

RESEARCH ARTICLE

Examining the Complexity of Police Officers' Language During Investigative Interviews with Adults and Youth

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The complexity of interviewer and interviewee language in police interviews ($N = 36$) with adult suspects, adult witnesses, youth suspects, and youth witnesses were analyzed. Every interlocutor utterance was subjected to Flesh-Kincaid Grade Level (FK) and SMOG readability analyses. Median FK and SMOG scores revealed statistically significant differences in language complexity between interviewers and interviewees in the case of youth suspects, with police officers demonstrating more complex language than youth suspects. However, no significant differences in language complexity were found between interviewers and interviewees in the case of youth witnesses. Median FK and SMOG scores revealed that interviewer language with youth suspects was more complex, or equally as complex, as language used with adult suspects, respectively. The implications of these findings for youth comprehension and police practice are discussed.

Keywords: youth; criminal justice; language; police practice; suspect interviewing

The introduction of the Canadian Youth Criminal Justice Act (YCJA) in 2003 was designed to address the overuse of custody in young offender cases and offer a greater level of protection for youth in the Canadian criminal justice system. The YCJA was developed to help youth delinquents, those aged 12–17, grow into contributing members of society. The YCJA is comprehensive and includes specific principles to aid police officers, prosecutors, judges and other members of the justice system in properly handling youth cases (Campbell, 2005). However, there are assumptions about human behaviour embedded into the YCJA that may undermine its effectiveness in enhancing protection for youth. This paper will discuss one such assumption; that police officers are able to assess the verbal comprehension abilities of a youth, and subsequently tailor the complexity of their own language to match the youth's level of understanding.

The Youth Criminal Justice Act

Compared to its predecessors, the Young Offenders Act (YOA) and the Juvenile Delinquents Act, the YCJA places a lesser emphasis on incarceration and stresses other options such as community service or rehabilitation as appropriate responses to youth crime (Markwart & Corrado, 1989). Under the YOA, more than three quarters of youth receiving custodial sentences had not committed an offense considered violent, and such unnecessary

imprisonment was costing the Canadian government a considerable amount of money (Department of Justice, 1998). The formation of the YCJA was primarily used to address these two issues.

The YCJA's overarching goal was to enhance a youth's protection for the entirety of their interaction with the criminal justice system. Youth are a vulnerable population who, as explained by Bala (2003), may lack the knowledge necessary to exercise their legal rights and understand legal proceedings fully. Apart from their age and grade in school, the IQs and reading ability of delinquent youth are typically lower than non-delinquent youth, making this population exceptionally vulnerable (Foley, 2001; Snowling, Adams, Bowyer-Crane, & Tobin, 2000). Crucial legislation involving the treatment and protection of youth suspects is housed in YCJA section 146.

Section 146. Section 146 was designed to protect young offenders and outlines laws related to statements youth provide to the police, and the admissibility of those statements in court. A statement is not admissible unless it was given voluntarily, and the young person understood that it was not mandatory to give a statement. The youth must understand that their words may be used against them in court, and must have had the opportunity to consult and make their statement in the presence of a parent or lawyer. Under the YCJA, youth have the right to free legal counsel; a luxury not afforded to adults in the same position unless they have very low income and are facing serious charges (Bala, 2003).

Section 146, subsection 2(b) states that "the person to whom the statement was made has, before the statement was made, clearly explained to the young person,

in language appropriate to his or her age and understanding [emphasis added] their rights" (Government of Canada, 2002, p. 134). Therefore, the law states that the individual delivering the legal rights is required to speak to the youth in a manner that is appropriate for their age and presumed level of understanding. Unfortunately, this aspect of the YCJA may threaten its goal of youth protection.

Threats to the protection of youth. There are various assumptions about human behaviour within section 146 that may be inaccurate. The legislation appears to assume that police officers possess the ability to assess the verbal comprehension level of a youth, with the question being merely whether officers make the effort to employ this presumed skill. Immediately assessing the types of words and sentences a particular youth would be able to comprehend, after only a brief interaction, is a task that even child development specialists may be incapable of, and yet, is expected of police officers by law. A police officer in this situation is essentially expected to act as a *de facto* clinical psychologist (Eastwood, Snook, & Luther, 2014). However, even clinical professionals utilize in-depth testing and specialized interviews to determine exactly what a youth's capabilities are. Assuming that police officers possess the ability to assess a youth's level of understanding, and to subsequently tailor their own language to reflect that level of understanding, may hinder the effectiveness and protections of section 146.

The other aspect of the YCJA that may undermine its overall goal of protection is giving youth the option to waive their rights. By signing a waiver form, a youth can legally give up the protections of section 146. Therefore, if a police officer does not tailor their language adequately, and the youth does not understand their rights or the explanation of the waiver, they may give up their legal protections without understanding the consequences of doing so. Recognizing the importance of youth comprehension, the Supreme Court of Canada ruled that if a youth cannot understand their rights, they cannot provide a valid waiver of them. In an instance where a suspect has waived their rights, but an understanding of the consequences of doing so cannot be proven, the statement given may be deemed inadmissible in court (*R. v. L.T.H.*, 2008). This was the case in *R. v. L.T.H.*, as the statement given by the youth was deemed inadmissible due to insufficient evidence that s.146(2)(b) was implemented correctly.

While case law has reinforced the importance of s.146(2)(b), there are currently no standardized guidelines surrounding how an officer delivers the information in the waiver form, and it is therefore unknown how the form is delivered to youth (Eastwood, Snook, & Luther, 2012). Essentially, a police officer may tell the youth to read the form, read the form aloud to them, or read the form aloud as the youth follows along. Regardless of the method of delivery, the law expects officers to use terminology that will be understood by the particular youth they are interviewing. This effort on behalf of police officers is essential, as evidence from past research has shown that youth understand less than half of the information contained in the waiver form when reading the form alone (Eastwood et

al., 2012). To date, the way in which police officers deliver the waiver form and whether they use comprehensible language when delivering the rights to youth suspects has not been examined.

Assumptions about human behaviour within section 146 are thus threatening the YCJA's goal of providing enhanced legal protections to youth. Without proper understanding of their interrogation rights, a youth cannot make full use of those rights. This lack of proper understanding threatens their protection and may render their statement inadmissible in court.

The Current Study

While the scope of s.146(2)(b) specifically encompasses officer language during only the delivery of legal rights, it is imperative that their language is tailored throughout questioning. Youth are required to make consequential decisions throughout the interrogation (e.g., information provision, remain silent, invoke rights) and therefore must fully comprehend the content of the entire police interview.

Examining and comparing the language of police officers and youth suspects during the delivery of legal rights alone is quite difficult, as, anecdotally, youth typically do not speak much during this phase of the investigative interview. This practical limitation, paired with the importance of youth understanding throughout the entirety of the interview, consequently broadened the scope of this research.

The present study is an inquiry into the practice of police officers in real-world investigative interviews, specifically to examine the extent to which police officers tailor their language in interactions with youth. From these interests come the following research questions:

1. Do police officers in the field use different language with youth witnesses compared to youth suspects?
2. Do police officers in the field use different language with youth suspects compared to adult suspects?
3. Do police officers appear to tailor their speech to match the complexity level demonstrated by youth suspects?

If police officers tailor their language when interviewing both youth witnesses and youth suspects, it may suggest that officers use age-appropriate language with youth interviewees in general. If police officers tailor their language for youth suspects but not youth witnesses, it may reflect the specific efforts of officers to ensure youth are protected and understand the legal proceedings. Police efforts to tailor language during the delivery of legal rights, in accordance with s. 146(2)(b), may translate into effective tailoring for the entirety of the interview with youth suspects. If police officers tailor their language for youth witnesses but not youth suspects, it may suggest that officers speak to youth suspects more similarly to adult suspects than their youth peers. Officer language with youth witnesses and youth suspects will thus be compared to explore this issue.

If youth suspects are spoken to with the same complexity as adult suspects, the YCJA is not meeting its goal of enhanced protection for youth. To explore this, the language complexity of youth suspect interviewers and adult suspect interviewers will be compared.

Lastly, the language of youth suspect police interviewers and youth suspects will be compared. If there are significant differences in the language complexity demonstrated by police officers and youth suspects, and if officers are speaking at more complex levels than youth suspects, it suggests that youth may not comprehend the content of the interaction. If youth are spoken to at a level above their ability for the duration of the interview, misunderstandings are likely. Misconceptions during the interview leave youth vulnerable to making poor, under-informed decisions. However, if the language complexity of youth suspects and police officers are not significantly different, it suggests that youth are able to understand the interaction, and have the opportunity to make informed decisions throughout the interview.

It is hypothesized that officers will use similar language with youth witnesses and youth suspects, and that that police officers will use less complex language with youth suspects compared to adult suspects. However, it is hypothesized that police officers will not fully tailor their language to match the complexity exhibited by youth suspects.

Method

Measures

Measures of reading comprehension and text analysis were used to analyze the interviews. Oral complexity measures were not employed because they are seemingly non-existent in the literature, and thus there are no measures currently developed for analyzing the complexity of spoken language. Using text analysis is standard practice in police research, and has been used in previous studies on the comprehension of legal rights and complexity of police warnings (e.g., Rogers et al., 2012). Such methods have been shown to be valid and reliable, as some research indicates that listening and reading comprehension capabilities are at least moderately correlated (Kincaid, Fishburne, Rogers, & Chissom, 1975; Paasche-Orlow, Taylor, & Brancati, 2003; Savage, 2001).

As discussed in Eastwood et al. (2012), the Flesch-Kincaid (FK) Grade Level score is appropriate for examining the complexity of verbal and written content (Kincaid et al., 1975). The FK score is designed to report the estimated grade level required for an individual to understand 75% of a passage of text. It was found to reliably assess reading comprehension by Paasche-Orlow et al. (2003). The FK score formula considers sentence length and the average number of syllables per word (Kincaid et al., 1975). For example, an FK score of 4 represents a passage of text that a child in fourth grade would mostly understand. A score greater than 12 reflects complexity at a post-secondary education level. FK scores are considered the most accessible and commonly used tool for assessing language complexity, which warranted its inclusion as a tool in this research (Fitzsimmons, Michael, Hulley, & Scott, 2010).

The Simple Measure of Gobbledygook (SMOG) readability formula for assessing language complexity was also used (McLaughlin, 1969). SMOG is considered a more exact measure of language complexity than FK, as SMOG grades represent 100% understanding as opposed to the FK standard of 75% (Fitzsimmons et al., 2010; McLaughlin, 1969). SMOG scores are synonymous with the grade level required for complete understanding. Rather than a sentence length equation, SMOG analyzes language using a polysyllable method—a formula that tabulates the number of words above three syllables in length (McLaughlin, 1969).

Materials and Design

To answer the research questions, transcripts from actual police interviews with youth and adults were examined for language complexity. A convenience sample of 36 police interviews were obtained from a Canadian police organization. The sample included youth witness interviews ($n = 6$), youth suspect interviews ($n = 10$), adult witness interviews ($n = 10$), and adult suspect interviews ($n = 10$). The computer application Readability was used to obtain linguistic complexity scores.

Median SMOG and FK Grade Level of the interviewers and interviewees were calculated for each transcript. The median was determined to be the best measure of central tendency for analysis because it is not skewed by outliers (particularly verbose or taciturn individuals), and the data analyzed was non-normal.

Mann-Whitney U tests were used to compare the language complexity of the interviewers and interviewees in each condition. Assessment of whether police officers adequately tailored their language was explored by comparing the language complexity of police officers to the language complexity demonstrated by the youth suspects they interviewed. If the police officer and the youth suspect's median FK and SMOG scores are not significantly different, it could be that police officers are adequately matching the language complexity levels demonstrated by youth suspects. These analyses control for youth operating above or below the expected verbal comprehension level prescribed for their age. By performing such a comparison, the ability of police officers to tailor to each youth's individual needs can be assessed.

Procedure

This study analyzed the speech of police officers and their interviewees during the delivery of legal rights *and* the substantive phase of the investigative interview. Inclusion of dialogue outside the delivery of legal rights was required to conduct this research. Anecdotally, during the delivery of legal rights, interviewees speak very little speaking; police officers control most of the dialogue. In order to obtain an accurate representation of the interviewee's linguistic ability, it was necessary to analyze dialogue from other portions of the interview. A reliable measure of language complexity is critical for assessing whether police officers interviewing youth tailored their language to an appropriate level (i.e., matched the youth's language ability). In addition to these concerns,

investigative interviews with witnesses do not include the delivery of legal rights. To compare how officers speak to suspects compared to witnesses, analyzing language from the full interview was necessary.

Prior to analysis, all transcripts were anonymized for security and confidentiality reasons. Specifically, all administrative details about the police interviews were removed; the name of the interviewee was changed to "Interviewee"; each interviewing officer was assigned an officer number, and their names were replaced with "Officer #"; parents present in youth interviews were labeled "Interviewee's Father" or "Interviewee's Mother"; any social or family worker present was given an interviewer number and labeled "Interviewer #"; any individual discussed in the interview was titled "Person"; and any location was replaced with "Location".

Any part of the transcript before the officer introduced themselves or asked the interviewee to state their name was removed prior to analysis. Any partial words, typically the result of an interruption, were completed and included. However, any partial words that indicated an instance of stuttering were removed. Non-word expressions such as "um" and "ah" were removed. Unnecessary non-spoken information in the transcripts, such as indications of laughing or coughing, were also removed. One-word utterances considered part of the flow of natural conversation were removed. This included the words "okay", or "yeah", when their purpose was clearly to verify engagement and active listening. One-word utterances were not removed if they were in response to a direct question or were essential to the continuation of the conversation.

The interviews were transcribed by the staff at the participating police organization. Each transcript was broken down and examined as utterances, or sentences, giving sufficient examples of police and interviewee speech. An utterance was defined as a continuous piece of speech delivered by one person. Utterances ended when the person reached a natural pause, or the speaker was interrupted. In the transcripts, the utterances switched back and forth between speakers, such that no

two consecutive utterances were from the same speaker. Only the primary interviewer and the interviewee were included in this analysis.

Results

For the computation of medians, 976 utterances were obtained from adult suspect interviewers, 733 from adult witness interviewers, 881 from youth suspect interviewers, 693 from youth witness interviewers, 1017 from adult suspects, 724 from adult witnesses, 918 from youth suspects, and 752 from youth witnesses. FK and SMOG scores for interviewers were highly correlated, $r = .759$, $p < .001$. Interviewee FK and SMOG scores were also highly correlated, $r = .791$, $p < .001$. The distributions of FK and SMOG scores for interviewers and interviewees in each condition were non-normal (i.e., all Kolmogorov-Smirnov tests, $p < .001$).

Flesch-Kincaid

The median FK score was 3.54 for adult suspect interviewers, 3.87 for adult witness interviewers, 2.98 for youth witness interviewers, and 4.41 for youth suspect interviewers (see **Figure 1**). A Kruskal-Wallis one-way ANOVA revealed significant differences in the median FK scores of interviewers across type of interviewee, $\chi^2(3) = 8.61$, $p = .035$. For interviewees, the median FK score was 3.40 for adult suspects, 4.56 for adult witnesses, 3.71 for youth suspects, and 3.09 for youth witnesses (see **Figure 1**). A Kruskal-Wallis one-way ANOVA revealed no significant differences in the median FK scores of interviewees, $\chi^2(3) = 4.61$, $p = .202$.

The median FK scores of adult suspect interviewers and interviewees were not significantly different, $U = 46.00$, $p = .761$, $r = .07$, nor were the median FK scores of adult witness interviewers and interviewees, $U = 42.00$, $p = .545$, $r = .14$. The median FK scores of youth suspect interviewers and interviewees were significantly different, $U = 21.50$, $p = .030$, $r = .49$, while the median FK scores of youth witness interviewers and interviewees were not, $U = 17.50$, $p = .936$, $r = .02$.

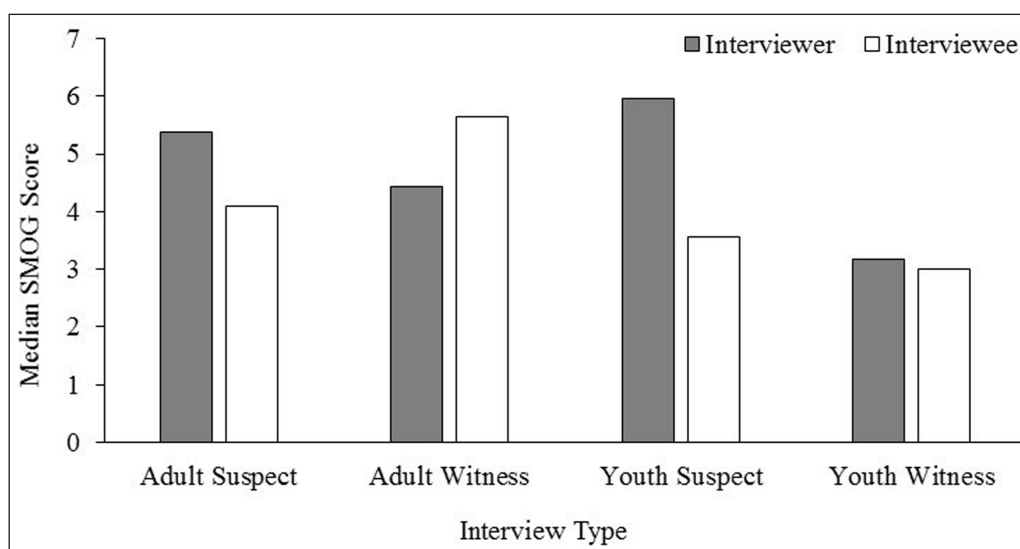


Figure 1: Median FK grade level scores for interviewer and interviewee in each condition.

Planned comparisons revealed that median FK scores of youth suspect interviewers were significantly higher than those of youth witness interviewers, $U = 5.50$, $p = .008$, $r = .67$, despite no differences between youth suspect and youth witness interviewees, $U = 16.50$, $p = .126$, $r = .38$. No differences were observed between adult suspect and adult witness interviewers, $U = 44.50$, $p = .677$, $r = .09$. Median FK scores of youth suspect interviewers were significantly higher than adult suspect interviewers, $U = 24.00$, $p = .049$, $r = .44$.

Simple Measure of Gobbledygook

The median SMOG score was 5.37 for adult suspect interviewers, 4.42 for adult witness interviewers, 5.96 for youth suspect interviewers, and 3.18 for youth witness interviewers (see **Figure 2**). A Kruskal-Wallis one-way ANOVA revealed no significant differences in the median SMOG scores of interviewers across type of interviewee, $\chi^2(3) = 7.16$, $p = .067$.

The median SMOG score was 4.10 for adult suspect interviewees, 5.65 for adult witnesses, 3.55 for youth suspects, and 3.00 for youth witnesses (see **Figure 2**). A Kruskal-Wallis one-way ANOVA revealed significant differences in the median SMOG scores of interviewees, $\chi^2(3) = 8.003$, $p = .046$.

The median SMOG scores of adult suspect interviewers and interviewees were not significantly different, $U = 33.00$, $p = .143$, $r = .33$, nor were the median SMOG scores of adult witness interviewers and interviewees $U = 36.50$, $p = .261$, $r = .25$. The median SMOG scores of youth suspect interviewers and interviewees were significantly different, $U = 18.50$, $p = .009$, $r = .58$. The median SMOG scores of youth witness interviewers and interviewees were not significantly different, $U = 15.00$, $p = .317$, $r = .29$.

Planned comparisons revealed that median SMOG scores of youth suspect interviewers were significantly higher than those of youth witness interviewers, $U = 7.00$, $p = .009$, $r = .65$, despite no differences between youth

suspect and youth witness interviewees, $U = 27.00$, $p = .439$, $r = .19$. No differences were observed between adult suspect and adult witness interviewers, $U = 37.00$, $p = .278$, $r = .24$. Median SMOG scores of youth suspect interviewers and adult suspect interviewers were not significantly different, $U = 44.00$, $p = .643$, $r = .10$.

Discussion

The goal of the current study was to examine the extent to which police officers tailor their language in interactions with youth, and provide insight into the behaviour of police officers in the field. The first two research hypotheses were not supported, as officers used more complex language with youth suspects than youth witnesses, and spoke to youth suspects with the same complexity as adult suspects. The third hypothesis was supported, as police officers did not tailor their language to match the complexity exhibited by youth suspects.

The results of FK language complexity analysis revealed significant differences in the language of interviewers across type of interviewee, while SMOG complexity analyses did not. The SMOG readability measure takes a more comprehensive level of understanding into account. FK scores may also have limited accuracy when grading materials near the lower end of the grade-level scale, such as the speech of youth. Thus, SMOG results are likely a more reliable indicator of language complexity in this case (Fitzsimmons et al., 2010). According to median SMOG scores, the complexity of interviewer language in this sample did not vary significantly depending on the interviewee's age or relation to the crime.

There were significant differences in the median SMOG scores of interviewees across conditions, with adult witnesses demonstrating more complex language than other interviewees (**Figure 2**). This is unsurprising, as sentence structure, information density, and syntactic complexity of language increase with chronological age, resulting in more complex language in adults compared to youth (Nippold, Hesketh, Duthie, & Mansfield,

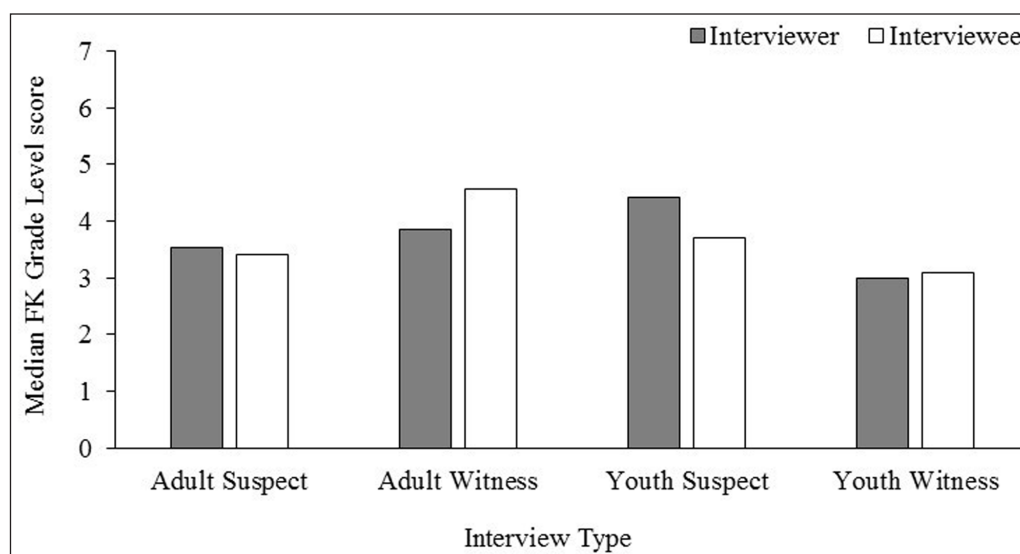


Figure 2: Median SMOG scores for interviewer and interviewee in each condition.

2005). Additionally, non-criminals tend to exhibit better linguistic ability than criminals (Ellis, Beaver, & Wright, 2009), which may explain the higher complexity scores demonstrated by adult witnesses compared to adult suspects. Analysis of median FK scores failed to reveal significant differences in the language of interviewees across conditions.

When speaking to youth witnesses, police officers matched the language complexity demonstrated by the young interviewee. This is observed through the lack of significant differences in median FK or SMOG scores between youth witness interviewers and interviewees. However, in interviews with youth suspects, the same effect was not demonstrated.

Median FK and SMOG scores of interviewers and interviewees in the youth suspect condition were significantly different, with the language of the police officer significantly more complex than that of the youth suspect. This suggests that the language of police officers is too complex for youth suspects to understand. Police officers not only spoke to youth suspects with more complex language than youth witnesses, but spoke to them with the same level of complexity as adult suspects (when considering median SMOG scores).

Officers demonstrated a complexity level almost three grades lower in interactions with youth witnesses compared to youth suspects. This disparity is puzzling, considering that no differences in language complexity were observed between youth witnesses and youth suspects, who thus would have required approximately the same level of tailoring.

In summary, police interviewers use different language with youth witnesses and youth suspects, as their language with youth suspects is significantly more complex. Additionally, police interviewers seem to speak to youth suspects with the same level of complexity as adult suspects, and do not tailor their speech to match the complexity of speech demonstrated by youth suspects.

The lack of adequate language tailoring with youth suspects may be due to the fact that police officers are required to explain the legal waiver, which includes complex legal jargon, and is not necessary with youth witnesses. Instead of a lack of natural ability to tailor to the language abilities of youth, it seems that the inability to break down complex terms and concepts may be the central issue. Although the same differences were not observed between adult suspect and adult witness interviews, the youth legal waiver tends to be longer, with youth being afforded more rights than adults in the same position. Therefore, there may be a greater difference in the number of complex legal words between youth suspect and youth witness interviews than adult suspect and adult witness interviews.

Although the FK and SMOG grade levels supposedly match the level of education of the speaker, low scores were reported for all speakers; typically reflecting between grades three and five, even for adults. However, the grade level of the speakers was not of primary concern in this research. The primary concern of this research was whether the complexity measures indicate language

matching on the part of the interviewer. Concurrent validity was demonstrated between the FK grade level and SMOG measures, as they were highly correlated with one another for the analysis of both interviewer and interviewee language. This was predicted, as both measures have been previously validated as reliable tools for assessing language complexity.

This research examined real-world police transcripts with youth suspects and youth witnesses. Such documents are considered sensitive, highly confidential, and difficult-to-obtain materials. As such, having access to the number of documents required to obtain satisfactory power in this type of research is extremely difficult. Although this research provides a meaningful glimpse into language complexity in Canadian investigative interviews, the small sample sizes necessitate that caution be taken in the interpretation of insignificant findings. It is possible that significant differences in language may not have been detected where they do indeed exist, due to weak power. Future research in this area utilizing larger sample sizes will provide greater insight into these issues.

Another possible limitation of this study is that researchers tend to consider FK Grade-Level calculations as most successful when applied to passages of text over 200 words (Graesser, McNamara, Louwerse, & Cai, 2004). However, to the author's knowledge, there is no existing language analysis tool for short passages of text. A similar criticism of this study may be that SMOG readability analyses are typically based on 30 sentences of text (McLaughlin, 1969). This recommendation was made by McLaughlin (1969) to ensure that a representative sample of the passage is analyzed. In this study, the entire passage (interview) was analyzed by utterance (i.e., the representativeness of the sample of text is not in question). Thus, although utterances often fell below these thresholds, FK and SMOG still provide an approximation for the language complexity used during police interviews.

To ensure that the youth is able to participate fully in the conversation, police officers should use age-appropriate language for the entirety of the investigative interview when interviewing youth suspects. Although the current legislation pertains only to the delivery of legal rights, these results show that officer language is likely too complex for youth to understand when all dialogue between police officers and youth suspects is considered. Perhaps, then, the YCJA would better safeguard youth by extending the tailoring requirement of s.146(2)(b) to the entire investigative interview, and not solely the delivery of rights.

This research suggests that in order for the YCJA to meet its intended level of protection, changes in police interviewing practices are necessary. It is unreasonable of the law to assume that police officers can tailor their language to youth suspects when the subject matter—rights, cautions, and waivers—are inherently complex. As police officers appear to naturally tailor their language with youth witness interviewees, perhaps training them how to further break down legal jargon for youth suspects would increase their degree of language matching. Further, a standardized approach to the delivery of youth suspect

rights may lower the language complexity demonstrated by officers. With guidelines and procedures designed to increase understanding independent of officer ability, the protection of youth would likely be increased. When youth understand, they can make use of the legal rights afforded to them and are protected as the law intended.

Additional Files

The additional files for this article can be found as follows:

- **Data 1.** Non-parametric Analysis Data. DOI: <https://doi.org/10.5334/jeps.444.s1>
- **Data 2.** Language Complexity Analysis Data. DOI: <https://doi.org/10.5334/jeps.444.s2>

Competing Interests

The author has no competing interests to declare.

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How to cite this article: McCardle, M. I. (2018). Examining the Complexity of Police Officers' Language During Investigative Interviews with Adults and Youth. *Journal of European Psychology Students*, 9(1), 40-47, DOI: <https://doi.org/10.5334/jeps.444>

Published: 12 December 2018

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