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RESEARCH ARTICLE

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Linguistically complex recognition prompts in pre-recorded cross-examinations

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Abstract

This study examined the effects of pre-trial preparation and pre-recorded cross-examinations on the linguistic complexity of recognition prompts (i.e., option-posing or suggestive questions) used when questioning child victims in English criminal courts. The study also compared the linguistic complexity of recognition prompts that did and did not contain suggestive content. Analyses compared 43 cases that involved pre-recorded cross-examinations with pre-trial preparation and 44 cases that did not, which occurred between 2012 and 2016. Cases utilizing the “special measures” contained fewer linguistically complex prompts with and without suggestive content than did their counterparts, demonstrating the benefits of those special measures. Overall, linguistically complex recognition prompts were more likely to contain suggestive content than other recognition prompts. However, linguistically complex prompts with and without suggestive content were still frequently used despite the special measures, demonstrating the need for further professional training to improve the quality of children's evidence.

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1 | INTRODUCTION

In England and Wales, the Youth Justice and Criminal Evidence Act (YJCEA) was passed in 1999, introducing several special measures designed to improve conditions for child witnesses in court (Henderson, Andrews, & Lamb, 2019a; Henderson, Lamb, & Rafferty, 2019b; Henderson & Lamb, 2019; Spencer & Lamb, 2012). Section 27 of the YJCEA (1999) permitted pre-recorded “achieving best evidence” (ABE) forensic interviews to replace child victims’ evidence-in-chief in trials (e.g., direct examination; Home Office, 2011; Milne, Shaw, & Smith, 2009). One of these special measures proposed in Section 28 was the possibility of a pre-recorded cross-examination, which was piloted in 2014.

The Section 28 pilot study required both a pre-recorded cross-examination and a mandatory Ground Rules Hearing (GRH), in which the lawyers, the judge, and (if applicable) an intermediary (i.e., a court-appointed specialist facilitating communication between children and lawyers) would meet to discuss reasonable adjustments to ensure the comfort and safety of the vulnerable witness (Criminal Practice Direction, 2015). Prior to GRHs, defense lawyers were supposed to submit their planned line of questioning (Cooper, Backen, & Marchant, 2015; HM Courts & Tribunal Service, 2014), thereby allowing for substantial discussion and pre-approval of appropriate questioning strategies (Cooper et al., 2015). Prior analyses revealed that questioning strategies were discussed in 60% of all GRHs (Henderson et al., 2019b). However, because all defense lawyers *should* have submitted their questioning strategies, some judges may have pre-approved but not discussed questions during the GRHs. Hereafter, reference to the “Section 28 special measures” encompasses the mandatory GRH and submission of planned lines of questioning as well as the pre-recorded cross-examination.

Section 28 special measures were associated with reductions in the proportion of questions that contained suggestive content (Henderson et al., 2019a) and syntactic complexity of the defense lawyers’ questions (e.g., word counts and clause counts; Henderson & Lamb, 2019). However, Section 28 lawyers still predominantly asked recognition questions (i.e., prompts that are either closed-ended or signal the desired response, such as option-posing and suggestive prompts; Henderson et al., 2019a), and used proportionally more option-posing prompts than their non-Section 28 counterparts (Henderson et al., 2019a). This is problematic because researchers have identified “linguistically complex” (or “complex”) structures within recognition prompts [i.e., tagged, declaratives, “Do you remember” (DYR), and negative terms; see Table 1 for definitions and examples] that decrease children’s comprehension and erode young witnesses’ accuracy and productivity (Evans, Stolzenberg, & Lyon, 2017; Klemfuss, Quas, & Lyon, 2014). Thus, the current study evaluated whether Section 28 recognition prompts, and particularly prompts with suggestive content, were less linguistically complex than non-Section 28 prompts, thereby improving the quality of questioning and, subsequently, the elicited testimony.

While the primary goal of the present study was to explore the effects of Section 28 implementation on the use of complex recognition prompts during cross-examinations, a second, exploratory, aim of the study was to examine linguistic complexity independent of suggestive content to better understand the composition of recognition prompts. Linguistic complexity and suggestive questions are often viewed as synonymous, as linguistically complex structures suggest certain responses (Lamb et al., 2008; 2018). By contrast, suggestive content, as opposed to suggestive structure, involves the introduction or assumption of information not previously disclosed by the victim, as well as direct contradictions (Andrews & Lamb, 2017; Henderson et al., 2019a). This paper utilizes the latter definition for “suggestive”, whereby linguistic complexity and suggestive content may co-occur (e.g., “And so he touched you?” when the child has not previously disclosed being touched, thereby introducing suggestive content in a declarative utterance). However, a prompt can be linguistically complex without introducing suggestive content. Thus, this study was the first to explore the likelihood that linguistically complex prompts contained suggestive content to aid in the recognition and elimination of risky questioning strategies.

TABLE 1 Definitions of utterance types

	Definition	Example
Tag	A phrase added to a statement that turns the statement into a question and often invites the victim to agree.	"You told your mom what had happened to you, isn't that right?"
Do you remember?	Any utterance including the phrase "Do you remember?" which implies that the event actually took place.	"Do you remember when your mom went to the store?"
Declarative	A statement that does not directly ask the child a question. It seems to be a question only because of the intonation in the speaker's voice.	"Yeah, you're upset that that's quite important and you didn't tell the police that."
Negation	An utterance containing a negative, often requiring the child to comply with the negative term.	"He didn't do anything to you, did he?"
Suggestive confrontational	An utterance used to explicitly or implicitly confront the child's testimony and impact their credibility.	"Is what you are telling me true?"; "I'm going to suggest that what you are saying happened did not really happen."
Suggestive suppositional	An utterance containing suggestive content that is built on the assumption that an undisclosed action has happened, which may ignore earlier contradicting responses that rules that event out of question.	"What did X tell you?" (when the child did not mention that X had told anything)
Suggestive introductory	An utterance containing suggestive content where a lawyer introduces undisclosed information or provides restrictive, non-exhaustive options, in a forced-choice question.	"Did it hurt when he touched you?" (when child said s/he was not touched)

Note: Adapted from Andrews and Lamb (2017); Lamb, Orbach, Hershkowitz, Esplin, & Horowitz (2007).

1.1 | Recall and recognition prompts

Although open questions can be phrased using complex structures (Lamb et al., 2018), researchers have emphasized the positive effects of free-recall prompts (i.e., invitations and directives), because they are more likely to elicit accurate (Lamb et al., 2007b) and detailed (Lamb et al., 2003; Sternberg et al., 2001) responses. This research focused on the complexity of recognition prompts because of the additional risks attributed to recognition questions, as well as the frequency with which they are used in cross-examinations. Children asked recognition questions are less responsive (Andrews, Lamb, & Lyon, 2015), provide less information (Lamb et al., 2007a), may agree/disagree with the interviewer regardless of the truth (Ahern, Lyon, & Quas, 2011; Poole & Lindsay, 1995), and contradict themselves more frequently than in response to open questions (Andrews et al., 2015). Thus, Best Practice Guidelines recommend that lawyers question children with more free-recall and fewer recognition prompts (e.g., Home Office, 2011).

Despite such recommendations, recognition prompts tend to predominate in cross-examinations (Andrews & Lamb, 2017a; Hanna et al., 2012; Henderson et al., 2019a; Klemfuss et al., 2014; Peixoto et al., 2017; Zajac & Cannan, 2009) even though they are more likely to elicit unreliable or inaccurate testimony than open-ended questions (Andrews & Lamb, 2014). Prompts containing suggestive content are considered particularly dangerous (Lamb et al., 2011) because children may amend aspects of their accounts in order to incorporate suggested

information (Bruck & Ceci, 1999; Lamb & Fauchier, 2001; London & Kulkofsky, 2010). Suggestive utterances can be confrontational (i.e., confront witnesses and challenge their testimony or cast doubt upon their credibility), suppositional (i.e., build on an unfounded assumption that an undisclosed action has happened), or introductory (i.e., introduce undisclosed information; Andrews & Lamb, 2017a; see Table 1). Research shows that introductory suggestive prompts are used most frequently in court (Andrews & Lamb, 2017a), while suppositional suggestive prompts are the most syntactically complex (Henderson & Lamb, 2019).

1.2 | Linguistically complex prompts

Children often respond to complex recognition prompts even if they are incomprehensible or unanswerable (Waterman, Blades, & Spencer, 2000). Problematically, a number of commonly used recognition prompts are linguistically challenging for children, including tagged prompts, declarative prompts, DYN prompts, and prompts containing negative terms (see Table 1 for definitions and examples). Because of their increased difficulties, the current study explored the co-occurrence of these linguistic structures with and without suggestive content.

Tagged prompts, questions containing a statement and then a tag (e.g., "You're upset, aren't you?"; Andrews & Lamb, 2017a; 2017b; Henderson & Lamb, 2019; Lamb & Fauchier, 2001; Walker, Kenniston, & Inada, 2013; see Table 1), have been studied most extensively. Tagged prompts are especially challenging for children to comprehend because they require children to hold a statement in memory and check that each component is correct before responding (Lamb & Fauchier, 2001; Orbach & Lamb, 2001; Walker et al., 2013). Tagged prompts are more complex than untagged prompts (e.g., more clauses, passive voice, and multiple negative terms; Andrews & Lamb, 2017b; Henderson & Lamb, 2019) and children acquiesce to tagged prompts more often than to untagged prompts (Andrews & Lamb, 2017a). Thus, British lawyers have been instructed to avoid using them with children (Criminal Practice Direction, 2015).

Declarative questions are statements without explicit tags but with subtle rises in intonation indicating that a question is being asked (e.g., "And then your mom left you at home?"). Linguists have found that declaratives elicit agreement from children because children are "simply invited to agree with the self-evident truth of [the] assertion" (Bishop et al., 1998). Curiously, declarative questions were the only question type that was more complex in the Section 28 cases than in the comparison non-Section 28 cases (Henderson & Lamb, 2019). Declarative questions may elicit unelaborated responses (Stolzenberg et al., 2020), and lawyers who used declaratives appear more likely to win their cases (Klemfuss et al., 2014). Therefore, it is important to investigate the potentially detrimental impact of declarative questions, especially if lawyers are merely reformulating tagged questions into declarative questions (Henderson & Lamb, 2019).

"Do you remember" questions, which explicitly ask whether an individual remembers information whilst implicitly requesting the information (Evans et al., 2017) are also complex. For example, an unelaborated yes or no answer to "Do you remember if your mom went to the store?" could be responding to either the explicit ("Do you *remember* if she went to the store?") or implicit ("Did she go to the store?") part of the question, resulting in an ambiguous response (Evans et al., 2017). A lawyer may interpret an unelaborated "no" response to mean that the mother did not go to the store, when in fact the child was responding that they did not remember, thereby introducing false information into the child's testimony. Defense lawyers' DYN prompts are more complex than other prompts (Henderson & Lamb, 2019) but they are commonly asked in court (Stolzenberg et al., 2020) and children frequently respond to them incorrectly (Evans et al., 2017) or non-substantively (Stolzenberg et al., 2020). Additionally, lawyers often fail to disambiguate children's responses to DYN prompts (Evans et al., 2017), which results in the misinterpretation of their responses and perhaps a decline in their perceived credibility. As a result, guidelines recommend that British lawyers avoid using DYN questions when examining vulnerable children (Inns of the Court College of Advocacy, 2017).

Many complex prompt types also involve negation (Klemfuss et al., 2014), which make questions more complex, thus adversely affecting children's comprehension (e.g., "He didn't touch you?" instead of "Did he touch you?"; Harris, 1975). There has been limited research on the usage of negation (Hanna et al., 2012; Henderson & Lamb, 2019), even though children have more difficulty understanding negative sentences than adults do (Nordmeyer & Frank, 2014; Olds, 1968; Walker, 1999). Thus, the current study also examined prompts containing negation, with the intention of contributing to the limited existing literature.

1.3 | Current study

This study was the first to assess whether the Section 28 special measures reduced the use of linguistically complex prompts. Because the inclusion of suggestive content makes the prompt significantly riskier, we examined the effect of the Section 28 special measures on linguistically complex prompts with and without suggestive content separately to more sensitively assess the riskiness of lawyers' cross-examinations. Based on previous research illustrating the benefits associated with the implementation of Section 28 (Henderson & Lamb, 2019; Henderson et al., 2019a, 2019b), we predicted that there would be fewer linguistically complex prompts in Section 28 cases than in non-Section 28 cases. Exploratory analyses also examined whether these complex linguistic structures were used in conjunction with suggestive content and suggestive question subtypes.

2 | METHOD

2.1 | Sample

The sample consisted of 87 court transcripts and corresponding ABE interviews conducted in England (Henderson & Lamb, 2017). Her Majesty's Courts and Tribunals Service (HMCTS) identified 44 non-Section 28 (hereinafter NS28) and 43 Section 28 (hereinafter S28) cases that met the necessary criteria: they involved a child victim under the age of 15 testifying about alleged sexual abuse. The 44 NS28 cases came from Crown Courts across England, whilst the 43 S28 cases came from Kingston ($n = 1$), Leeds ($n = 16$), and Liverpool ($n = 26$) Crown Courts. All S28 cases had a mandatory GRH, while six judges in the NS28 condition voluntarily conducted GRHs in their cases.

Recordings of the 87 court proceedings were transcribed and anonymized, and transcripts of the corresponding ABE interviews for each of those 87 cases were collected. The sample included 18 boys and 69 girls between the ages of 6 and 15 years ($M = 12.02$, $SD = 2.43$). In the NS28 condition, 55% of cases resulted in a guilty verdict, and in the S28 condition, the corresponding figure was 58% of cases (see Henderson et al., 2019a for additional case characteristics). Binary logistic regressions established that the two groups (NS28 and S28) did not differ significantly in regard to key case facts, including children's ages, gender, severity of alleged abuse, child-perpetrator relationship, verdict, and frequency of abuse (see Henderson et al., 2019a for p values).

2.2 | Coding of transcripts

Because of the YJCEA special measures, prosecutors in the S28 condition asked a limited number of substantive questions (see Henderson et al., 2019a). Therefore, only defense lawyers' utterances were coded and examined. All defense lawyers' substantive utterances were coded, including utterances in which children did not answer (e.g., because an intermediary intervened). Because a judge, lawyer, or intermediary may (theoretically) intervene when a complex question is asked, all utterances were included to fully account for the proportion of complex questions posed.

Substantive utterances were originally coded as invitations, directives, option-posing prompts, and suggestive prompts (see Henderson et al., 2019a for details). Because the dataset contained both the children's forensic interviews, their direct examinations (if applicable) and their cross-examinations, information that was not previously disclosed by the victim during any of the above stages but was introduced or assumed in the lawyer's cross-examination was coded as suggestive content. All prompts were subsequently coded as containing or not containing suggestive content. Questions that contained suggestive content were then further categorized into three subtypes: confrontational (i.e., an utterance used to contradict or cast doubt on a victims' testimony), suppositional (i.e., an utterance built on the assumption that an undisclosed action has taken place), and introductory (i.e., an utterance introducing undisclosed information; see Table 1 for definitions and examples).

Because this research only focused on the linguistically complex structures of recognition prompts, invitations and directives that did not contain suggestive content were not considered further. All recognition prompts were coded for complex structural characteristics, including the presence of tags (e.g., "..., right?"), DYR (i.e., "Do you remember..."), declarations (i.e., a sentence with rising intonation at the end, indicating that it was being asked as a question) and negation (i.e., containing negative terms such as "not" and contractions; see Table 1 for definitions). Every linguistically complex structural feature was tabulated. For example, if a prompt contained both a tag and negation, both tags and negation were coded. Additionally, if a linguistically complex prompt was repeated multiple times, it was included each time it occurred.

2.3 | Inter-rater reliability

A second rater independently coded a random selection of transcripts (20%, $n = 20$; NS28 = 8, S28 = 12). The inter-rater reliability coefficients were high: regarding the classification of suggestive content [$K = 0.95$ (SE = 0.01), 95% CI: 0.93, 0.97], different suggestive subtypes [$K = 0.91$ (SE = 0.03), 95% CI: 0.85–0.97], prompts containing a tag [$K = 0.90$ (SE = 0.02), 95% CI: 0.86–0.94], prompts containing DYR [$K = 0.95$ (SE = 0.02), 95% CI: 0.91–0.99], prompts phrased as a declarative statement [$K = 0.94$ (SE = 0.01), 95% CI: 0.92–0.96] and prompts containing negation [$K = 0.88$ (SE = 0.02), 95% CI: 0.84–0.92]. Reliability assessments were performed throughout the coding process, and disagreements were resolved through discussion.

2.4 | Analytical plan

First, generalized linear mixed models (GLMMs) evaluated whether the trial condition (NS28, S28) was significantly associated with the use of complex recognition questions that both contained and did not contain suggestive content. Next, GLMMs examined whether linguistically complex prompts were more likely to contain suggestive content than recognition prompts without any linguistic complexity. Afterwards, descriptive analyses explored the frequency with which linguistically complex structures occurred within suggestive question subtypes. GLMM models included a by-subject (i.e., "child") random intercept to control for the different number and types of questions addressed to each child.

Analyses were performed using the *glmer* function in the R package *lme4* with the bobyqa optimizer and Laplace approximations (Bates et al., 2015). GLMMs combine the properties of linear mixed models (which incorporate random effects) and generalized linear models (which handle non-normal data) and are preferable to traditional ANOVA models because they have fewer assumptions, handle response variables with different distributions (e.g., binary, count, or proportion), and maximize power while simultaneously estimating between-subject variance (Bates et al., 2015; Bolker et al., 2009; Gałęcki & Burzykowski, 2013; Pinheiro & Bates, 2000). Models are reported below, accompanied by the unstandardized fixed effect estimates (β), standard errors of the estimates (SE), and estimates of significance (Z- and *p*-values).

TABLE 2 Generalized linear mixed model output for models examining the effect of trial condition on linguistically complex prompts with and without suggestive content

Model	Fixed effect	B	SE	z-value	p
Tagged with suggestive content	Intercept	−1.34	0.15	−9.00	< 0.001
	Trial condition	−1.57	0.23	−6.76	< 0.001
Tagged without suggestive content	Intercept	−1.74	0.16	−10.99	< 0.001
	Trial condition	−1.50	0.25	−6.03	< 0.001
Declarative with suggestive content	Intercept	−1.01	0.12	−9.27	< 0.001
	Trial condition	−0.60	0.18	−3.38	< 0.001
Declarative without suggestive content	Intercept	−1.29	0.12	−10.62	< 0.001
	Trial condition	−0.54	0.18	−3.02	0.003
DYR with suggestive content	Intercept	−2.84	0.15	−19.57	< 0.001
	Trial condition	−0.35	0.22	−1.59	0.11
DYR without suggestive content	Intercept	−3.16	0.16	−20.09	< 0.001
	Trial condition	−0.34	0.24	−1.46	0.15
Negative term with suggestive content	Intercept	−1.85	0.11	−17.19	< 0.001
	Trial condition	−1.00	0.17	−5.82	< 0.001
Negative term without suggestive content	Intercept	−2.34	0.10	−22.42	< 0.001
	Trial condition	−0.73	0.17	−4.31	< 0.001

3 | RESULTS

3.1 | Did Section 28 reduce the linguistic complexity of recognition prompts?

GLMMs showed that S28 defense lawyers asked significantly fewer linguistically complex recognition prompts with suggestive content ($B = -1.36$, $SE = 0.24$, $Z = -5.71$, $p < 0.001$) and without suggestive content ($B = -1.06$, $SE = 0.20$, $Z = -5.22$, $p < 0.001$) than NS28 defense lawyers (see Table 2). Separate analyses examined the use of tagged, declarative, DYR, and negative term prompts individually. These models found that, compared with NS28 defense lawyers, S28 defense lawyers asked fewer tagged prompts with (11.5% vs. 2.6%) and without suggestive content (10.8% vs. 4.1%), fewer declarative prompts with (10.4% vs. 5.8%) and without suggestive content (13.8% vs. 12.3%), and fewer negative term prompts with (7.7% vs. 2.1%) and without suggestive content (5.4% vs. 3.6%). However, there was no difference between the use of DYR prompts with (2.3% vs. 1.5%) or without suggestive content (2.7% vs. 2.3%; percentages are relative to all substantive prompts; see Table 3).

TABLE 3 Linguistic complexity and suggestive content in recognition prompts in each trial condition

Linguistic complexity	Suggestive content	NS28		S28	
		N	% ^a	N	% ^a
Tagged	With suggestive content	648	11.5	82	2.6
	No suggestive content	613	10.8	129	4.1
Declarative	With suggestive content	586	10.4	182	5.8
	No suggestive content	779	13.8	386	12.3
DYR	With suggestive content	131	2.3	47	1.5
	No suggestive content	150	2.7	72	2.3
Negative term	With suggestive content	437	7.7	65	2.1
	No suggestive content	303	5.4	112	3.6

^aindicates percentage out of all defense lawyers substantive utterances.

3.2 | Are linguistically complex prompts more likely to contain suggestive content?

Next, GLMMs examined whether defense lawyers’ tagged, declarative, DYR, and negative prompts were more likely to contain suggestive content than recognition prompts without any linguistically complex structures ($n = 3222$). Trial condition was included in the model to control for differences between S28 and NS28 conditions. Because Henderson et al. (2019a) previously found that S28 examinations contained fewer questions with suggestive content than NS28 cases, the main effects of trial condition are not reported in the text, but all model statistics are reported in Table 4.

Analyses showed that, regardless of trial condition, tagged (49.6% of tagged prompts contained suggestive content), declarative (39.7%), DYR (44.5%), and negative term questions (54.7%) were all more likely to contain suggestive content than recognition prompts without any linguistic complexity (5.3%).

3.3 | Linguistic complexity of subtypes of suggestive questions

Table 5 shows the frequencies with which linguistically complex structures occurred in each type of suggestive question across both conditions. Although S28 cases contained fewer questions with suggestive content, both S28 and NS28 suggestive questions were most likely to be introductory, followed by confrontational, and were least likely to be suppositional prompts. A large majority of all subtypes of suggestive questions included at least one linguistically complex feature. Introductory and confrontational suggestive questions involved more tagged, declarative, and negative term prompts, whereas suppositional suggestive questions were most likely to be DYR prompts.

4 | DISCUSSION

In support of our hypothesis, Section 28 examinations involved fewer linguistically complex recognition prompts with and without suggestive content, as well as fewer tagged, declarative, and negative term prompts with and without suggestive content. Because the Section 28 special measures reduced not only the use of suggestive questions (Henderson et al., 2019a) but also the linguistic complexity of the questions asked, implementation of the

TABLE 4 Generalized linear mixed model output for models examining effect of trial condition and linguistic complexity on presence of suggestive content

Model	Fixed effect	B	SE	z-value	p
Tagged question	Intercept	−2.77	0.18	−15.03	< 0.001
	Tagged/no complexity	2.50	0.11	22.75	< 0.001
	Trial condition	−0.73	0.27	−2.74	0.006
Declarative question	Intercept	−2.67	0.17	−16.07	< 0.001
	Declarative/no complexity	2.13	0.10	21.42	< 0.001
	Trial condition	−0.89	−.24	−3.78	< 0.001
DYZ question	Intercept	−1.19	0.20	−5.96	< 0.001
	DYZ/no complexity	1.05	0.12	8.79	< 0.001
	Trial condition	−1.43	0.30	−4.84	< 0.001
Negative term question	Intercept	−1.30	0.19	−6.73	< 0.001
	Negative term/no complexity	1.25	0.08	15.34	< 0.001
	Trial condition	−1.33	0.29	−4.63	< 0.001

special measures helped to ensure that children were able to provide their best-quality evidence at trial and are thus worthy of broader implementation.

“Do you remember” prompts were the only types of linguistically complex structure within recognition prompts that were asked just as frequently in Section 28 and non-Section 28 cases. They were, however, the least common type of linguistic complexity observed in both conditions. Nevertheless, further training delivered to professionals involved in GRHs needs to emphasize the riskiness of DYZ prompts, which degrade children's response accuracy (Evans et al., 2014) and credibility because children often misunderstand such questions and provide non-substantive responses (Stolzenberg et al., 2020). They are also easy to identify within the Section 28 special measures because of the consistent use of the stem “Do you remember.”

Declarative prompts were the most common type of linguistically complex prompt used in both conditions and particularly in the S28 condition, underlining the need for further training to identify and restrict their use. Because most previous research has focused on the linguistic complexity of tagged questions (Andrews & Lamb, 2017a, 2017b, Lamb & Fauchier, 2001; Walker et al., 2013), judges and defense lawyers were likely aware of the risks associated with tags, as indicated by the reduced use of tagged prompts in the Section 28 examinations. The co-occurring increase in the use of declarative prompts suggests that defense lawyers may simply have eliminated the “tags” (e.g., “And then he touched you, right?” becoming “And then he touched you?”; Henderson & Lamb, 2019). Although few studies have examined the riskiness of declarative prompts, it appears that declarative prompts elicit compliance (Klemfuss et al., 2014) and unelaborated responses (Stolzenberg et al., 2020). Thus, judges should restrict their usage during pre-recorded cross-examinations until their effects on children's responses are better understood.

The exploratory analyses showed that linguistically complex prompts were more likely to contain suggestive content than recognition prompts without linguistically complex features. Because we were able to compare children's statements in their forensic interview with their courtroom testimony, the results demonstrate how frequently defense lawyers introduce suggestive content during their cross-examinations. Perhaps, defense lawyers are aware that they are introducing new content, and thus intentionally phrase their questions in ways that invite compliance. This speculation is further supported by the reduction in the complexity of questions that contained

TABLE 5 Linguistic complexity of subtypes of suggestive questions by trial condition

Suggestive subtype	Complexity	NS28 [N (%)]	S28 [N (%)]
Introductory		1072 (71) ^a	278 (72) ^a
	Tagged	512 (48) ^b	67 (24) ^b
	Declarative	453 (42) ^b	163 (59) ^b
	DYR	3 (>1) ^b	2 (1) ^b
	Negative term	266 (25) ^b	37 (13) ^b
	Linguistically complex	995 (93) ^b	236 (85) ^b
Suppositional		153 (10) ^a	50 (13) ^a
	Tagged	6 (4) ^b	0 (0) ^b
	Declarative	4 (3) ^b	0 (0) ^b
	DYR	128 (84) ^b	45 (90) ^b
	Negative term	16 (3) ^b	3 (6) ^b
	Linguistically complex	136 (89) ^b	45 (90) ^b
Confrontational		294 (19) ^a	56 (15) ^a
	Tagged	130 (44) ^b	15 (27) ^b
	Declarative	129 (44) ^b	19 (34) ^b
	DYR	0 (0) ^b	0 (0) ^b
	Negative term	147 (50) ^b	25 (45) ^b
	Linguistically complex	279 (95) ^b	40 (71) ^b

^aPercentage of all suggestive utterances.

^bPercentage of specific linguistically complex prompt within each specific suggestive subtype.

suggestive content in the Section 28 trial condition: when Section 28 defense lawyers asked suggestive questions (and, in particular, confrontational suggestive questions), they used fewer linguistically complex structures. Section 28 judges and defense lawyers may have felt that it was appropriate to “put their case” to the child, as long as the lawyer did so using non-complex prompts.

Linguistically complex prompts without suggestive content still occurred frequently, underscoring the fact that all recognition prompts offer opportunities for miscommunication. If researchers only examine prompts that contain suggestive content, they may overlook the linguistic complexity of recognition prompts and underestimate the riskiness of lawyers' questioning. Whilst suggestive content is most detrimental to children's accuracy, all recognition prompts can elicit self-contradictions (Andrews et al., 2015) and unproductive responses (Lamb et al., 2015). Thus, the risks associated with recognition prompts should be recognized within the special measures, and defense lawyers should adapt their questioning style to avoid any leading sentence structures, especially because Section 28 defense lawyers failed to use more open-ended prompts (Henderson et al., 2019a).

Exploratory analyses also showed that the majority of confrontational, introductory, and suppositional suggestive prompts contained linguistically complex features, which further highlights the riskiness of these prompts. Researchers have expressed concern regarding open-ended suggestive prompts that presuppose information (e.g., “What other things did you have on?” when the child has not mentioned additional clothing; Andrews et al., 2016), but the present findings show that around 90% of the suppositional suggestive prompts contained at least one linguistically complex feature, meaning that, at most, 10% might have been recall prompts. Thus, English defense lawyers rarely asked open-ended suggestive questions, regardless of the type of suggestion involved.

4.1 | Implications and future directions

Overall, the success of the Section 28 pilot implementation (Henderson & Lamb, 2019; Henderson et al., 2019a, 2019b) was similarly reflected in the present findings, underscoring the value of implementing this special measure nationally. Specifically, the use of GRHs may have reduced the complexity of the questions asked at trial, and thus improved the quality of the children's evidence. Because GRHs are currently permitted in England and Wales and involve few additional costs, unlike pre-recorded cross-examinations which require video equipment, defense lawyers, judges, and intermediaries (if applicable) should continue to plan the examination of children in advance. This could be pioneered whilst waiting for the funding to implement pre-recorded cross-examinations nationally. Lastly, researchers should continue to evaluate the effectiveness of Section 28 special measures as a whole to ensure that the benefits of Section 28 are evident when the procedure is implemented nationally.

The exploratory analyses also provided useful lessons. First, it is much simpler for judges and intermediaries to identify linguistically complex prompts, such as tags and declaratives, than it is for them to intervene when suggestive content is introduced or assumed, because they only need to note the leading sentence structure. Thus, judges and intermediaries who are knowledgeable about linguistic complexity should be able to recognize it and intervene both during pre-trial preparation and cross-examination. Additionally, these findings may assist researchers examining the riskiness of questioning strategies. Rather than focusing on other aspects of question type (e.g., suggestive content), researchers might code for linguistic structure. Because many recognition prompts, especially recognition prompts containing suggestive content, are linguistically complex, it may be simpler to identify specific sentence structures rather than the introduction of novel content, which can be a much more tedious task.

The findings also pose additional questions for future studies. No research has established the impact of declarative questions on children's accuracy, as suggested by Stolzenberg et al. (2020). These findings may assist those attempting to create educational interventions regarding their danger. Moreover, it is important to determine whether advocacy training programs improve outcomes.

In addition, because the majority of questions with suggestive content contained linguistically complex features, researchers should consider whether it is the suggestive content alone or the suggestive content paired with linguistic complexity (and leading sentence structure) that makes suggestive questions dangerous. Some suppositional prompts (e.g. open-ended *wh-* prompts) may not be as risky as previously thought when they do not involve the structure of leading questions, and particularly when they are open-ended (Andrews et al., 2016). Thus, further disentangling the differential riskiness of suggestive questions will contribute to more effective evaluations of the riskiness of all types of questions and thus inform training for professionals.

4.2 | Limitations and conclusions

Three limitations should be noted. The judges in the Section 28 condition willingly agreed to participate in the pilot study; therefore, these cases may not be representative of the practice that will be observed when the protocol is implemented nationally. In addition, a small number of judges in non-Section 28 cases held GRHs because intermediaries were involved ($n = 6$). Thus, there may have been some benefit gained by these children, even if their testimony was not pre-recorded (Plotnikoff & Woolfson, 2012), because Henderson et al. (2019a) found that the presence of a GRH alone reduced suggestive questioning. This may have limited the clarity of the comparisons reported here. However, Section 28 lawyers were required to submit their line of questioning in writing, which was not mandatory when only holding a GRH. Careful consideration of which aspect of the intervention influenced the reduction in risky questioning prompts is needed in the future.

Additionally, this study only coded linguistically complex recognition prompts. Research should continue to explore linguistically complex characteristics of open-ended questions to investigate whether these undermine

children's understanding, particularly when open questions are used frequently by forensic interviewers (Sternberg et al., 2001).

Overall, legal practitioners still have changes to make if we hope to reduce the use of linguistically complex recognition prompts when cross-examining children. Crucially, whilst the Section 28 reforms reduced the number of linguistically complex prompts used, as well as the use of tagged, declarative, and negative term prompts, these risky prompts were still asked frequently. In addition, there needs to be extensive focus on reducing the numbers of complex recognition prompts directed at children, regardless of whether they contain suggestive content. Recognition prompts that contain and do not contain suggestive content can be phrased identically, and thus both can be linguistically complex. Therefore, further implementation of Section 28 reforms should be aimed at the continued reduction of all recognition prompts, especially those that are linguistically complex, and should focus on increasing the number of free-recall prompts asked, rather than putting facts to the victim and requesting confirmation. Overall, whilst Section 28 reforms have had positive effects, further investigation is needed to understand and reduce the use of linguistically complex prompts in order to improve the accuracy and informativeness of vulnerable witnesses.

CONFLICT OF INTEREST

The authors have no conflict of interest to declare.

REFERENCES

- Ahern, E. C., Lyon, T. D., & Quas, J. A. (2011). Young children's emerging ability to make false statements. *Developmental Psychology*, 47, 61–66. <https://doi.org/10.1037/a0021272>
- Andrews, S. J., Ahern, E. C., Stolzenberg, S. N., & Lyon, T. D. (2016). The productivity of wh-prompts when children testify. *Applied Cognitive Psychology*, 30, 341–349. <https://doi.org/10.1002/acp.3204>
- Andrews, S. J., & Lamb, M. E. (2014). The effects of age and delay on responses to repeated questions in forensic interviews with children alleging sexual abuse. *Law and Human Behavior*, 38, 171–180. <https://doi.org/10.1037/lhb0000064>
- Andrews, S. J., & Lamb, M. E. (2017a). How do lawyers examine and cross-examine children in Scotland?. *Applied Cognitive Psychology*, 30, 953–971. <https://doi.org/10.1002/acp.3286>
- Andrews, S. J., & Lamb, M. E. (2017b). The structural linguistic complexity of lawyers' questions and children's responses in Scottish criminal courts. *Child Abuse & Neglect*, 65, 182–193. <https://doi.org/10.1016/j.chiabu.2017.01.022>
- Andrews, S. J., Lamb, M. E., & Lyon, T. D. (2015). Question types, responsiveness and self-contradictions when prosecutors and defense attorneys question alleged victims of child sexual abuse. *Applied Cognitive Psychology*, 28, 253–261. <https://doi.org/10.1002/acp.3103>
- Bates, D., Machler, M., Bolker, B., & Walker, S. (2015). Fitting linear mixed-effects models using lme4. *Journal of Statistical Software*, 67, 1–48. <https://doi.org/10.18637/jss.v067.i01>
- Bishop, D. V. M., Chan, J., Hartley, J., & Weir, F. (1998). When a nod is as good as a word: Form-function relationships between questions and their responses. *Applied Psycholinguistics*, 19, 415–432. <https://doi.org/10.1017/S0142716400010249>
- Bolker, B. M., Brooks, M. E., Clark, C. J., Geange, S. W., Poulsen, J. R., Stevens, M. H. H., & White, J. S. S. (2009). Generalized linear mixed models: A practical guide for ecology and evolution. *Trends in Ecology & Evolution*, 24, 127–135. <https://doi.org/10.1016/j.tree.2008.10.008>
- Bruck, M., & Ceci, S. J. (1999). The suggestibility of children's memory. *Annual Review of Psychology*, 50, 419–439. <https://doi.org/10.1146/annurev.psych.50.1.419>
- Cooper, P., Backen, P., & Marchant, R. (2015). Getting to grips with ground rules hearings: A checklist for judges, advocates and intermediaries to promote the fair treatment of vulnerable people in court. *Criminal Law Review*, 6, 417–432.
- Criminal Practice Directions. (2015). United Kingdom: Retrieved from <https://www.judiciary.gov.uk/wp-content/uploads/2015/09/crim-pd-2015.pdf>
- Evans, A. D., Stolzenberg, S. N., Lee, K., & Lyon, T. D. (2014). Young children's difficulty with indirect speech acts: Implications for questioning child witnesses. *Behavioral Sciences & the Law*, 32, 775–788. <https://doi.org/10.1002/bsl.2142>
- Evans, A. D., Stolzenberg, S. N., & Lyon, T. D. (2017). Pragmatic failure and referential ambiguity when attorneys ask child witnesses "do you know/remember" questions. *Psychology, Public Policy, and Law*, 23, 191–199. <https://doi.org/10.1037/law0000116>
- Gałecki, A., & Burzykowski, T. (2013). Linear mixed-effects model. In A. Gałecki, & T. Burzykowski (Eds.), *Linear mixed-effects models using R* (pp. 245–273). New York, NY: Springer.

- Hanna, K., Davies, E., Crothers, C., & Henderson, E. (2012). Questioning child witnesses in New Zealand's criminal justice system: Is cross-examination fair? *Psychiatry, Psychology and Law*, 19, 530–546. <https://doi.org/10.1080/13218719.2011.615813>
- Harris, R. J. (1975). Children's comprehension of complex sentences. *Journal of Experimental Child Psychology*, 19, 420–433. [https://doi.org/10.1016/0022-0965\(75\)90071-5](https://doi.org/10.1016/0022-0965(75)90071-5)
- Henderson, H. M., Andrews, S. J., & Lamb, M. E. (2019a). Examining children in English high courts with and without implementation of reforms authorized in Section 28 of the Youth justice and criminal evidence Act. *Applied Cognitive Psychology*, 33, 252–264. <https://doi.org/10.1002/acp.3472>
- Henderson, H. M., & Lamb, M. (2017). Pre-recording children's trial testimony: Effects on the criminal justice system. *Criminal Law Review*, 345–356.
- Henderson, H. M., & Lamb, M. E. (2019). Does implementation of reforms authorized in Section 28 of the Youth Justice and Criminal Evidence Act affect the complexity of the questions asked of young alleged victims in court? *Applied Cognitive Psychology*, 33, 201–213. <https://doi.org/10.1002/acp.3466>
- Henderson, H. M., Lamb, M. E., & Rafferty, A. (2019b). The discussion of ground rules issues in pre-trial preparation for vulnerable witnesses in English Crown Courts. *Criminal Law Review*, 7, 599–610.
- Home Office. (2011). *Achieving the best evidence in criminal proceedings: Guidance on interviewing victims and witnesses, and guidance on using special measures*. Retrieved from http://www.cps.gov.uk/publications/docs/best_evidence_in_criminal_proceedings.pdf
- HM Courts & Tribunals Service (2014). *Defence Ground rules hearing form (Section 28)*. Retrieved from <https://www.gov.uk/government/publications/form-ground-rules-hearing-form-defence-ground-rules-hearing-form-section-28>
- Inns of the Court College of Advocacy (2017). *The 20 principles of questioning*. Retrieved from <https://www.icca.ac.uk/images/download/advocacy-and-the-vulnerable/20principles-of-questioning.pdf>
- Klemfuss, J. Z., Quas, J. A., & Lyon, T. D. (2014). Attorney's questions and children's productivity in child sexual abuse criminal trials. *Applied Cognitive Psychology*, 28, 780–788. <https://doi.org/10.1002/acp.3048>
- Lamb, M. E., Brown, D. A., Hershkowitz, I., Orbach, Y., & Esplin, P. W. (2018). *Tell me what happened* (2nd ed.). Hoboken, NJ and Chichester, UK: Wiley.
- Lamb, M. E., & Fauchier, A. (2001). The effects of question type on self-contradictions by children in the course of forensic interviews. *Applied Cognitive Psychology*, 15, 483–491. <https://doi.org/10.1002/acp.726>
- Lamb, M. E., Hershkowitz, I., Orbach, Y., & Esplin, P. W. (2008). *Tell me what happened: Structured investigative interviews of child victims and witnesses*. New York, NJ: John Wiley & Sons <https://doi.org/10.1002/9780470773291>
- Lamb, M. E., La Rooy, D. J., Malloy, L. C., & Katz, C. (Eds.). (2011). *Children's testimony: A handbook of psychological research and forensic practice*. Chichester, UK: Wiley-Blackwell <https://doi.org/10.1002/9781119998495>
- Lamb, M. E., Malloy, L. C., Hershkowitz, I., & La Rooy, D. (2015). Children and the law. In R. M. Lerner, & M. E. Lamb (Eds.), *Handbook of child psychology and developmental science* (7th ed.), Volume 3, *Social, emotional and personality development* (pp. 1–49). Hoboken, NJ: Wiley. Retrieved from <https://doi.org/10.1002/9781118963418.chilpsy312>
- Lamb, M. E., Orbach, Y., Hershkowitz, I., Esplin, P. W., & Horowitz, D. (2007a). A structured forensic interview protocol improves the quality and informativeness of investigative interviews with children: A review of research using the NICHD investigative interview protocol. *Child Abuse & Neglect*, 31, 1201–1231. <https://doi.org/10.1016/j.chiabu.2007.03.021>
- Lamb, M. E., Orbach, Y., Hershkowitz, I., Horowitz, D., & Abbott, C. B. (2007b). Does the type of prompt affect the accuracy of information provided by alleged victims of abuse in forensic interviews? *Applied Cognitive Psychology: The Official Journal of the Society for Applied Research in Memory and Cognition*, 21, 1117–1130.
- Lamb, M. E., Sternberg, K. J., Orbach, Y., Esplin, P. W., Stewart, H., & Mitchell, S. (2003). Age differences in young children's responses to open-ended invitations in the course of forensic interviews. *Journal of Consulting and Clinical Psychology*, 71, 926–934. <https://doi.org/10.1037/0022-006X.71.5.926>
- London, K., & Kulikofsky, S. (2010). Factors affecting the reliability of children's reports. In G. M. Davies, & D. B. Wright (Eds.), *New frontiers in applied memory* (pp. 119–141). New York, NY: Psychology Press.
- Milne, R., Shaw, G., & Smith, K. (2009). *Achieving best evidence in criminal proceedings: Guidance on interviewing victims and witnesses, and using special measures*. London, UK: Crown Prosecution Service Retrieved from http://www.cps.gov.uk/publications/docs/best_evidence_in_criminal_proceedings.pdf
- Nordmeyer, A. E., & Frank, M. C. (2014). The role of context in young children's comprehension of negation. *Journal of Memory and Language*, 77, 25–39. <https://doi.org/10.1016/j.jml.2014.08.002>
- Olds, H. F. (1968). *An experimental study of syntactical factors influencing children's comprehension of certain complex relationships*. Cambridge, MA: Harvard University. Retrieved from <https://catalogue.nla.gov.au/Record/5201603>
- Orbach, Y., & Lamb, M. E. (2001). The relationship between within-interview contradictions and eliciting interviewer utterances. *Child Abuse & Neglect*, 25, 323–333. [https://doi.org/10.1016/S0145-2134\(00\)00254-4](https://doi.org/10.1016/S0145-2134(00)00254-4)

- Peixoto, C. E., Fernandes, R. V., Almeida, T. S., Silva, J. M., La Rooy, D., Ribeiro, C., & Lamb, M. E. (2017). Interviews of children in a Portuguese special judicial procedure. *Behavioral Sciences & the Law*, 35, 189–203. <https://doi.org/10.1002/bsl.2284>
- Pinheiro, J. C., & Bates, D. M. (2000). Linear mixed-effects models: Basic concepts and examples. In J. C. Pinheiro, & D. M. Bates (Eds.), *Mixed-effects models in S and S-Plus* (pp. 3–56). New York, NY: Springer.
- Plotnikoff, J., & Woolfson, R. (2012). 'Kicking and Screaming': The Slow road to best evidence. In J. R. Spencer, & M. E. Lamb (Eds.), *Children and cross-examination: Time to change the rules?* (pp. 21–41). Oxford, UK: Hart Pub.
- Poole, D. A., & Lindsay, D. S. (1995). Interviewing preschoolers: Effects of nonsuggestive techniques, parental coaching, and leading questions on reports of nonexperienced events. *Journal of Experimental Child Psychology*, 60, 129–154. <https://doi.org/10.1006/jecp.1995.1035>
- Spencer, J. R., & Lamb, M. E. (2012). *Children and cross-examination: Time to change the rules?*. Oxford, UK and Portland, OR: Hart Publishing.
- Sternberg, K. J., Lamb, M. E., Davies, G. M., & Westcott, H. L. (2001). The memorandum of good practice: Theory versus application. *Child Abuse & Neglect*, 25, 669–681. [https://doi.org/10.1016/S0145-2134\(01\)00232-0](https://doi.org/10.1016/S0145-2134(01)00232-0)
- Stolzenberg, S. N., Morse, S. J., Haverkate, D. L., & Garcia-Johnson, A. M. (2020). The prevalence of declarative and indirect yes/no Questions when children testify in criminal cases of child sexual abuse in the United States. *Applied Cognitive Psychology*, 34, 194–204.
- Walker, A. G. (1999). *Handbook on questioning children: A linguistic perspective*. Washington, DC: Retrieved from https://www.americanbar.org/content/dam/aba/administrative/child_law/Handbook.C2.authcheckdam.pdf
- Walker, A. G., Kenniston, J., & Inada, S. S. (2013). *Handbook on questioning children: A linguistic perspective* (3rd ed.). Washington, DC: American Bar Association.
- Waterman, A. H., Blades, M., & Spencer, C. (2000). Do children try to answer nonsensical questions?. *The British Journal of Developmental Psychology*, 18, 211–225. Retrieved from <https://search.proquest.com/docview/218721888/fulltextPDF/D4609D250F054A3DPQ/1?accountid=9851>
- Youth Justice and Criminal Evidence Act (1999). *United Kingdom Statutes* Retrieved from http://www.legislation.gov.uk/ukpga/1999/23/pdfs/ukpga_19990023_en.pdf
- Zajac, R., & Cannan, P. (2009). Cross-examination of sexual assault complainants: A developmental comparison. *Psychiatry, Psychology and Law*, 16, 36–54. <https://doi.org/10.1080/13218710802620448>

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