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Children's Narrative Coherence in "Achieving Best Evidence" Forensic Interviews and Courtroom Testimony

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Abstract

In the United Kingdom, Section 27 of the Youth Justice and Criminal Evidence Act permits "Achieving Best Evidence" (ABE) forensic interviews to replace the evidence-in-chief in cases involving children. It is therefore imperative that forensic interviewers elicit complete, reliable, and coherent narratives from children. The goal of the current research study was to assess the coherence of forensic interviews and whether the interviewers' emotional or cognitive support was associated with increases in the coherence of these interviews. Children's narrative coherence was examined in 80 transcripts of ABE investigative interviews with 7- to-15-year-olds who disclosed sexual abuse. Narrative coherence was assessed using the Narrative Coherence Coding Scheme, including three dimensions of narrative coherence: chronology, consistency, and theme (Reese et al., 2011). Findings revealed that first elicited events were more likely to be more coherent compared to subsequently elicited events, and child engagement was positively associated with all dimensions of narrative coherence. Interviewer support was positively associated with chronology, script accounts of abuse were associated with decreased consistency and chronology (but not theme), and cognitive support was not associated with any dimension of narrative coherence.

Keywords

child sexual abuse; child forensic interviews; narrative coherence; Narrative Coherence Coding Scheme

Maltreated children are often the only witnesses to their abuse, making their testimonies extremely important. To ensure that children receive appropriate care (e.g., removal from the home) and justice (e.g., punishment for the alleged perpetrator), it is vital that children describe the abuse to the best of their abilities. Abundant research has shown that children as young as three or four are capable of accurately recalling and reporting details about abuse (Hershkowitz et al., 2012; Peterson, 2002). However, some children may have trouble

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describing abuse in a logical, coherent way, making their allegations seem less concrete and believable, and this may have detrimental effects on credibility assessments (Westcott & Kenyan, 2004). This is particularly important in cases where forensic interviews are also being used as their evidence-in-chief (i.e., direct examination) in criminal trials, as are Achieving Best Evidence (ABE) interviews in England and Wales. It is therefore imperative to investigate the association between interviewers' common practices and the coherence of children's narratives during forensic interviews.

The current study examined the narrative coherence of statements made in ABE forensic interviews by victims of alleged child sexual abuse and the extent to which the characteristics of the child and support provided by the interviewer were correlated with the coherence of the children's narratives. Specifically, the study explored whether interviewers' emotional and cognitive support were associated with the children's narrative coherence. Additionally, the study examined whether children's age, children's engagement, and the number and type (i.e., script, episodic) of descriptions of abusive incidents elicited were associated with narrative coherence. The answers to these questions have important implications for forensic interviewing trainings and guidelines, as well as in legal contexts in countries (such as England) where forensic interviews are commonly used as children's evidence.

Achieving Best Evidence Interviews

In England and Wales, ABE interviews are conducted by police officers as the primary method for gathering information from alleged victims (Home Office, 2011). Similar to other well-known interviewing protocols (e.g., Lamb, 1996; Lamb et al., 2018; Lyon, 2014), the ABE protocol generally recommends that interviewers use open-ended questions, avoid the use of recognition prompts, and offer reassurance when necessary. The interview structure typically begins with rapport building, followed by the initiation of a free recall account, followed by open-ended questioning about the alleged incident(s). Interviewers are advised to begin by initiating an uninterrupted free narrative account of the incident(s) using invitations and later prompting the witness using 'non-specific prompts' (e.g., 'Did anything else happen?'). Active listening in the form of echoing and facilitating is recommended, as well as offering supportive comments (e.g., 'Is there anything I can do to make it easier?'; Home Office, 2011).

Due to reforms in 1990 (Youth Justice and Criminal Evidence Act, 1999), the ABE interview may also be submitted as the evidence-in-chief (i.e., direct examination) when the case proceeds to trial (Home Office, 2011; Henderson & Lamb, 2017). Research shows that, nowadays, children's forensic interviews often constitute the majority, if not the entirety, of their direct examination (Henderson & Lamb, 2017), emphasizing the necessity of eliciting accurate, complete, and coherent reports in children's ABE interviews.

Narrative Coherence

Coherence goes beyond the length of the narrative or how many details are included; a coherent narrative is also well structured and presents the information in a meaningful way

(Snow & Powell, 2007). A coherent narrative is one in which a naïve listener can understand what took place and involves a chronological articulation of the occurrences of the central event, such as when and where it took place, and what the event meant to the narrator (Reese et al., 2011). It includes causal logic and temporal order, and it unfolds as the listener hears the story progress.

Children may struggle to coherently report an event to a naïve listener because they need not only sufficient language and grammar skills, but also the ability to communicate the sequence of the events to the listeners (Snow & Powell, 2007). Children are also required to take the perspective of listeners and understand which details the listeners need, and in what order, to make sense of their narratives. Furthermore, children are not accustomed to describing incidents that their adult interlocutors have no knowledge about (Lamb & Brown, 2006). Additionally, conveying subjective perspective regarding experience involves the expression of emotional content, moral judgment, and reflective insight, all of which are typically later to develop in children (e.g., Karni-Visel et al., 2019A; Reese et al., 2011). Therefore, recounting a story for a naïve listener might make children uncomfortable and anxious, further negatively affecting their ability to provide a coherent narrative.

Furthermore, previous work has shown that it is particularly hard for children to provide coherent narratives about negative or traumatic events. Though children are entirely capable of remembering stressful events over time (Terr, 1988), and abundant work has shown that children are actually able to remember negative events better than positive or neutral events (Cordón et al., 2004; Lamb et al., 2000; Peterson, 2002; Quas et al., 1999), young children tend to provide more disjointed accounts of stressful events than positive events (Peterson & McCabe, 1984). In addition, research has found that children provide fewer descriptive details and more details about emotions and thoughts when talking about negative events (Fivush et al., 2003), which may decrease coherence. Children may also be more uncomfortable and reluctant when talking about negative events (Hershkowitz et al., 2005), and therefore provide less coherent narratives.

Despite the difficulties that child victims face when providing narrative accounts of their abuse, it is critical that they communicate their testimony cogently. Juries place a great deal of importance on being able to recognize the story line within a child's testimony (Westcott & Kenyan, 2004). Additionally, judges and barristers believe that coherent victim narratives allow the court to particularize the alleged perpetrator's offenses (Feltis et al., 2010; Guadagno et al., 2006). Unfortunately, though not unexpectedly, it is quite common for judges and barristers to feel that young victims' accounts in investigative interviews lack coherence (Guadagno et al., 2006). Because perceptions of coherence affect prosecution and juror decisions, it is essential for researchers to determine how best to elicit coherent narratives from child victims.

Measurement of Coherence

Narrative coherence has been of interest to researchers in multiple fields, including linguistics, psychology, and education. A relatively recently developed measurement of narrative coherence is the Narrative Coherence Coding Scheme (NaCCS). Reese et al.

(2011) developed this scheme to account for the multi-dimensional quality of coherence. They proposed that coherence was made up of three dimensions – chronology, context, and theme – and each of these dimensions would have a different developmental course. Previous measures of coherence, such as the story grammar approach (Snow & Powell, 2007; Stein & Glenn, 1975), require that children are able to describe cause and effect (e.g., the child describes what initiated the event and the consequences of the event), however, the inclusion of these contextual details could be difficult for some children. Reese and her colleagues believed that if children were unable to use cause and effect in their narratives because of their age or ability, their narratives could still have some elements of coherence. They posited that different dimensions of coherence are independent of each other, so children may be rated high on one dimension but low on another.

In the NaCC scheme, chronology relates to the timeline of the event, context refers to important details regarding the time and location of the event, and theme means the ability to maintain and expand upon the main topic of the event, while describing it with a subjective tone (Reese et al., 2011). Because this coding system is relatively new, it has only been used in two studies relevant to child forensic interviews. Brown and colleagues (2018) studied narrative coherence in children with intellectual disabilities and normally developing children. They found that children with higher mental ages included more aspects of narrative coherence compared to children of lower mental ages. Importantly, they found that narrative coherence, and particularly the context dimension, was a predictor of accuracy of testimony and resistance to suggestion for all children in the study. However, Brown and her colleagues studied interviews of children about staged laboratory events rather than forensic interviews, meaning their results may lack ecological validity. Blasbalg, Hershkowitz, Karni-Visel & Lamb (2019A) used the NaCCS to examine possible associations between the use of the NICHD Revised Investigative Interview Protocol (RP), which emphasizes the provision of support to children, and the coherence of legal statements elicited by reluctant children who alleged corroborated physical abuse perpetrated by parents. Compared to statements elicited by use of the Standard NICHD Protocol, which emphasizes the use of cognitive interviewing strategies, RP interviews were characterized by better coherence on the chronology and theme dimensions, but not on the context dimension, in which no significant difference was evident. These differences were evident over and above the increased yield of information that characterized the use of the RP (Blasbalg et al., 2019B).

Role of Interviewer Support

Because children are often uncomfortable and reluctant when discussing abuse (Hershkowitz et al., 2005; Hershkowitz & Lamb, 2020), interviewers should be trained to be supportive during interviews (Hershkowitz et al., 2017). However, they often struggle to provide support to children who are uncomfortable disclosing abuse (Ahern et al., 2014), possibly due to the sensitive topics discussed, or their persistence in pursuing specific details that they feel are important (Hershkowitz et al., 2006). Emotional support provided by interviewers is associated with longer and richer responses (Ruddock, 2006), which may in turn improve children's narrative coherence. Klemfuss et al. (2013) found that children who were provided with emotional support while reporting stressful events were more capable of discussing details about the events, suggesting that the interviewers' behaviors can greatly

influence children's reports about abuse. Equally important is that support provided should not be suggestive, such as asking the child statements or questions that communicate the expected response (e.g., 'How long did he touch you for?' when the child has not mentioned being touched; Hershkowitz et al., 2017), selectively reinforcing the child for reporting certain information (e.g., 'You are telling me very important things'), providing unfounded reassurance and/or making promises that cannot be kept (e.g., 'Everything is going to be okay now'), and questioning the truthfulness of the child's response (e.g., 'Are you sure that's what happened?'). While no known work has empirically examined suggestive support, Herskowitz et al., (2017) included it in training guidelines as something important for interviewers to avoid.

Cognitive support is also important for interviewers to implement during forensic interviews. Cognitive support refers to efforts by the interviewer to ask questions and structure the interview in a developmentally appropriate way (Ahern et al., 2018; Lamb et al., 2018; Lyon, 2014). This generally includes the extent to which interviewers offer children a straightforward, simple, and clear approach throughout the interview. Specifically, this can include when interviewers employ open-ended prompts that utilize free recall memory (Lamb et al., 2007; Lyon, 2014), avoid transitioning quickly between topics (Mugno et al., 2016), and allow children to discuss events in the order in which they occurred. Previous work has found that cognitive support encourages children to provide more detailed and logical statements about alleged abuse (Brown et al., 2013; Henderson et al., 2019; Lamb et al., 2018). The current study hypothesizes that providing both emotional and cognitive support will be associated with children's increased abilities to provide coherent narratives.

Child and Abuse Characteristics

Although young children are capable of providing coherent narratives, it is not surprising that older children typically provide lengthier narratives (Henderson et al., 2019; Lamb et al., 2009), because they have more extensive linguistic and communicative skills and are better able to provide the details that naïve listeners need to fully understand their accounts (Miragoli et al., 2017; Pasupathi & Wainryb, 2010; Westcott & Kynan, 2004). Young children may provide less chronological narratives than older children due to difficulty understanding and implementing temporal concepts specifically (Graffam et al., 2013). Additionally, younger children may be more reluctant and uncomfortable during forensic interviews (Ahern et al., 2018), and this might affect the quantity and quality of the information they are willing to provide.

In addition to older age, children who are more engaged and less reluctant may be more likely to provide a more coherent narrative. Children who are less reluctant during an interview tend to provide more details (Blasbalg et al., 2018), which might, in turn, lead to improved narrative coherence. Reluctance has previously been measured multiple ways, including counting expressions of resistance, omission, and denial (Blasbalg et al., 2018; Henderson et al., 2021; Hershkowitz et al., 2006), counting the number of transitional prompts prior to disclosure (Ahern et al., 2019; Blasbalg et al., 2020), and assessing reluctance at different stages of the forensic interview using macro-codes examining overall cooperation and hostility (Ahern et al. 2018). However, there are no known studies

examining the role of child reluctance and engagement in narrative coherence in forensic interviews. The current study will examine whether children's reluctance and engagement are associated with narrative coherence.

Lastly, another critical factor affecting narrative coherence is the frequency of abuse the child has endured. Children who have endured repeated abuse, rather than one episode, may have greater difficulty particularizing specific events in detail (Fivush et al., 2003). Children and adults alike develop a script about what typically happens after repeated exposure to similar events (Brubacher & La Rooy, 2014; Hudson & Mayhew, 2011; Hudson & Nelson, 1986, Hudson et al., 1992). These scripts contain general information about the details of the event, including temporal order and features. Scripts are purposeful in that they help children learn about and engage with the world (Nelson & Gruendel, 1986), but children often confuse specific details when they differ across repeated events, making it difficult to particularize details of individual events (Brubacher & La Rooy, 2014; Roberts & Blades, 1999; Powell et al., 1999) Thus, children may not provide the specific episodic details needed to successfully prosecute alleged perpetrators, or they may accidentally contradict themselves if they confuse specific details, which will decrease their perceived credibility. Furthermore, when children are asked to discuss chronic abuse, it is logical that they would begin by describing the most memorable event (Brubacher et al., 2011A; Brubacher et al., 2011B). Because this event may be better remembered, and because interviewers might ask more questions about this event compared to subsequent events, the first elicited event might be more coherent than later described events. It is important for interviewers to understand children's abilities to distinguish between and coherently describe multiple distinct episodes of abuse, particularly in cases of long-term trauma.

Current Study

The purpose of the current study was to expand upon research on narrative coherence in child forensic interviews by examining how interviewer support and child characteristics are associated with narrative coherence (measured using the NaCCS) when discussing alleged sexual abuse. It was hypothesized that across all dimensions of the NaCCS:

1. Increased interviewer emotional and cognitive support will be associated with increased narrative coherence, whereas decreased emotional and cognitive support will be associated with decreased narrative coherence across all dimensions of the NaCCS.
2. Increased child engagement will be associated with increased narrative coherence.
3. Older children's accounts will be associated with increased narrative coherence compared to younger children's accounts.
4. Episodic accounts will be associated with increased narrative coherence compared to script accounts.
5. Children's first elicited events will be associated with increased narrative coherence compared to subsequent events.

Methods

Sample

Researchers examined 80 transcripts of Achieving Best Evidence (ABE) investigative interviews with 7- to 15-year-olds (M = 11.10, *SD* = 2.26; 79% female) alleging sexual abuse in England that took place between 2009 and 2015. Characteristics of the sample can be found in Table 1. Within the 80 forensic interviews, 152 incidents of abuse were described, including 104 specific episodes and 48 script descriptions of abuse.

In order to obtain the current sample, her Majesty's Courts and Tribunals Service identified criminal trials that took place in England between 2012 and 2016 involving children under the age of 16 who were alleged victims of sexual abuse. 80 of the provided cases (out of 222) met the necessary research criteria in that they included complete transcripts of the ABE interviews which were also played as the direct examinations at trial and involved children between the ages of 7 to 16 years testifying as alleged victims of sexual abuse (Henderson & Lamb, 2019). All interviews included in the sample were conducted by police officers using the ABE interviewing protocol (Home Office, 2011).

Abuse and Coherence Coding

Only the children's accounts of the alleged sexual abuse were coded. Any discussion of neutral events (e.g. rapport building) or irrelevant content (e.g. speaking about audio quality) that occurred during the discussion of alleged abuse was ignored. Each event was examined and coded separately, and events were coded dichotomously for the order in which they were elicited (initial, subsequent). For example, if a child reported two incidents of abuse, both the initial and subsequently elicited abuse incident received a score on each measure of coherence. Abuse account type codes also included episodic (i.e., a specific incident, e.g., "the *last* time he touched me") and script accounts of abuse (i.e., what *generally* happens, e.g., "He just touches me", Brubacher et al., 2011B). Script accounts of abuse were coded as one incident.

The NaCCS was adopted from the Reese et al. (2011) measure previously discussed. In the current study, the elements of this measure included *chronology* of the child's storyline, *consistency* of the child's narrative, and the child's ability to stay on *theme*. Originally, the measure included context as a dimension rather than consistency, but this was changed to lessen the focus on children's production of specific details and instead assess how a naïve listener might judge the credibility of the overarching narrative. These measures were scored on a 6-point Likert scale from 0 (totally lacking the element) to 5 (completely encompassing the element). Definitions of each element, how they were scored, and mean scores can be found in Table 2. All coherence variables were coded by two independent coders with excellent reliability (i.e., α / $k > 0.9$), and discrepant ratings were discussed until a final consensus code was reached amongst both coders.

Interviewer and Child Characteristics

All interviewer and child characteristic variables were scored on a 5-point Likert scale, for example ranging from 'very emotionally unsupportive' to 'very emotionally supportive',

with higher values always indicating more preferred characteristics (e.g., very emotionally supportive, very little reluctance). All variables for each case were coded by two independent coders. Reliability for abuse type and child characteristics was excellent (i.e., α / $k > 0.9$), whereas reliability for interviewer characteristics was lower ($.6 < \alpha < .7$). However, all discrepant ratings were discussed until a final consensus code was reached amongst both coders. More detailed descriptions and examples of these codes can be found in Table 3.

Emotional support.—Interviewers who scored high in emotional support may have included: providing reassurance (e.g., 'That's okay'), patience (e.g., 'In your own time'), concern for the child's wellbeing (e.g., 'Are you alright?'; 'Do you need a break?') or empathy (e.g., 'I understand that it has been difficult for you to tell me'; Herschkowitz et al., 2017). Interviewers who scored low in emotional support failed to provide supportive statements when the child needed them.

Suggestive support.—Suggestive support included presumptive statements (e.g., 'This must be difficult', 'Tell me why you are upset' [when the child has not indicated that it was difficult or that they feel upset]), selectively reinforcing information reported by the child (e.g., 'This is an important thing to be telling me'), providing unfounded reassurance, and questioning the truthfulness of the child's response (Herschkowitz et al., 2017). Suggestive and emotional support were significantly correlated ($r = -0.30$, $p < .001$); thus, suggestive support was reverse coded, and scales were summed into 'overall support' (Likert scale 1–10). In the current study, the average score of the support variable was 4.24 ($SD = 1.12$) indicating moderate levels of support.

Cognitive support.—Interviewers who scored high in cognitive support leveraged the use of open-ended prompts and asked simple, clear, and developmentally appropriate questions. An interviewer who was cognitively supportive tailored the format of the question to the child's individual needs (e.g., if a child was not understanding a question, the interviewer re-framed the question effectively). Cognitively unsupportive behavior included rapidly moving between topics, using only close-ended prompts, and asking confusing or repetitive questions (Lamb et al., 2018). In the current study, the average score of the cognitive support variable was 1.91 ($SD = 0.84$) on a Likert scale of 1–5, indicating low levels of cognitive support.

Child characteristics.—Interviews were rated for children's engagement and reluctance (see Ahern et al., 2018 for more information). Children's engagement could be indicated by number of details the child provided when prompted, and whether the child appeared to be listening to the interviewer or getting off topic. Reluctance could be indicated by pausing between statements or verbally expressing omissions (e.g., no answer, 'Nothing to say', 'Don't know', 'Don't remember', 'Not sure'), resistance (e.g., 'I don't want to tell you', 'I'll answer only this last question'), or denials (e.g., 'It didn't happen', 'I didn't say that'). Omissions are not considered reluctance when the child was referring to others' thoughts or feelings ('Why did he do it?' / 'I don't know') or to temporal information ('When was it?' / 'I don't remember'; Blasbalg et al., 2018). Engagement and reluctance were significantly

correlated ($r = 0.72$, $p < .001$); thus, reluctance was reverse coded, and children's scores were summed into 'child engagement' (Likert scale 1–10). In the current study, the average score of the child engagement variable was 5.77 ($SD = 2.28$) indicating moderate levels of engagement.

Analysis Plan

Analyses assessed whether fixed effects were significantly associated with the coherence measures (event chronology, consistency, theme). Fixed effects included child's age (continuous), event order (first, subsequent), abuse type (episodic, script), interviewer behaviors (ordinal; cognitive support, overall support) and child behavior (ordinal; child engagement). Analyses were conducted using cumulative link mixed models (CLMMs), which are for ordinal dependent variables. All mixed models included a by-subject (i.e., 'child event number') random intercept to control for different number of events elicited in each child's interview, rather than averaging coherence scores across all subsequent events.

CLMMs were performed using the *clmm2* function in the R package *ordinal* with Laplace approximations (Bates et al., 2015). CLMMs extend the benefits of generalized linear mixed models to include ordinal distributions (Christensen, 2019). Generalized linear mixed models 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 analysis of variance (ANOVA) models because they have fewer assumptions, handle response variables from different distributions (e.g., binary, count, or proportion), and maximize power while simultaneously estimating between-subject variance (Bates et al., 2015). Models were cross-validated regarding all fixed effects in order to identify the best fit model. Model fit was determined by the Akaike Information Criteria (AIC) and log-likelihood estimator, which are estimators of the relative quality of a model for a given set of data (Vrieze, 2012). Significant findings ($p < .05$) are reported descriptively in the results section, and fixed effect estimates (β), standard errors of the estimates (SE), and estimates of significance (Z and p values) can be found in Table 4. Due to the sensitive nature of this research, participants of this study did not agree for their data to be shared publicly, so supporting data is not available.

Results

Event Chronology

The best fit model included child's age, event order (first, subsequent), account type (script, episodic), child engagement, and support, and all were significantly associated with chronology scores. As children got older, their accounts were associated with higher chronology scores. Subsequent events ($M = 3.40$, $SE = 0.17$) and script accounts ($M = 3.48$, $SE = 0.18$) were associated with lower chronology scores than the first elicited events ($M = 4.43$, $SE = 0.13$) and episodic accounts ($M = 4.35$, $SE = 0.12$). Lastly, child's engagement and interviewer support were both positively associated with increased chronology scores.

Event Consistency

The best fit model included child's age, event order (first, subsequent), account type (script, episodic), and child engagement. Subsequent events (M = 3.17, SE = 0.15) and script accounts (M = 3.40, SE = 0.16) were associated with lower consistency scores than the first elicited events (M = 4.12, SE = 0.13) and episodic accounts (M = 3.88, SE = 0.12). Child engagement was positively associated with increased consistency scores.

Event Theme

Lastly, the best fit model included child's age, event order (first, subsequent), and child engagement. Subsequent events (M = 4.01, SE = 0.20) were associated with lower theme scores than the first elicited events (M = 4.61, SE = 0.24). Child engagement was positively associated with increased context scores.

Discussion

The purpose of the present study was to examine narrative coherence in ABE forensic interviews of alleged sexual abuse victims. Specifically, the study focused on how interviewer emotional and cognitive support and characteristics of child victims and their cases affected narrative coherence. Overall, the results support Reese and colleague's (2011) proposition that narrative coherence is multi-dimensional and is best captured when examining these dimensions separately. In accordance with the hypotheses, first elicited events were more likely to be more coherent compared to subsequently elicited events, and child engagement was positively associated with all dimensions of narrative coherence. However, contrary to hypotheses, interviewer support and children's age was only positively associated with chronology, script accounts were only associated with decreased consistency and chronology (but not theme), and cognitive support was not associated with any dimension of narrative coherence.

Results demonstrated that event order was significantly associated with all measures of coherence: the first elicited accounts of events were rated as significantly more coherent chronologically and topically and were more consistent than subsequently elicited accounts of events. This may be due to children's lack of memory to remember specific details about multiple or chronic events (Fivush et al., 2003), or it is possible that interviewers ask less questions about subsequent events. Furthermore, because the prompts typically used in forensic interviews to elicit the first account pull for episodes (e.g., 'Tell me everything that happened *the last time*'), children may describe an episodic event, and subsequent elicited events may constitute script accounts. As well, children's memories for the first elicited event may be stronger, which is why they chose to disclose that incident first. Because of the difference in coherence between first and subsequent events, it is important that future researchers examine incidents individually and avoid collapsing them into a single composite "incident" score. Practically, interviewers may benefit from having breaks in between incidents, or multiple sessions if necessary, to ensure that all elicited accounts are coherent. In fact, previous work has specifically shown that children tend to provide more complete and coherent narratives during forensic interviews when their accounts are elicited in multiple interviews (Szojka et al., 2020).

As was hypothesized, script accounts were also associated with decreased consistency and chronology scores, though not theme. Previous work has established that children's memories for repeated events differ qualitatively from memories for single, episodic events (Brubacher et al., 2011B; Roberts & Powell, 2001). One might expect script accounts of abuse to be more coherent than episodic accounts because experiencing repeated events tends to strengthen children's memories, making their general accounts of these events more accurate and consistent (Powell et al., 1999). However, when details change across events (e.g., order, location, date/time), children will be more likely to confuse these details and may struggle to identify and subsequently describe in which event specific details differed (i.e., source confusion; Ackil & Zaragoza, 1995; Brubacher & La Rooy, 2014; Roberts & Blade, 1999; Powell et al., 1999). Since repeated events may not occur in the same sequence every time, children's poor temporal understanding might contribute to source confusion particularly in relation to chronology (Powell &. Thomson, 1997). Additionally, the finding that theme did not differ between episodic and script accounts, while consistency and chronology did, further supports Reese and colleague's (2011) notion that coherence is best captured by examining different dimensions separately.

Research has shown that though children are more reluctant to disclose specific details about episodic events, they are able to recall and report these details even when they have already established scripts (Fivush et al., 1984). This is crucial because courts may require specific details about incidents to charge the perpetrator. Brubacher and colleagues (2011B) showed that practice recounting specific events, rather than script, improved children's ability to report details. This might, in turn, improve children's narrative coherence when discussing more than one event.

Results also indicated that children's increased level of engagement was significantly associated with increased NaCCS scores. Previous work has found that children who are less reluctant provide more details (Blasbalg et al., 2018), and more details may allow children the opportunity to have more coherent narratives. Children who are more willing and engaged in the interview also tend to elicit more positive responses from interviewers (Hershkowitz, 2006), which could then prompt the interviewer to guide them in a cognitively and emotionally supportive way. Because these interviews also serve as the children's courtroom evidence, interviewers must try to engage children during the entirety of their interviews, since jurors often believe coherent accounts to be more accurate (Westcott & Kynan, 2004).

Contrary to expectations, age was not associated with coherence. Previous work has shown that young children have difficulty understanding and implementing temporal concepts (Graffam et al., 2013), which might specifically impact their ability to communicate a timeline of events to a listener. However, because the current sample included a majority of school-aged children and adolescents (i.e., 7-years-old and older), it is likely that the youngest children who were not in the current sample struggle the most with relaying coherent accounts. Though older children typically provide lengthier and more detailed narratives (Henderson et al., 2019; Lamb et al., 2009), results in the current study encouragingly suggest that even younger children are equally able to produce a narrative that is both consistent and expands upon the main topic of the event.

Lastly, results showed that emotional support was associated with the chronology dimension of narrative coherence, so that increased emotional support was associated with an increase in chronology. Cognitive support, though, did not account for any variance in the models examining children's narrative coherence. However, we believe this may be due to a sampling issue rather than an absence of association, as research consistently demonstrates that increased emotional and cognitive support increase engagement, productivity (Blasbalg et al., 2019B; Brown et al., 2013; Henderson et al., 2019; Lamb et al., 2018; Ruddock, 2006), and coherence (Blasbalg et al., 2019A). It is important to note that the mean score of cognitive support in the current sample is below 'pretty cognitively unsupportive' (M = 1.91 SD = 0.84). Previous work has found that providing cognitive support encourages children to provide more detailed and logical statements about alleged abuse (Brown et al., 2013; Henderson et al., 2019, Lamb et al., 2018). Across the sample, children may have been able to provide more coherent accounts had they been questioned in accordance with best practice guidelines and with more cognitive support. Furthermore, the mean score of total support (M = 4.24, SD = 1.12) reflected just below 'neutral levels supportive' behaviors from the interviewers, and thus it is possible limited effects were seen because all interviewers were providing children with unideal amounts of emotional support. Additionally, coders were only able to compare emotional supportiveness to interviews within the current sample, so it is likely that different interviewing protocols may train interviewers to use support differently, resulting in varying levels of supportiveness and success in different samples.

Limitations and Future Directions

The present findings should be interpreted in light of study limitations. The present study was limited to investigative interviews conducted in the United Kingdom that made it to court. Therefore, it is possible that these interviews are of better quality than interviews that did not make it to court. This may also explain why the current sample did not include the youngest age group, because prosecutors are often hesitant to prosecute sexual abuse with very young witnesses (Brewer et al., 1997). However, as noted above, these interviews still lack greatly in cognitive support and vary in terms of narrative coherence. The sample also contained limited variation in emotional support strategies, perhaps because all interviewers received some but not extensive training. Reviewing more interviews from across the globe that differ in interviewing protocol and court status would enhance the generalizability of the findings.

Additionally, the study used investigative interview transcripts and, although some non-verbal cues of reluctance were noted in the transcripts (e.g., pauses, sighing, crying), video recordings would have been particularly useful for scoring interviewer emotional support. The current study also utilized macro-codes of interviewer support rather than counting instances of support. While this can more appropriately incorporate context, appropriateness, and overall behavior related to support, future work should examine how specific instances of support might influence narrative coherence.

An additional limitation was that all children described alleged sexual abuse. Future researchers could explore how different types of maltreatment (physical abuse or neglect)

affect children's ability to provide coherent narratives. Future research could also compare NaCCS and frequency of detail coding. This would allow researchers and practitioners to better understand the relationship between the quantity of details children provide and the quality of their narratives. Researchers could determine whether long interviews are necessary for a child to communicate detailed and structured accounts of alleged abuse. They could also determine whether particularly long interviews had detrimental effects on narrative coherence, particularly when multiple incidents of abuse are elicited.

Furthermore, it is important to note that narrative coherence in a forensic interview may be influenced by the nature of the forensic interview itself. As discussed above, the current sample was characterized by low cognitive support, indicating that children may have had less opportunity to provide a free narrative and their answers may have been guided by closed questioning and jumping between incidents. This might negatively impact the way that children were able to coherently tell their narrative. Alternatively, interviewers might guide the children to stay on topic when they stray, which could influence scores related to the theme dimension of the NaCCS. Though narrative coherence might differ in forensic interviews from narratives where children are given the option to freely reminisce, it is still valuable to consider the coherence of the child's narrative as it is used as evidence. This emphasizes the importance of how the interviewer may be able to improve children's narrative coherence during forensic interviews through providing children the opportunity to provide free narratives, asking open-ended questions, and allowing children to provide chronological accounts by framing the questions as such.

Lastly, interviewing guidelines allow children to practice saying "I don't know" when the child in fact does not remember or know an answer (e.g., Lyon, 2014; Powell & Earhart, 2018; Revised Investigative Interview Protocol, 2013). Therefore, it is possible that ignorance may have been mistakenly coded as reluctance (Henderson et al., 2021). However, work has shown that omission responses are associated with other measures of uncooperativeness and reluctance (Andrews, Ahern, & Lamb, 2017; Blasbalg et al., 2018; Blasbalg et al., 2020; Hershkowitz et al., 2006, 2015; Lewy et al., 2015). Furthermore, work has shown that the frequency of omission responses tends to decline in response to emotional and cognitive support provided by interviewers (Ahern et al., 2014; Blasbalg et al., 2018; Hershkowitz et al., 2015). Lastly, previous work has found that verbal omission responses were positively associated with non-verbal signs of reluctance (Karni-Visel et al., 2019B). As discussed above, video recordings of forensic interviews would be helpful in including non-verbal signs of reluctance.

In sum, the present study highlighted the influence of interviewer and child characteristics on narrative coherence in forensic interviews. The findings demonstrate the importance of child characteristics on narrative coherence and highlight the importance of interviewers being attuned to children who need the most help in producing coherent narratives. Ultimately, interviewers should be aware of the factors that affect children's narrative coherence so they can help children provide testimonies of the highest quality.

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Table 1.

Characteristics of Cases in the Forensic Interviews

Case Characteristic		N (%)
Gender	Male	17 (21%)
	Female	63 (79%)
Age	7–9 years old	22 (28%)
	10–12 years old	34 (43%)
	13–15 years old	24 (30%)
Frequency	Single	33 (41%)
	Multiple	41 (51%)
	Unknown	6 (8%)
Type of Alleged Abuse	Rape	31 (39%)
	Penetration	6 (8%)
	Sexual Assault	22 (28%)
	Sexual Activity	16 (20%)
	Inciting to Engage	4 (5%)
	Grooming	1 (1%)
Relationship to Child	Father Figure	21 (26%)
	Family Member	22 (28%)
	Friend/Acquaintance	30 (38%)
	Stranger	3 (4%)
	Unable to determine	4 (5%)
Verdict	Guilty	47 (59%)
	Not Guilty	33 (41%)

Table 2.

NaCCS Elements and Average Scores for Initial and Subsequent Elicited Events

Variable	Definition	Scoring Details	Initial M(*SD*)	Subsequent M(*SD*)
Chronology	The child's ability and clarity in communicating the order in which events occurred.	0 = Disjointed or incomplete timeline of events. Naïve listener would struggle to order any events. 1 = Less than half of the events could be placed on a timeline. Timeline potentially still incomplete. 2 = Although more than half of the events could be placed on a time, the timeline is still potentially incomplete. 3 = Naïve listener could place 50–75% of events on a timeline, but the placement of several events is still unclear. 4 = Naïve listener could place 50–75% of events on a timeline, but the placement of some events is still unclear. 5= Naïve listener could confidently order over 75% of events with confidence.	3.32 (1.52)	2.62 (1.24)
Consistency	An overall measure of how consistent the child's account of the central event was.	0 = Totally inconsistent 1 = Many significant inconsistencies 2 = Several significant inconsistencies 3 = Some minor inconsistencies 4 = Some minor almost undetectable inconsistencies 5= Extensively consistent	3.06 (1.26)	2.21 (1.13)
Theme	The narrative focusing on the central theme, plot, or storyline (i.e., what *happened* during an event).	0 = Naïve listener would struggle to identify what happened 1 = Less than 50% of the narrative is focused on what happened 2 = 50% of the narrative is focused on what happened 3 = 50–75% of the narrative is focused on what happened 4 = Over 75% of the narrative is focused on what happened 5= Over 90% of the narrative is focused on what happened	3.39 (1.41)	2.88 (1.34)

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Table 3.

Child and Interviewer Characteristic Variables

Variable	Definition	Low rating (1, 2)	High rating (4, 5)
Child variables			
Engagement	How engaged and focused the child is during the interview	Gets off topic or says they don't know or remember details when they later indicate they could answer the question	Provides many relevant details when prompted and seems to be listening to the interviewer
Reluctance	How reluctant the child is during the interview	Pauses between statements, omitting and resisting responses, and denies that the event happened.	Willingly answers questions and does as interviewer requests
Interviewer variables			
Emotional Support	How emotionally supportive and comforting the interviewer is acting toward the child.	Does not provide support, or appropriate support, talks a great deal about self	Expresses empathy, provides reinforcement, patience, and overall warmth, asks about child's wellbeing
Suggestive Support	How suggestive the support is that the interviewer is providing to the child.	Provides statements that are in no way suggestive and does not question the truthfulness of the child's statements. All support provided is appropriate	Provides statements that are suggestive, such as introducing information not previously mentioned, selectively reinforcing content, providing unfounded reassurance, and querying the truthfulness of the child's statements
Cognitive Support	How much the interviewer uses open-ended prompts that clearly instruct the child for more information and proceed in a logical manner	Switches topics rapidly, asks confusing, complicated, suggestive, or focused questions	Asks simple and clear invitational questions in a logical sequential manner, allows time for child to process question, breaks questions into smaller chunks if necessary

Table 4.

CLMM Results for Event Chronology, Event Consistency, and Event Theme

	Fixed Effect	*B*	*SE*	*z* value	*p*
Event Chronology	Age	0.30	0.09	3.13	.002
	Event Order	−1.78	0.35	−5.12	<.001
	Account Type	−1.52	0.36	−4.19	<.001
	Child Engagement	0.50	0.11	4.68	<.001
	Support	0.50	0.17	3.00	.003
Event Consistency	Age	0.18	0.10	1.81	0.07
	Event Order	−1.92	0.38	−5.08	<.001
	Child Engagement	0.32	0.10	3.07	0.002
Event Theme	Age	0.20	0.11	1.91	0.06
	Event Order	−1.03	0.36	−2.91	.004
	Child Engagement	0.51	0.12	4.26	<.001