



A macro-coding perspective: Interviewer support and child comfort in investigative interviews with young alleged victims of sexual abuse



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ABSTRACT

Macro-ratings of socio-emotional and cognitive qualities of interactions between children and forensic interviewers were examined in 95 interviews of 4- to-13-year-olds who disclosed sexual abuse. Lower quality interactions were more evident when children were recounting the abuse than during rapport-building or when children were discussing past disclosures. Older children expressed less discomfort and had more synchronous interactions with interviewers than younger children. The findings highlight room for improvement in the provision of cognitive and emotional support by forensic interviewers. The study showed the importance of considering multiple dimensions when assessing the socio-emotional and cognitive dynamics of forensic interviews and illustrated the value of macro-level coding.

1. Introduction

Many children are reluctant to disclose abuse (Hershkowitz, Horowitz, & Lamb, 2005) and it is critical to find ways to manage this reluctance. The use of appropriate socio-emotional support from interviewers can increase the rates of disclosure by children when there is independent evidence of abuse (Hershkowitz, Lamb, & Katz, 2014) and increase the amount of information reported (Ruddock, 2006). Unfortunately, interviewers often respond to children's discomfort with reduced support (Hershkowitz, Orbach, Lamb, Sternberg, & Horowitz, 2006) and interviewers often fail to provide support in response to manifestations of reluctance in a timely manner, even when explicitly trained to provide support (Ahern, Hershkowitz, Lamb, Blasbalg, & Winstanley, 2014). Previous child forensic interview studies have examined interviewers' emotional support and children's reluctance at the micro-level (in question-answer pairs) rather than at the macro-level (across the course of the interview) at which the transactional socio-emotional dynamics may be reflected and measured (Morawska, Basha, Adamson, & Winter, 2015). In the present study, the socio-emotional and cognitive dynamics of 95 investigative interviews were examined using a macro-coding approach. The macro-coding approach was implemented by measuring the socio-emotional and cognitive variables in each phase of the interview, rather than in each question-answer pair, in order to provide a holistic portrayal of the interaction.

1.1. Cognitive and socio-emotional support

Interviewers can influence children's disclosures through their interactions with child interviewees. Children who receive support from interviewers are more likely to disclose, give more details, and provide accurate details in their interviews (Hershkowitz et al., 2014; Ruddock, 2006; Saywitz, Wells, Larson, & Hobbs, 2016;). On the other hand, interviewers who use more non-supportive statements are more likely to get less information from the children (Lewy, Cyr, & Dion, 2015). Interviewers can provide different forms of support to children, including some that are designed to meet children's cognitive needs and others that are designed to meet children's socio-emotional needs. In this study, cognitive support referred to efforts by the interviewer to structure the interview and ask questions in a way that was developmentally appropriate, thereby ensuring that the child appreciated what information was being sought and could respond fully. For example, it was deemed cognitively supportive when interviewers rely primarily on open-ended prompts that tap free recall memory (e.g., Lamb, Orbach, Hershkowitz, Esplin, & Horowitz, 2007), allow children to narrate past events in the order in which they occurred, and avoid transitioning rapidly between topics and/or events (e.g., Mugno, Klemfuss, & Lyon, 2016). The extent to which interviewers consistently offer children a simple, straightforward, and easy to understand approach throughout the course of the interview may also promote children's comfort in the interview setting.

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Children also respond positively to socio-emotional support provided from interviewers. In the therapeutic literature, professionals' expressions of genuine concern, warmth, and empathy can affect clients' feelings of trust and comfort (Farber, 2003; Wampold, 2001). Children's experiences of speaking to adults with whom they feel comfortable may foster their willingness to speak to investigative interviewers (Hershkowitz et al., 2014; Ruddock, 2006). It is also critical for interviewers to provide socio-emotional support by recognizing the children's emotional needs and responding appropriately.

Children's socio-emotional needs likely change over the course of the investigative interview, and it is necessary for interviewers to recognize those needs as they arise and to adjust the level of support provided dynamically to keep children at ease.

1.2. Why take a macro-level perspective on emotional social dynamics?

No previous field research on child forensic interviews has examined the interactional synchrony between children and interviewers at the macro-level. Many researchers have examined individual question-answer pairs in investigative interviews with alleged victims (e.g., Cederborg, Alm, Lima da Silva Nises, & Lamb, 2012; Cyr & Lamb, 2009; Lamb et al., 2003). Although examining utterances at a micro-level is helpful when measuring some aspects of the interview, such as the prevalence of various types of questions (e.g., invitations, option-posing) (Aldridge et al., 2004; Hershkowitz, Lamb, Katz, & Malloy, 2015; Lamb, Hershkowitz, Orbach, & Esplin, 2008), it may not adequately reflect the underlying socio-emotional dynamics.

Rapport involves mutual attentiveness, positivity, and coordination (Tickle-Degnen & Rosenthal, 1990). Molecular measures (e.g., frequencies of specific behaviors) may not be appropriate when assessing rapport, especially interactional synchrony, when the temporal coordination of interpersonal behaviors is crucial (Condon & Ogston, 1967). Macro-level ratings involve summary judgements of behavior on particular dimensions (Carlson & Grotevant, 1987) and require larger coding units and a higher level of inference (Julien, Markman, & Lindahl, 1989). Emotional and social qualities of the interaction are likely evident in a cascade of behaviors unfolding throughout the interaction (and, hence, across many utterances). Because macro-level ratings can incorporate context, appropriateness, and overall behavior, macro-level ratings may be especially sensitive when the target behaviors (e.g., disengagement) occur infrequently but are substantially meaningful and temporally extended (Morawska et al., 2015).

1.3. Socio-emotional support in different interview stages

Children's levels of comfort and emotional needs likely change during the course of the interview. When interviewers initially meet children, they often engage them in discussions about neutral or pleasant events in order to set them at ease (Hershkowitz, 2009). Children's discomfort may heighten when the focus shifts from innocuous rapport-building topics to substantive issues (Hershkowitz, 2009). Children may find certain aspects of their abuse especially difficult to disclose (e.g., threats by the offender) or feel particularly uncomfortable when responding to some questions (e.g., naming specific body parts). Toward the end of the interview, children may be asked about how others learned about their abuse (Ahern & Lamb, 2017), which may involve an initial disclosure to an informal confidante (e.g., to a caregiver or peer). In court, children are frequently asked why they initially disclosed to these confidantes (Stolzenberg & Lyon, 2014). It is possible that children may be more willing to report past disclosures of abuse because that content is less shameful to describe than the abuse itself. Moreover, because children are often not asked about past disclosures until late in the interview, it is possible that the children may by then have become more comfortable discussing sensitive topics. Finally, interviewers may need to address reluctance differently depending on interview stage (Ahern et al., 2017).

1.4. Children's age and socio-emotional support

Children of different ages may need different levels and kinds of support. Some studies have documented greater reluctance on the part of younger than older children (e.g. Hershkowitz et al., 2005; Pipe et al., 2007). Therefore, younger children may need additional emotional support throughout the interview. Interviewers may also provide support differently to children of different ages. Older children may be more likely to express their discomfort in overt ways that interviewers may easily detect (e.g., by verbally asserting discomfort or crying) and respond with general reassurances or inquiries about the children's concerns. In contrast, younger children may express their discomfort less overtly (e.g., digressions, asking to go to the bathroom) which may be more challenging for interviewers to detect and manage. Younger children often report fewer substantive details than older children (Hershkowitz, Lamb, Orbach, Katz, & Horowitz, 2012; Lamb et al., 2003; Lamb, Sternberg, & Esplin, 2000) and may be particularly unreliable when responding to some types of questions (e.g., option-posing or suggestive utterances). For these younger children, interviewers may succumb to compromised interviewing practice (e.g., resorting to direct questions). It is possible that emotional and cognitive support might prevent interviewers from resorting to those practices.

1.5. Present study

Although there has been some research on interviewer support and reluctance (e.g., Blasbalg, Hershkowitz, Lamb, Karni-Visel, & Ahern, 2018), socio-emotional behaviors have only been examined at the micro-level. In the present study, we examined interviewer support and child comfort from a macro-level perspective while taking into account the stage of the forensic interview (i.e., rapport building, substantive allegation, prior disclosure) and children's ages. Specifically, we assessed children's willingness to cooperate with interviewers, the interviewers' use of emotional and cognitive support, and the level of synchrony between the children and interviewers.

We hypothesized *higher* ratings of children's comfort and interviewer skillfulness in providing support:

- 1) During the rapport-building stage (compared to the substantive discussion or prior disclosure stages) because the primary aim of the rapport-building stage is to facilitate children's comfort.
- 2) For the older children because they give more detailed responses (which may be easier for interviewers to respond to) and because older children may exhibit less reluctance than younger children (e.g., Pipe et al., 2007).

2. Method

2.1. Sample

Ninety-five transcripts of investigative interviews with 4- to 13-year-olds ($M = 9.26$, $SD = 2.58$; 80% female) alleging sexual abuse in the United Kingdom were examined, with most children reporting multiple abuse episodes (73%, $n = 69$). Types of alleged abuse included touching under clothes (57%, $n = 54$), touching over clothes (20%, $n = 19$), penetration (20%, $n = 19$), and exhibitionism (5%, $n = 5$). Suspects included strangers (2%, $n = 2$), immediate family members (27%, $n = 26$), other family members (26%, $n = 25$), and acquaintances (44%, $n = 42$). Children were interviewed using the Memorandum of Good Practice (MoGP) ($n = 46$) or the NICHD Protocol ($n = 49$). The NICHD interviews were drawn from a pool of 142 interviews comprising all investigative interviews of 4- to 13-year old suspected victims conducted during the study period (July 1999 through October 2001) by participating officers from a single Constabulary in the United Kingdom to whom relevant investigations were preferentially assigned during this period. Only children who

Table 1
Characteristics of the two protocol groups.

	Protocol	Frequency	Percent	
Age	4–8 years old	Memorandum	16	34.8
		NICHHD	19	38.8
	9–13 years old	Memorandum	30	65.2
		NICHHD	30	61.2
Female	Memorandum	39	84.8	
	NICHHD	37	75.5	

made allegations were referred to the researchers for consideration. It was possible to match 50 of these interviews on an individual basis with comparable cases using the MoGP. Characteristics of interviews in both groups are described in Table 1.

The Memorandum of Good Practice (MoGP) (Home Office, 1992) has evolved into the Achieving Best Evidence (ABE) guidance used in the United Kingdom today (Home Office, 2011). The current study did not make comparisons between the two interviewing guidelines but included both types of interviews to ensure variation in the ways children were interviewed. Both guidelines have comparable structures and provide similar guidance and training on the management of child reluctance.

All interviews in the sample were the first evidentiary interviews of these children conducted by police officers. Interviews were conducted between 1999 and 2001 by a small group of police officers in the same Constabulary (see Lamb et al., 2009). Most of the interviewers had limited experience (less than 1 year) investigating sex crimes involving children (rather than adults) before the study began. All the interviews were transcribed, checked for accuracy and checked to ensure that all personal identifiers were deleted before transcripts were sent to the researchers. Use of the transcripts for research was obtained from the Constabulary and Institutional Review Boards.

3. Coding

3.1. Stages

Each interview was broken into three stages: rapport building, substantive discussion, and discussion of prior disclosures. The *rapport building* stage occurred at the beginning of the interview and included introductions, instructions, questions designed to get to know the child, and discussion of events unrelated to the allegation (e.g., “What happened at your last birthday party?”) that served to increase children’s familiarity with the level of detail expected of them. As in previous research, the rapport-building stage ended once the interviewer transitioned into substantive content (e.g., “Tell me why you came to talk to me today.”) (Price, Ahern, & Lamb, 2016). The *substantive discussion* stage included discussions about possible abuse. The *past disclosure* stage focused on utterances pertaining to children’s disclosure/s before the forensic interview. Although the past disclosure stage usually occurred after the substantive discussion stage, sometimes past disclosure topics were inter-mixed within the substantive discussion stage. In such transcripts, utterances pertaining to each category were considered together, regardless of when they occurred within the interview.

3.2. Socio-emotional and cognitive measures

Socio-emotional and cognitive measures were developed to assess children’s willingness to participate in interviews and the interviewers’ abilities to meet children’s emotional and cognitive needs (See Table 2 for definitions and examples.). Socio-emotional measures were broadly

based on Tickle-Degnen and Rosenthal’s (1990) proposition that positive interactions between interlocutors involve mutual attentiveness, positivity, and coordination. The measures were defined after the authors examined a preliminary subset of transcripts. Specifically, interviews were rated for children’s apparent comfort (e.g., relaxed attitude), engagement (e.g., attending to prompts), and positivity (e.g., cooperative), which were collapsed into a single *willingness* score for analyses because each sub-score was thought to reflect how willing the children were to participate in the interview and because the 3 measures were highly correlated throughout each stage of the interview (see correlation matrices in Table 3).

Variables measuring interviewer skill in cultivating children’s willingness to report included *emotional support* (e.g., offering empathy) and *emotional synchrony* (emotional balance, cohesiveness and timely reciprocity). Because interviewers can also provide support designed to meet children’s cognitive, rather than emotional needs, *cognitive support* (e.g., reliance on open-ended prompts, events explored in chronological order) was also measured.

Each variable was scored on a 5-point Likert scale with higher values representing more ideal interview characteristics. For example, for emotional synchrony, a score of 5 represented “very synchronous”, 4 represented “pretty synchronous”, 3 represented “neutral (neither synchronous nor asynchronous)”, 2 represented “pretty asynchronous”, and 1 represented “very asynchronous”. No score was assigned if there were too few utterances to judge (i.e., fewer than 3 utterances).

4. Inter-rater reliability

A subset of the transcripts was coded for practice and variable refinement until 90% agreement was achieved by the first two authors ($n = \text{approx. } 12$). The second author coded all transcripts and served as the ‘gold standard’ coder (i.e., her codes were used for all analyses). The first author independently coded 15% of the transcripts ($n = 15$) throughout the course of the second author’s coding in order to account for reliability. Intraclass correlation estimates and their 95% confidence intervals were calculated for each variable based on an absolute agreement, 2-way mixed-effects model (Koo & Li, 2016). These values are presented in Table 4. All values exceeded 0.95, indicating good reliability.

5. Results

Preliminary analyses revealed no effects due to gender, frequency of abuse, abuse severity, or suspect relationship to the child, and, thus, those variables were excluded from analyses. Although the distribution of scores on the child willingness variable was skewed, the same pattern of results emerged when the log-transformed data were analyzed. Thus, raw data are reported for ease of interpretation and data integrity for every variable. The critical p -values were adjusted using Bonferroni corrections for multiple comparisons. Means and SD s for each dependent variable by Stage and Age Group are listed in Table 5.

A series of mixed model analyses of variance were conducted for each dependent variable, with Stage entered as a within-subjects measure (rapport building, substantive discussion, past disclosure) and Age Group (younger: 4- to 8-year-olds, older: 9- to 13-year-olds) entered as a between-subject factor.

For child willingness, main effects due to Stage, $F(2, 132) = 13.00$, $p < .001$, $\eta_p^2 = 0.16$, and Age Group, $F(1, 66) = 9.23$, $p = .003$, $\eta_p^2 = 0.12$, emerged. Children were less willing to report during the substantive discussion stage ($M = 3.70$, $SD = 1.14$) than the rapport-building ($M = 4.20$, $SD = 0.90$) and past disclosure ($M = 4.06$, $SD = 1.06$) stages. Older children were more willing to report ($M = 4.19$, $SD = 0.80$) than younger children ($M = 3.53$, $SD = 0.94$).

For interviewer emotional support, a main effect due to Stage, $F(2, 134) = 6.82$, $p = .002$, $\eta_p^2 = 0.09$, emerged. Interviewers exhibited the most emotional support during the rapport-building ($M = 3.61$,

Table 2
Definitions and examples of variables coded.

Variable	Definition	Low rating (1, 2)	High rating (4, 5)
Child variables			
Comfort	How relaxed the child is currently feeling during the interview.	Indications of crying, sniffing, or breaks in speech	Indications of laughter, engagement in interview
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
Positivity	How positively the child is acting toward the interviewer	Acts hostile and surly toward interviewer, refuses to answer questions, or directs negative statements toward interviewer	Willingly answers questions and does as interviewer requests
Interviewer variables			
Emotional Support	How emotionally supportive and comforting the interviewer is toward the child.	Does not provide support, or appropriate support, talks a great deal about self, challenges the child's validity	Expresses empathy, provides reinforcement, patience, and overall warmth, asks about child's wellbeing
Cognitive Support	How much the interviewer uses open-ended prompts that clearly ask 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 questions; breaks questions into smaller chunks if necessary
Dyadic variable			
Emotional Synchrony	How emotionally balanced, cohesive and reciprocal the interaction between the child and interviewer is.	Interviewer interrupts the child on numerous occasions, disregards statements by the child, or does not give the child support in a timely way when needed	Interviewer responds appropriately to actions or statements from the child. This includes a child that might not need much warmth or support from the interviewer

Table 3
Correlations among child willingness measures by interview stage.

Stage				
Rapport		Comfort	Positivity	Engaged
	Comfort	1.00	0.63**	0.65**
	Positivity	0.63**	1.00	0.69**
	Engagement	0.65**	0.69**	1.00
Substantive		Comfort	Positivity	Engaged
	Comfort	1.00	0.79**	0.78**
	Positivity	0.79**	1.00	0.76**
	Engagement	0.78**	0.76**	1.00
Disclosure		Comfort	Positivity	Engaged
	Comfort	1.00	0.82**	0.85**
	Positivity	0.82**	1.00	0.81**
	Engagement	0.85**	0.81**	1.00

** p < 0.01.

Table 4
Interclass correlations using absolute-agreement, 2-way random-effects model for all variables.

	Intraclass Correlation	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	p
Child variables							
Comfort	0.97	0.95	0.98	62.89	44	44	0.000
Engagement	0.97	0.94	0.98	55.93	44	44	0.000
Positivity	0.99	0.98	0.99	199.14	44	44	0.000
Interviewer variables							
Emotional Support	0.95	0.92	0.97	41.94	55	55	0.000
Cognitive Support	0.96	0.93	0.98	48.47	55	55	0.000
Dyadic variable							
Emotional Synchrony	0.96	0.93	0.98	52.30	45	45	0.000

Table 5
Mean scores and standard deviations for macro codes by interview stage and age.

Variable by stage	4–8 years old		9–13 years old		Total	
	M	SD	M	SD	M	SD
Willingness						
Rapport building	3.94	0.94	4.31	0.87	4.14	0.90
Substantive	3.14	1.16	3.95	1.04	3.45	1.27
Disclosure	3.52	1.26	4.31	0.85	4.04	1.08
Emotional Support						
Rapport building	3.70	0.76	3.52	0.95	3.60	1.18
Substantive	2.96	1.30	3.25	1.12	3.11	1.18
Disclosure	3.13	0.81	3.31	0.75	3.26	0.77
Cognitive Support						
Rapport building	3.35	1.37	3.61	1.35	3.47	1.42
Substantive	2.87	1.10	3.10	1.26	2.83	1.27
Disclosure	3.09	0.95	3.53	1.02	3.40	1.01
Synchrony						
Rapport building	3.74	1.29	4.38	0.81	4.02	1.12
Substantive	2.87	1.36	3.34	1.27	3.08	1.37
Disclosure	3.26	1.21	3.64	1.14	3.53	1.16

SD = 0.11) and least during the substantive discussion (M = 3.22, SD = 0.10) stage.

For interviewer cognitive support, a main effect due to Stage, $F(2, 134) = 12.97, p = .001, \eta_p^2 = 0.16$, emerged. Interviewers provided less cognitive support during the substantive discussion stage (M = 2.99, SD = 0.15) than the rapport-building (M = 3.48, SD = 0.17) or past disclosure (M = 3.31, SD = 0.13) stages.

For synchrony, a main effect due to Stage, $F(2, 138) = 17.93, p < .001, \eta_p^2 = 0.20$, emerged. The interaction was more synchronous during the rapport-building stage (M = 4.06, SD = 0.12) than the substantive discussion (M = 3.11, SD = 0.16) or disclosure (M = 3.45, SD = 0.15) stages. There was also a main effect for synchrony due to Age Group, $F(1, 69) = 4.95, p = .03, \eta_p^2 = 0.07$. Interviews with younger children (M = 3.29, SD = 0.19) were less synchronous than interviews with older children (M = 3.79, SD = 0.13).

6. Discussion

The purpose of the present study was to examine children's cooperation and interviewers' emotional supportiveness in investigative interviews of children using a macro-coding approach. We focused specifically on cognitive and socio-emotional dynamics. In accordance with our predictions, the substantive discussion stage was associated with less harmonious interactions than the rapport-building or past disclosure stages, and older children appeared more willing to report and had their emotional needs met more sensitively by the interviewers than their younger counterparts. However, contrary to our hypotheses, interviewer supportiveness was unrelated to children's age.

Generally, the results revealed a need for further increases in emotional support, cognitive support, synchrony, and child willingness. For example, across the interview, all constructs averaged ratings of "neutral" rather than the most desirable rating ("very" supportive). It may be particularly hard for interviewers to detect and respond warmly to passive forms of resistance (e.g., saying "I don't know") compared to explicit reluctance (e.g., stating they do not want to participate). Furthermore, the interviewing guidelines do not provide guidance on how to manage children's reluctance outside the structured rapport-building stage or during a transitional phase (Home Office, 1992; Lamb et al., 2009), and this may have affected the interviewers' abilities to provide rich levels of support.

7. Stage effects

The results indicated that children were least willing to participate during the substantive discussion stage. This is likely attributable to the fact that reporting allegations of sexual abuse is more upsetting than discussing neutral or pleasant topics during the rapport-building stage or discussing prior disclosures. Similarly, other researchers have shown that many children do not disclose abuse despite strong suspicions or evidence (Cederborg, Lamb, & Laurell, 2007), which also reflects reluctance to discuss abuse. Certainly, reporting sexual acts can be embarrassing, intimidating, and shameful (Berliner & Conte, 1990). In addition, when actively alleging abuse, children may be acutely aware of possible repercussions due to their disclosures, which may foster a sense of fear rather than relief for some children (Malloy, Brubacher, & Lamb, 2011).

Although children exhibited the highest levels of unwillingness to report during the substantive discussion stage, interviewers displayed the lowest levels of emotional and cognitive support and synchrony during this stage. This finding aligns remarkably well with previous research in Israel showing that trained interviewers often responded to children's reluctance with decreased support (Hershkowitz et al., 2006). The combination of reluctance and unsupportiveness might reinforce more negative and asynchronous transactions over the course of the interview (Hershkowitz et al., 2006). For example, a child who refuses to answer a question ("I don't want to tell you") may encourage a pressuring response from the interviewer ("You have to tell me") rather than support ("That's ok. Tell me about not wanting to tell me"). This socio-emotional dynamic is particularly unfortunate, because increased support is positively associated with the amount of information children provide (Carter, Bottoms, & Levine, 1996; Hershkowitz et al., 2006). Thus, future training efforts and revisions to interviewing protocols should attempt to address these specific types of interactions.

Interviewers might hamper the cognitive support they can provide children during the substantive discussion stage by resorting to direct questions to elicit more specific details about the allegation before they have truly exhausted opportunities to ask open-ended prompts.

8. Age effects

There were effects due to age on the child willingness to report and synchrony variables. Older children not only appeared more

cooperative than their younger counterparts but the interviewers also addressed older children's emotional needs more synchronously. Other research has similarly shown that older children may be more forthcoming than younger children (e.g., Hershkowitz et al., 2014). The fact that interviewers may have responded more appropriately to the older children's emotional needs may have fostered the children's cooperation as well as interview synchrony.

Prior research has also shown that interviewers offer more support to children who are more (rather than less) informative (Hershkowitz, 2009). Interviewers' abilities to respond to children more harmoniously with the information children provided may also reflect the fact that older children offer more elaborate responses. Specifically, it could be that the more information the children gave, the easier it was for interviewers to respond skillfully and that this pattern was reinforced. The fact that interviewers struggle to respond sensitively to reluctance (Hershkowitz, 2009), highlights a need for direct guidance on how to address children's comfort during the most challenging portions of the interview.

9. Implications and future directions

Research has repeatedly shown the importance of emotional support in children's forensic interviews (Ahern et al., 2014; Ruddock, 2006; Saywitz et al., 2016) and researchers have recently been targeting ways to manage children's comfort during forensic interviews. For example, a Revised NICHHD Protocol that focuses on enhancing rapport building and provides interviewers with additional guidance on ways to provide non-suggestive support to reluctant children was developed and is under study (Hershkowitz et al., 2014; Hershkowitz et al., 2017; Lamb, Brown, Hershkowitz, Orbach, & Esplin, 2018). However, studies using the Revised Protocol have examined socio-emotional features on a micro-level rather than a macro-level (Ahern et al., 2014). Future work should consider a macro-level approach when examining the Revised Protocol or other interviewing guidelines that emphasize child well-being.

The use of macro-coding in child forensic interviews offers a novel and important perspective on the unfolding dynamics during the child forensic interview. Macro-coding can illuminate higher level cognitive and socio-emotional aspects of the forensic interview that were missed by previous research using micro-level coding approaches (Ahern et al., 2014; Hershkowitz, 2009; Hershkowitz et al., 2014; Hershkowitz et al., 2017). The fact that many of the present findings were consistent with findings obtained in studies using micro-coding (Cederborg et al., 2007; Hershkowitz, 2009; Hershkowitz et al., 2006, 2014) suggests the complementary value of macro-level coding. Moreover, the possibility that macro-level coding might tap higher-level cognitive and socio-emotional constructs means that such coding could afford researchers more comprehensive assessments of the quality of forensic interviews. Future work should directly compare the utility of micro- and macro-level coding. Moreover, additional research directly asking interviewees and interviewers about their cognitive and socio-emotional experiences during the interviews could inform our understanding of children's experiences and needs throughout the course of forensic interviews.

The results revealed that, overall, interviewers did not achieve high scores on the cognitive, emotional, and supportive measures despite their training. Interviewers may thus need additional training about how to interview children who are unwilling to participate and to recognize non-verbal cues signaling discomfort (Katz et al., 2012). It is critical for emotional support to always be non-suggestive (e.g., by saying "Thank you for telling me everything." instead of saying "Thank you for telling me [detail of abuse].").

The present findings also support that interviewers should not only provide support to children, but should do so in a timely, synchronous way. Additionally, the results illustrate that interviewers should be particularly careful to provide appropriate support when interacting

with younger children. It might be useful for interviewers to identify and respond to the specific forms of reluctance that young children often display (e.g. hiding or trying to leave the room) during supervision sessions. Furthermore, on-going intensive training on the use of socio-emotional support might help interviewers provide support consistently. Blasbalg and colleagues (2018) showed that after several rounds of training sessions, interviewers became more capable of cultivating support in immediate response to children's needs. Thus, it may be important to not merely initially train interviewers on these techniques, but to maintain this training over time to increase interviewers' abilities to employ emotionally and cognitively supportive techniques during interviews.

10. Limitations

While the current paper has highlighted the advantages of macro-coding, it is also important to note the limitations of this coding approach. Because macro-coding does not account for every utterance, it does not reveal where within the interview a specific issue might have occurred (e.g., within which question-answer pair a child became reluctant). Further, macro-codes are not able to characterize change within the interview because the interaction is viewed as a whole, and therefore the global score might not represent the variability within the interview.

Several limitations must also be recognized in the current study. In our study, we reviewed investigative interview transcripts and, although some non-verbal indicia of reluctance were noted (e.g., pauses), they were not as well represented as they would have been in video recordings. The study also included relatively few children under five years of age who are notoriously difficult to interview (Sternberg et al., 1996). The study also involved investigative interviews conducted in the United Kingdom nearly 20 years ago, although the interviewing guidelines used in the study are still used today. It will be important to build on the current results by using this coding system on other more recent samples as well as samples from different countries.

Notwithstanding these limitations, the present study highlighted the importance of examining multiple socio-emotional and cognitive dimensions of investigative interviews through a macro-level approach. The findings suggested that interviewers' attunement to children's socio-emotional needs need to be strengthened and should inspire continued research on ways to manage children's discomfort during forensic interviews (Hershkowitz et al., 2014, 2017).

Declarations of interest

None.

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