented in verbal, written, or both formats and whether the interrogating officer modified the warnings or explained them in greater detail for the juvenile’s benefit. Specifically, we coded whether the officer (1) paraphrased a warning, (2) asked the suspect to repeat in his or her own words, (3) asked the suspect to follow along while he or she reads a written form, or (4) asked the suspect to read the form aloud.

Comprehension and waiver. This section captured the verbal and behavioral indicators of Miranda comprehension. Interrogating officers are not required to assess Miranda comprehension in the way a forensic clinician would (i.e., in an outside examination for waiver competency), and absent any claim of coercion, a simple verbal affirmation or signature on a waiver form is generally considered a valid Miranda waiver (Feld, 2006). We coded any instances in which an interrogating officer directly asked a suspect whether he or she understood the Miranda warnings just presented. We also coded for the following indicators of Miranda comprehension: verbally affirming understanding (e.g., “yeah,” “mm-hmm,” or “I understand”), nodding head in agreement, or asking the officer for clarification (Feld, 2006). We also recorded whether and in what form (verbal and/or written) the suspect waived or invoked his or her right to silence or attorney. Finally, we coded at what point juvenile suspects waived their Miranda rights: waived at the outset, invoked at the outset, waived initially but later invoked, or invoked initially but later waived.

Readability. The Miranda Readability component was coded outside of the Observer XT program. Research assistants transcribed the portions of each recording where police administered Miranda to suspects. Transcripts were cleaned and any extraneous vocalizations (e.g., “um” or stuttering) were deleted in order to generate more accurate estimates. The language police used in the Miranda warnings was assessed using the Flesch–Kincaid Grade Level (FKGL) Test, which estimates the reading grade level of a passage, and the Flesch–Kincaid Reading Ease score, which generates a readability index for the passage (Flesch, 1948). The Flesch indices are highly reliable (Klare, 1963; Paasche-Orlow, Taylor, & Brancati, 2003) and have become the standard tool used in Miranda readability research (see Rogers et al., 2008, 2007). Both measures use a formula that includes sentence length and average syllables per word to generate estimates. The Flesch Reading Ease score is

based on a 0–100 scale with higher scores denoting material that is easier to read.¹ The Flesch–Kincaid Grade Level estimate indicates a grade-equivalent reading level necessary to comprehend at least 75% of the passage (Flesch, 1948). For example, a Flesch–Kincaid Grade Level estimate of 5.5 indicates that an individual approximately halfway through the fifth grade should be able to comprehend three quarters of the passage.

Training and Reliability

Two coders were trained on the coding protocol. Reliability analyses were executed by hand using a matrix that compared each coder's log to the reliability code log. Cohen's κ (Cohen, 1960) between each coder and the reliability codes was calculated (a) for each recording and (b) for the training recordings overall. Each coder's overall κ value was required to meet the .7 level, an acceptable standard given the data's exploratory nature and Cohen's κ 's general conservativeness as a measure of intercoder reliability (Hsu & Field, 2003). Both coders achieved the required κ value after one round of training. Discrepancies were discussed among coders and mutually resolved.

To ensure continued reliability throughout data collection, every fourth interview was double coded for reliability purposes (14 interviews or approximately 25% of the total sample). Due to the small number of behaviors assigned to each coder, behaviors were collapsed across all 14 reliability recordings and a single overall κ (Cohen, 1960) was calculated for each coder. Intercoder reliability ratings for coder 1 ($\kappa = .77$) and coder 2 ($\kappa = .87$) met the required threshold.

Results

Youth Characteristics

Basic demographic information about the youth suspects was coded when available. Most of the youth in this subsample were male (25 of the 28) and three were female. Youths' age ranged from 13 to 17 ($M = 15.4$ years; standard deviation [SD] = 1.1; see Table 1). Suspect race was coded as Black (57%), White (25%), Latino/Latina (7%), or race could not be determined (11%). Most youth (86%) were being questioned in connection with a person offense. Half of the youth (14 of the 28) in this subsample had been placed under arrest before the interrogation began; for the remaining half, seven were present at the interrogation voluntarily and custody status for the remaining seven could not be determined.

Delivery

We coded when and in what manner Miranda warnings were administered in the context of the recorded interrogation using existing criteria in the literature (Feld, 2006). In 12 cases (43%), interrogating officers administered Miranda warnings immediately, before conducting questioning of any kind. In 11 cases (39%), interrogating officers administered Miranda after a brief delay to ask booking-related questions. Booking questions usually pertain to the suspect's contact information or family situation. As long as the officer does not ask accusatory questions during this period, the officer is operating fully within the confines of Miranda. In two interrogations (7% of Miranda cases), officers used a strategy in which Miranda warnings are dismissed as a bureaucratic ritual (Feld, 2006; Leo & White, 1999)—a formality that must be dispensed with before officers and suspects can talk to one another. Another two cases used a strategy that casts Miranda waiver as a benefit to the juvenile suspect—an opportunity to tell one's side of the story or clear one's name. Finally, only one interrogating officer (4% of Miranda cases) administered Miranda after an attempt to build rapport with the juvenile suspect, ostensibly to put the juvenile at ease and facilitate conversation.

Table 1. Youth Suspect Characteristics.

	N = 28	%
Sex		
Male	25	89.3
Female	3	10.7
Age (<i>M</i> = 15.4 years, <i>SD</i> = 1.1)		
13	1	3.6
14	3	10.7
15	5	17.9
16	6	21.4
17	3	10.7
Unknown	10	35.7
Race		
White	7	25.0
Black	16	57.1
Latino/Latina	2	7.1
Unknown	3	10.7
Charge category		
Person	24	85.7
Property	1	3.6
Public order/public safety	3	10.7
Custody status		
Just arrested	14	50.0
Present voluntarily	7	25.0
Unknown	7	25.0

Note. *SD* = standard deviation.

Next, we coded whether interrogating officers advised juvenile suspects of their Miranda rights verbally, in writing, or both verbally and in writing. Of the 28 interrogations containing Miranda warnings, interrogating officers in 14 of the cases (50%) presented Miranda both verbally and in writing. In these cases, the officer verbally administered Miranda and showed, either simultaneously or subsequently, the written words to the juvenile suspect. Interrogating officers presented Miranda in verbal form only in 10 recordings (36%). In these cases, the interrogating officer verbally administered Miranda and the juvenile suspect did not have a written form to follow. Finally, interrogating officers in four recordings (14%) gave the juvenile suspect a written Miranda form and instructed the juvenile suspect to read it on his own; Miranda was never spoken verbally in these cases. In all cases where Miranda was presented in written form, the juvenile suspect did appear to read the form, though we cannot access actual reading or comprehension.

Using existing criteria in the literature (Feld, 2006, 2013; Leo & White, 1999), we also assessed the manner in which interrogating officers actually delivered Miranda warnings. In most cases (20 of the 24 verbal Miranda presentations, or 84%), interrogating officers administered Miranda warnings in a neutral manner, presenting them as a legal obligation without any overt attempts to influence the juvenile suspect. Interrogating officers in two cases (8% of verbal Miranda presentations) de-emphasized Miranda's legal significance, conveying an assumption that juvenile suspects would waive Miranda due to its trivial nature. Miranda de-emphasis was characterized by a casual, even careless approach to the warnings, usually indicated by spoken content preceding or following the warnings themselves. For example, one officer stated, "First off, just so you know before we begin or say anything, we have to give the Miranda rights. It doesn't mean anything like you're guilty. It's just a formality we have to do." The phrases *just a formality we have to do* and *the Miranda rights* (as opposed to "your Miranda rights") serve to downplay Miranda's significance and distance the

suspect from any interrogative threat. While these tactics are not necessarily malicious on the part of the officer or even intentional, de-emphasis tactics have been characterized as one of the most common police strategies to obtain a Miranda waiver (Leo & White, 1999) or at least discourage invocation of one's rights (Feld, 2006).

By contrast, officers in another two cases (8% of verbal Miranda presentations) emphasized the consequentiality of one's decision to waive Miranda rights. This could be in the form of legal significance (e.g., "your statements here could hurt you later") or personal significance (e.g., "waiving your rights is a big decision, especially without your mother or a lawyer here"). For example, one officer Mirandized a 15-year-old suspect by stating the "official" warning first and then elaborating or explaining each prong of the warning to the youth, followed by a reiteration of the potential for self-incrimination after the youth agreed to speak.

Given that all suspects in our sample of recordings were legal minors, we attempted to capture any officers' attempts to modify conventional Miranda language or ensure that juvenile suspects understood the warnings. Results indicate that Miranda modifications were uncommon. Officers in two recordings asked the juvenile suspect to read the warnings aloud from a written form. In only one of the recordings was a juvenile suspect asked to repeat the warnings in his own words; this process occurred 5 times within the Miranda conversation (one request to repeat/paraphrase after each of the five prongs). Finally, interrogating officers paraphrased Miranda warnings in nine recordings (32%), either by reading/stating a conventional warning then providing their own "translation" or by reading directly from a departmental Miranda form that has been modified for use with juveniles.

Comprehension and Waiver

We intended to capture several behavioral indicators of Miranda comprehension we hypothesized youth suspects might exhibit. We first coded whether the interrogator directly asked the suspect if he or she understood the Miranda warnings. Officers in 23 of the 28 interrogations assessed comprehension in this manner. Although a few interrogators paused after each of the four (or five) prongs to ask whether the youth understood that prong, most asked, "Do you understand?" (or some variant), once after all the prongs were conveyed. No direct attempts at assessing comprehension were made in the remaining five cases.

We next coded whether juvenile suspects exhibited observable verbal or behavioral indications of Miranda comprehension or lack of comprehension. Youth in 20 of the 28 interrogations (71%) expressed at least one verbal affirmation of understanding, either spontaneously or in response to an interrogator's inquiry. Youth in these 20 interrogations verbally affirmed Miranda understanding an average of 3.8 times per interrogation ($SD = 3.4$). Seven youth visibly nodded their heads in an affirmative response to an officer's inquiry ($M = 2.0$ times per interrogation; $SD = 1.2$). Finally, asking for clarification was the least common indicator of (lack of) Miranda comprehension; only one juvenile suspect stated to his interrogator (twice) that he did not understand the words and asked the interrogator to explain.

In addition to the 28 recordings in which suspects were Mirandized on camera, officers in three recordings implied that Miranda warnings were presented and Miranda rights were waived prior to filming (e.g., an officer says to a suspect "I already read you your rights and you agreed to talk to me, is that right?"). For the 31 interviews in our sample for which Miranda administration occurred (28 on film, 3 prior to recording), 90% ($n = 28$) of juvenile suspects waived their rights to silence and counsel. Two juveniles invoked at the outset and one waived initially but later invoked. There were no youth in our sample who initially invoked but later waived. For the 90% of suspects who waived their Miranda rights, we recorded the official manner in which they waived (verbal and/or written). Sixteen youth who waived Miranda (or 57% of Miranda waivers) did so both verbally and in writing. Six youth (21% of youth who waived) waived verbally only and were not asked to sign a

form on camera. Three youth (11% of youth who waived) signed a written form but never indicated waiver verbally. Finally, waiver form could not be determined for the three juvenile suspects (11%) who waived their Miranda rights prior to the electronically recorded interview.

Readability

Flesch Reading Ease scores and Flesch–Kincaid Grade Level estimates were generated for the 25 recordings containing audible Miranda warnings using Microsoft Word. Analyses of Miranda warning prongs revealed only moderate variation in interrogating officers' Miranda language. Flesch Reading Ease scores fell largely in the "fairly easy" range ($M = 74.1$, $SD = 3.9$), where the most difficult Miranda passage scored 64.4 (readability level "standard;" meaning an eighth to ninth grader should comprehend 75%) and the easiest passage scored 83.3 (readability level "easy;" meaning a sixth grader should comprehend 75%). The corresponding Flesch–Kincaid Grade Level estimate suggests the average Miranda warning is communicated at approximately a seventh-grade level ($M = 7.0$, $SD = 0.8$; range: Grades 5.1–8.9).

Discussion

The Supreme Court has consistently declined to prescribe specific language or procedures for police to use when Mirandizing custodial suspects, requiring only that suspects be advised of their constitutionally guaranteed rights. Our observational data provide insight into Miranda in practice—the language, form, and nuances that juvenile suspects experience during this critically important process. Our goal was to go beyond a mere waive/invoke delineation to capture key elements of the Miranda exchange. Our data indicate that youth waive their Miranda rights at very high rates. When police administer Miranda warnings, they are usually administered immediately or almost immediately and in a neutral manner, though more subversive tactics enumerated elsewhere in the literature were occasionally present. When Miranda warnings were administered, the language tended to be readable at about a seventh-grade level.

Miranda Delivery

We first coded the form in which Miranda warnings were administered to youth. The officers in half of our interrogations presented the warnings both verbally and in writing. Surprisingly, several Miranda cases contained written warnings only. Youth in two of these four cases were instructed to read the warnings aloud, while the other two read the warnings silently to themselves. Given delinquent youths' age-based interrogation vulnerabilities (Grisso, 1981) and potential literacy deficits (Hodges et al., 1994), a dual approach may yield better understanding than either verbal or written delivery alone. However, to our knowledge, no study has evaluated comprehension differences in visual versus auditory stimulus materials as specifically related to interrogation.

Given the absence of rigid statutory or case law requirements, the timing and manner in which police administer Miranda and extent of police maneuvering to obtain waivers are the subject of much speculation. Most interrogating officers in our sample delivered the Miranda warnings in a manner that is consistent with their stated purpose—to notify suspects of the rights constitutionally bestowed to all individuals in their position. Similar to Feld's (2013) findings, Miranda warnings were delivered immediately or after a delay to collect booking-related information in 82% cases (23 of the 28 cases where Miranda was administered on film). From a legal perspective, these cases are maximally compliant with the spirit of Miranda because they include little or no conversation outside of "official" information that could be interpreted as manipulative or legally dubious. From a developmental perspective, the effects of immediate Miranda delivery on youthful suspects remain

unknown. One may argue that immediate delivery, even if accusatory questioning has not yet commenced, would minimize youths' confusion, preclude officers from exploiting the situation to encourage waiver, or protect officers from allegations of misconduct. On the other hand, it is possible that given youths' substantial Miranda comprehension deficits demonstrated in (presumably) innocuous laboratory settings (e.g., Abramovitch et al., 1995; Grisso, 1981; Grisso et al., 2003; Viljoen & Roesch, 2005), immediate delivery is no better than a delay if delivery is not accompanied by additional measures to ensure youths' understanding.

Despite immediate or booking-related delay of Miranda delivery in most of our interrogation recordings, the 18% of cases (5 of the 28 Miranda cases) in which Miranda was delayed for other reasons should not be overlooked. We found that officers in two cases used a delaying tactic in which Miranda warnings are presented as a bureaucratic ritual—a standard procedure, unimportant to the situation at hand. For example, the interrogator in one recording presents Miranda as one of several mundane but required activities, describing Miranda as “paperwork that needs to be taken care of” in addition to collecting gunshot residue evidence from the suspect’s hands as well as his grandmother’s, who was also involved in the incident. Language such as “paperwork that needs to be taken care of” hardly communicates the legal implications of waiving one’s rights to silence and counsel. Preparing the suspect for Miranda warnings while simultaneously performing a gunshot residue collection—a procedure presumably harmless enough even for the suspect’s grandmother—portrays Miranda as routine, necessary, and benign. Moreover, language such as “you also have to sign a waiver,” also stated by the police officer in this case, conveys a lack of choice in the matter. Though these subtleties may appear pedantic, their effects are hardly inconsequential; the 15-year-old from the example mentioned previously fully confessed to murder.

In a sense, the Miranda process *is* a diversion for interrogators because their job is to solve crimes—a difficult and often dangerous job that involves working with limited information and under significant pressures to maintain public safety. However, if empirical research points to the notion that suspects, particularly juvenile suspects, are being prevailed upon to waive their constitutional rights, then serious due process concerns arise. The same principle applies in another two cases in which Miranda waiver was cast as a benefit to suspects—an opportunity to tell one’s own side of the story. Waiving one’s Miranda rights, irrespective of the reason, is a suspect’s choice; however, if youthful suspects are led to believe that waiving Miranda is in their best interest, their waiver may not be knowing and intelligent as the law requires (*Fare v. Michael C.*, 1979).

Closely related to the timing of Miranda delivery is the style or context in which warnings are administered. Again replicating coding criteria from existing literature (Feld, 2006), most Miranda warnings (20 of the 24 verbal presentations, 84%) in our sample were delivered in a neutral manner. In two of the remaining four cases, the officer understated Miranda’s legal significance, while the other two conversely emphasized the consequentiality of waiving one’s rights. This latter group is of particular interest. The two cases suggest there may be a minority of officers who take steps to ensure that waiver is truly knowing, intelligent, and voluntary. Additional verbiage about the significance of waiving one’s rights is not constitutionally required, and strictly speaking, such verbiage theoretically undermines the officer’s goal of obtaining waiver (although in both of these cases the suspect waived). Whether these two officers took these additional precautions because of departmental policy, the suspect’s age, a personal threshold for waiver validity, or some other reason is unknown. From a legal perspective, all of these strategies are equally permissible as long as the four Miranda components are conveyed to the suspect. From a developmental perspective, as with Miranda timing, we do not know whether neutral versus “couched” delivery influences youths’ Miranda comprehension or their waiver decisions. We do know that in the present study neutral delivery was the most common, so perhaps future research could use this as a reference for exploring the impact of different delivery styles on comprehension or decision making.

The final set of data pertaining to Miranda delivery involves instances of modifying conventional Miranda language for the suspect's benefit, presumably because he or she was a youth. Though modifications were uncommon overall, officers in 32% of cases (9 of the 28) either used a Miranda form specific to juvenile suspects or verbally adapted the standard language to ensure the suspect understood the content. Some departments do use juvenile-specific warnings; though recent content analyses (e.g., Helms, 2007; Rogers et al., 2008) suggest that juvenile forms may in fact be more difficult to comprehend than adult forms, this practice at least exhibits a trend toward recognizing youthful suspects' special needs. Officers in two cases asked suspects to read along as warnings were delivered verbally, another two asked suspects to read aloud, and one officer asked the suspect to repeat the warnings in his own words. Although we cannot claim that modifications were triggered by suspects' age, it appears that a subset of interrogators do take extra precautions to verify comprehension before proceeding with interrogation. The International Association of Chiefs of Police (IACP, 2012), along with the Office of Juvenile Justice and Delinquency Prevention, recently issued a guide to juvenile interrogation best practices that advocated reading Miranda warnings slowly and asking juveniles to repeat each warning in his or her own words as special precautions to ensure admissibility of youths' interrogation statements in court. The American Bar Association (2010) also recommends simplified Miranda warnings for use with juveniles. While such recommendations demonstrate a new recognition among legal entities that juvenile suspects are different from adult suspects in an interrogative context, additional forensic research is needed to explore whether such modifications actually impact youths' comprehension of the Miranda warnings.

Miranda Comprehension and Waiver

The Court has not required interrogators to assess Miranda comprehension when obtaining a waiver. Instead, courts often rely on observable indicators of comprehension in waiver validity hearings (Feld, 2006; *People v. Ferran*, 1978; *People v. Williams*, 1984). The most straightforward method of assessing comprehension is to simply ask the suspect whether or not he understood; this occurred in 23 of the 28 Miranda recordings in our sample (82%). While an affirmative answer to this question is not necessarily clinically meaningful, it may be more than sufficient in a juvenile waiver hearing. Verbal or behavioral indicators of comprehension provide additional, though perhaps superficial, evidence of youths' understanding. The majority of youth in our sample (20 of 28 youth; 71%) verbally indicated comprehension (e.g., "uh-huh" or "yeah I understand") multiple times per interview, seven youth nodded their heads in understanding, and only one asked for additional explanation.

On the surface, then, it may appear that Miranda comprehension is not a particularly troubling issue. However, we know from research in laboratory and detention settings (e.g., Abramovitch et al., 1995; Goldstein et al., 2003; Grisso, 1981; Grisso et al., 2003; Viljoen & Roesch, 2005) that youth demonstrate substantial comprehension deficits, particularly delinquent youth and younger youth. Juvenile suspects bring these deficits into the interrogation room, and there is no theoretical reason to believe that comprehension would improve in this context. In fact, we may speculate that some combination of stress, fatigue, intoxication, or anxiety that some youth may experience might actually decrease cognitive performance. Moreover, Feld (2006) suggested that these indicators may actually reflect compliance with authority instead of true understanding; that is, youths' head nods and verbal affirmations may be expressions of cooperation and conciliation more than any cognitive measure of comprehension. In short, it is important to document these behaviors because the courts rely on them in legal decision making about youths' cases. Our results suggest that most youth do indeed exhibit one or more outward indicator of Miranda comprehension. However, researchers and legal professionals alike should exhibit caution about inferring *actual* comprehension based on these outward indicators.

Consistent with existing observational juvenile (Feld, 2013) and adult (Leo, 1996) studies as well as archival (Grisso & Pomicter, 1977) and self-report (Viljoen et al., 2005) research, our data from youth in real police interrogations indicated similarly high Miranda waiver rates. Ninety percent of youth (28 of the 31) in our interrogation recordings agreed to speak with police without an attorney. Though consistent with prior research on juvenile waiver rates, these findings should be interpreted with caution for several reasons. First, the small sample size yields unstable percentages. Second, because the police departments selected which recordings to submit, it is possible that they selected recordings in which an actual interrogation occurred (instead of merely a Miranda invocation), biasing the sample toward a higher waiver rate.

The observational nature of our data also allows us to document what occurs in those infrequent instances of rights invocation. Three of our youth who were administered Miranda on film declined to speak with police, two immediately upon questioning and the third after initially waiving. Only one of the interrogators in these three cases terminated the interview; the other two attempted to persuade the youth to continue the conversation. This is in contrast to Feld's (2006, 2013) sample in which most or all officers terminated questioning upon a Miranda invocation. It is important to note here, however, that the circumstances of rights invocation and interview termination are far from clear. The majority opinion in *Davis v. United States* (1994) upheld the sanctity of the interrogation process as a critical investigative tool; in *Davis*, the Court required interrogators to cease questioning only when the suspect unambiguously requests counsel. When the interrogation suspect is a juvenile, however, developmental vulnerabilities such as compliance with authority, susceptibility to suggestive influence, and unassertive linguistic styles come into play. The issue of unambiguous invocation has come before the courts numerous times with adult suspects (e.g., *Clark v. Murphy*, 2003; *Edwards v. Arizona*, 1981) and our data suggest that juvenile invocations may be equally unclear.

These observations raise questions about how juvenile suspects experience the Miranda process and warrant further empirical attention. Miranda research to date has presumed a certain level of homogeneity in suspects' Miranda experience—reasonably so, given the lack of observational data to suggest otherwise. Our data as well as the few other field studies (Feld, 2013; Leo, 1996) suggest that in fact many differences exist in suspects' Miranda experiences. These differences range from subtle to substantial and should be empirically tested to observe what, if any, effects they may impose on either comprehension or waiver.

Miranda Readability

While recent years have witnessed noteworthy new work using standardized Miranda warnings (e.g., Rogers et al., 2012; Rogers et al., 2008), the language police use in real interrogations may or may not differ from their departments' official forms. This is the first Miranda readability analysis to our knowledge that draws data from actual interrogation transcripts. This study's Miranda language was more readable on average than those reported in previous studies. The mean Flesch Reading Ease (FRE) score fell into the "fairly easy" range, and even the lowest FRE score's corresponding difficulty level was considered "standard." The corresponding FKGL index estimated a mean seventh-grade reading level for transcripts on average. Prior studies have reported far greater variation and complexity, even for juvenile-specific warnings (e.g., Rogers et al., 2008).

There are at least two possible explanations for these differences. First, the few existing Miranda readability studies were able to draw much larger samples since the only unit of analysis was police departments' standard-issue Miranda form. For example, Rogers, Harrison, Shuman, Sewell, and Hazelwood (2007) collected 560 warnings from jurisdictions across the United States. Other studies focused on specific jurisdictions (see Greenfield et al., 2001; Kahn et al., 2006). Not only would the larger sample sizes increase variation, but because several of our participating agencies submitted multiple videos, our Miranda language may exhibit even less variability.

Second, it is possible that the differences in data sources between our study and existing readability studies explain the differing average readability levels. Existing studies' readability estimates are based on each jurisdiction's official Miranda language, often printed on cards or forms for officers to bring into the interrogation room. To assume that the Miranda readability levels they reported reflect the actual language suspects receive is to assume that every officer reads verbatim from the form during each interrogation. Our data, by contrast, were generated by transcribing officers' actual words during interrogation. While we did not record how many of our interrogators read forms versus spoke from memory, at least some interrogators in our sample did not refer to preprinted forms. It is possible that some of the complex or legally specific words commonly found in written Miranda forms (e.g., *afford*, *guardian*, *remain*, *rights*, *means*; see Rogers et al., 2008 for top 50 words) are less common in conversational speech.

Nonetheless, even if our results were considered the more "accurate" representation of Miranda language, juvenile suspects may still face worrisome comprehension deficits. The FRE measures general comprehension of at least 75% of the material, but the question remains as to whether anything less than complete understanding adequately serves the purposes of Miranda. Each warning prong alerts suspects to a specific, vitally important constitutional right, and inadequate comprehension of even one prong raises serious concerns about whether the suspect is able to knowingly and intelligently waive his rights. Grisso's (1981) seminal Miranda Rights Instruments have repeatedly shown age-based differences in comprehension of the four primary Miranda prongs (Grisso, 1981; Viljoen et al., 2007; Woolard et al., 2008). Grisso (1981) reported that lower IQ negatively impacted Miranda comprehension even more for youth than for adults. Moreover, it is well known that delinquent youth tend to have lower IQs (Moffitt et al., 1994) and lower literacy levels (Hodges et al., 1994) than the community samples from which the Flesch indices were undoubtedly derived. In other words, even if our seventh-grade FKGL average truly reflects easier Miranda language than forms-based analyses, the result may have little practical significance for the typical juvenile delinquent whose IQ may be a full standard deviation below the mean (Grisso et al., 2003; Viljoen et al., 2007).

Limitations

There are important limitations to keep in mind when interpreting our findings. First, the data collection primarily targeted police departments in states that had received interrogation recording mandates from state supreme courts or legislatures; there are most certainly police departments in other locales who record interrogations but were not contacted for participation. As such, sampling and selection bias may limit the generalizability of study results. Second, participating agencies may differ in important ways, both measurable and immeasurable, from the agencies that declined to participate in the study. For example, participating agencies may have more access to human resources helpful in identifying, selecting, duplicating, and submitting interview recordings. In addition, participating agencies may be positively oriented toward research, have a preexisting relationship with the FBI, or have a particular interest in developing successful interview strategies compared to agencies that elected not to participate.

Selection bias may have also occurred in the selection of recordings. In the recruitment process, we requested that agencies submit as many interviews as possible; the number of submissions received from a single agency ranged from 1 to 15. We do not know the decision criteria each agency used in deciding which interviews to select, and it is possible that chosen interviews differ from those not chosen. For example, even though we did not request any specific type of case (e.g., murder, robbery), it is possible that agencies selected interviews from more serious or atypical cases, interviews in which officers used particular interrogation strategies, all interviews conducted by a particular officer, or the most recent interviews on file.

Selection bias may have also impacted our conclusions about the timing and content of Miranda administration in juvenile interrogations. Officers may administer Miranda warnings very differently on camera versus off camera. Some departments emphasize standardized Miranda administration for juveniles while others do not. The fact that approximately half of the recordings we received contained Miranda and half did not at least suggests that there is variation in electronic recording of Miranda administration—a noteworthy finding in itself. Finally, the limitations of small sample sizes should be noted. Percentages for individual variables were included for the sake of completeness, but percentages derived from such small numbers are unstable and should be interpreted with caution. Additional studies with larger and more diverse samples would help clarify our understanding of what Miranda practices look like in actual juvenile interrogations.

Conclusion

The present study's principal asset is its descriptive approach to an understudied phenomenon—Miranda's role in the juvenile interrogation context and how police and youth alike negotiate this important exchange. It demonstrates that interrogating officers generally administer Miranda well within the confines of the law but may capitalize, intentionally or unintentionally, on youths' developmental vulnerabilities or equivocations when it comes to constitutionally protected interrogation rights. The 90% waiver rate of juvenile suspects in our sample corroborates similarly high rates found in self-report studies. Fortunately, legal entities from local law enforcement to the Supreme Court are beginning to recognize that youthful suspects differ from adults in numerous key domains (see IACP, 2012; *J.D.B. v. North Carolina*, 2011; Meyer & Reppucci, 2007), and our data support the notion that some such recognition has made its way actually into the interrogation room. For example, officers who paraphrased standard Miranda language or used a juvenile-specific Miranda template exemplify the American Bar Association's (2010) and IACP's (2012) recommendations that interrogators should use simplified warnings and generally take extra care to ensure youths' comprehension. Though it is unclear whether such modifications have any actual impact on youths' comprehension, they do reflect an awareness among some law enforcement professionals that youth are fundamentally different from adults in legally relevant domains. It is our hope that future research and practice builds upon the descriptive findings presented here, as well as the growing body of work on youths' Miranda competence, to move toward juvenile Miranda practices that are both developmentally appropriate and empirically informed.

Acknowledgments

The authors express gratitude to Dr. John Jarvis, Supervisory Special Agent Terri Royster, and the FBI Behavioral Science Unit for their generous assistance with this study. The authors are grateful to Dr. Barry Feld for sharing his coding scheme for use with videorecorded interrogations. Additional thanks to Jennifer Woolard for comments on an earlier version of this article and to Talia Sandwick for skillfully managing the data coding process.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

Note

1. FRE scores correspond to the following readability classifications: 0–29 is considered *very difficult*, 30–49 is *difficult*, 50–59 is *fairly difficult*, 60–69 is *standard*, 70–79 is *fairly easy*, 80–89 is *easy*, and 90–100 is *very easy*.

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Author Biographies

Hayley M. D. Cleary, MPP, PhD, is an Assistant Professor of Criminal Justice at Virginia Commonwealth University. Her work has appeared in *Law and Human Behavior*, *Crime and Delinquency*, and the *Journal of Youth and Adolescence*. Her research focuses on adolescent development in justice system contexts, including police interrogation of juveniles.

Sarah Vidal, MPP, is a doctoral candidate in the Department of Psychology at Georgetown University. Her research interests include adolescent development in the context of family, community, and legal settings with a particular emphasis on juvenile crime and delinquency.