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Forensic interviews with preschool children: An analysis of extended interviews in Norway (2015–2017)

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Summary

This study examined the quality of forensic interviews conducted by specially trained police officers in the Norwegian Barnahus between 2015 and 2017, using the sequential interview (SI) model, a Norwegian version of the extended interview model that has not previously been studied. Two hundred and seven interviews of alleged abused preschool children (3–7 years old) were selected from around the country. Developmental trends in interview dynamics and the pattern of disclosure were analyzed. Analyses showed that the interviews were long but involved few open-ended and many suggestive questions, especially in interviews with the youngest children who did not disclose. Because similar findings were obtained in previous studies of Norwegian interviews not using this model, the findings suggest that the SI interview model does little to improve the formal quality of forensic interviews with very young children, and show the need to develop new forms of interviewer training which are more intensive than those currently employed.

KEYWORDS

allegation/non-allegation, extended interviews, forensic interviews, preschool children, quality

When child abuse is alleged, young children are often both the suspected victims and the principal witnesses. Young children are generally reliable witnesses when recounting stressful events in both experimental (Brown et al., 2013; Eisen, Quin, Goodman, & Davis, 2002) and natural settings (Baugerud, Magnussen, & Melinder, 2014; Greenhoot, Bunnell, Curtis, & Beyer, 2008). They are, however, more likely to be suggestible and their accounts of information are less accurate and less detailed than those provided by older children (Ceci & Bruck, 2006; Ghetti & Alexander, 2004; La Rooy, Katz, Malloy, & Lamb, 2010). Furthermore, young children are vulnerable to situational social-contextual influences (Ahern, Ahern, Hershkowitz, Lamb, Blasbalg, & Winstanley, 2014; Blasbalg, Hershkowitz, & Yael Karni-Visel, 2018), including characteristics of the interview, which may be more important than cognitive and developmental factors in

determining resistance to suggestion (Finnilä, Mahlberg, Santtila, Sandnabba, & Niemi, 2003; La Rooy & Lamb, 2011). Conducting high-quality interviews with children is therefore essential because poor-quality interviews may be inadmissible in court (Curtis, 2014). Conducting forensic interviews with young children is especially challenging, but extensive research has given us vital knowledge about how to interview children and how to obtain testimonies of higher quality from young alleged victims and witnesses (Cyr & Lamb, 2009; Hershkowitz, Lamb, Orbach, Katz, & Horowitz, 2012; Lamb et al., 2009; Lamb, Brown, Hershkowitz, Orbach, & Esplin, 2018; Pipe, Orbach, Lamb, Abbott, & Stewart, 2013). This has resulted in nearly universal agreement about how to conduct investigative interviews with children; guidelines for 'best practice' interviews have been published in many European, North American, Asian, and Australasian

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countries (e.g., Home Office, 2011; Lamb et al., 2018; Nevlin et al., 2015). Most of the interview protocols share several core elements, with ground rules explained at the start of the interview followed by narrative practicing as a precursor to a substantive interview characterized by the predominance of free recall and open-ended questions (Benson & Powell, 2015). The increased awareness of 'best practice' standards when interviewing children may have resulted in more evidence-based interview protocols being used.

In Norway, investigative interviews have been conducted since 2015 by specially trained police officers at the Barnahus (The Children's House). The Barnahus model, now implemented in all Nordic countries, was inspired by US Children's Advocacy Centers and involves a multi-professional approach to alleged child victims of abuse with the dual aim of informing the legal process while furnishing children with the necessary support and care (Johansson, Kari Stefansen, Bakketeig, & Kaldal, 2017). It is now recognized as one of the most important reforms related to young alleged victims of crime in the Nordic region because it offers children an environment adjusted to their needs and avoids repeated interviewing by different professionals (Johansson et al., 2017). If children need treatment, they are referred to appropriate outpatient units. In Nordic legal systems, young children do not testify in court, but videos of the interviews conducted at the Barnahus under the supervision of a judge and with attorneys for the accused party present suggesting questions to be asked are accepted as evidence in court (Myklebust, 2017). The number of children interviewed about alleged experiences of sexual abuse or/and violence in Norway increased by 138% between 2013 and 2017 (Mortvedt, 2018).

In the criminal justice system, it is not unusual for children to be interviewed more than once, and multiple interviews, if suggestive, can have detrimental effects on children's memory (Ceci, Huffman, Smith, & Loftus, 1994; Faller, Cordisco-Steele, & Nelson-Gardell, 2010; Malloy, Lyon, & Quas, 2007; Powell, Jones, & Campbell, 2003). However, other studies do not report adverse effects of repeated interviews (Goodman, Bottoms, Schwartz-Kenney, & Rudy, 1991; Peterson, Pardy, Tizzard-Drover, & Warren, 2005; Quas et al., 2007). According to Duron and Remko (2018) even if single interviews remain the 'gold standard', practitioners acknowledge that it is sometimes necessary to conduct multiple interviews. This seems particularly important when conducting investigative interviews with especially vulnerable children who are alleged sexual abuse victims (Duron & Remko, 2018).

Currently, forensic interviews of preschool children at the Barnahus in Norway use the sequential interview (SI) method, a method that is suited preschool children. According to Langballe and Davik (2017), it is based on the extended forensic interview (EFI) model developed by the National Children's Advocacy Center (Carnes, Nelson-Gardell, Wilson, & Orgassa, 2001; Carnes, Wilson, & Nelson-Gardell, 1999). The EFI-model was designed to meet the needs of children who are reluctant to disclose abuse when there are strong indications that abuse has in fact occurred (Carnes et al., 2001). However, it is not known whether the model works as intended because no researchers have systematically examined the interview dynamics,

and it is not known whether the model is associated with increased rates of valid disclosure. Prior research on EFI interviews has simply involved asking interviewers how their interviews were performed (Carnes et al., 1999, 2001; Langballe & Davik, 2017). In Norway, most investigative interviews are conducted as single interview, but with multiple sessions. The present study is thus the first to examine the quality of multiphase extended SI interviews with a large number of preschool children.

Previous studies evaluating the quality of investigative interviews with young suspected victim-witnesses in a number of countries have noted a significant gap between 'best practices' and how these interviews are actually conducted. Specifically, interviewers in countries as diverse as Australia, Canada, Finland, Israel, Norway, Sweden, the UK, and the USA asked very few open-ended questions and many leading and option-posing questions (e.g., Agnew, Powell, & Snow, 2006; Cederborg, Orbach, Sternberg, & Lamb, 2000; Cyr & Lamb, 2009; Hershkowitz, Horowitz, & Lamb, 2005; Johnson et al., 2015; Korkman, Santtila, & Sandnabba, 2006; La Rooy, Lamb, & Memon, 2011; Santtila, Korkman, & Sandnabba, 2004; Sternberg, Lamb, Davies, & Westcott, 2001; Thoresen, Lønnum, Melinder, Stridbeck, & Magnussen, 2006; Thoresen, Lønnum, Melinder, & Magnussen, 2008; Westcott & Kynan, 2006). These studies have included children of diverse ages, with few studies examining preschool children specifically. However, Hershkowitz et al. (2012) studied investigative interviews of 299 3- to 6-year-old children. The study showed that even children as young as 3 years of age often responded informatively, although the youngest children responded more informatively to specific recall questions whereas the older ones responded more informatively to open-ended questions. This way of examining transcripts can elucidate the extent to which recommended (e.g., open-ended questions) and non-recommended (leading and misleading questions, the pressure exerted on the child, introduction of misleading information, etc.) forms of questioning are employed.

Even when interviewers do not adhere to a particular interview model, their interviews are not necessarily forensically unsound (Newlin et al., 2015). Several studies have shown that important improvements are achieved when a research-based protocol such as the NICHD Protocol (Lamb, Orbach, Hershkowitz, Esplin, & Horowitz, 2007) is followed, as the number of open-ended utterances is significantly higher and proportionally fewer option-posing and suggestive prompts are used (Cyr, Dion, McDuff, & Trotier-Sylvain, 2012; Lamb et al., 2009; Orbach et al., 2000; Sternberg, Lamb, Orbach, Esplin, & Mitchell, 2001).

The new Norwegian General Civil Penal Code was implemented in October 2015 and the corresponding Criminal Procedure Act mandated extensive changes to both investigative interview practices and responsibility for interviews in Norway. Specifically, the responsibility for investigative interviewing was removed from the courts and handed to the police, who were required to use the Barnahus facilities when interviewing preschool-aged children. In October 2015, the Norwegian police also introduced the SI model for use when interviewing vulnerable alleged victims, including preschool children and children/adults with intellectual disabilities.

In the present study, we analyzed interviews with 3- to 7-year-olds conducted at the Norwegian Barnahus by specially trained police interviewers between 2015 and 2017. No repeated interviews were examined; all were single interviews. All interviews were conducted in accordance with the SI model. Analyses of the transcripts involved coders reviewing each interviewer utterance using a modified version of a coding scheme developed by Lamb et al. (1996) that was used in previous studies in Norway (Johnson et al., 2015; Thoresen et al., 2008). This way of examining interview transcripts allows quantitative assessments of the interview techniques employed. Additionally, we analyzed the patterns of disclosure in relation to the type of questions asked.

The study addressed the following research questions; First, did use of the SI method by special trained police officers yield better quality interviews (more open-ended questions and fewer closed and suggestive questions) than those described in previous studies in Norway (Johnson et al., 2015; Thoresen et al., 2008)? Second, were children of different ages questioned differently? Third, which types of questions were associated with the disclosure of abuse and did that vary depending on the age of the children? Of course, because this was a field study, 'ground truth' was not known so we could not determine whether the disclosures were valid.

1 | METHODS

1.1 | Sample

The Director of Public Prosecutions, the Norwegian Data Protection Authority, and the National Police Directorate permitted the police and the Barnahus in Eastern-, Northern-, and Mid-Norway to provide data to the researchers. The sample comprised cases in which suspicions of Child Sexual Abuse and/or violence against young children led to charges being laid and criminal trials scheduled. Researchers obtained copies of all transcribed investigative interviews of 207 3- to 7-year-old children who were alleged victims of violence (The General

Civil Penal Code §271–288) or sexual abuse (The General Civil Penal Code §291–320) as well as information regarding the age, gender, and ethnicity of the alleged victim and the victim-offender relationship (i.e., intra- or extra-familial). The interviews were conducted by 43 experienced police officers at the Barnahus using the SI-model. For the purpose of analysis, the children were divided into three age groups: (a) 36–54 months ($n = 66$, 31.9%), (b) 55–66 months ($n = 93$, 44.9%), and (c) 67–84 months ($n = 48$, 23.2%). Table 1 summarizes the demographic characteristics of the children in the three groups. All children spoke Norwegian so there was no need for interpreters.

The investigative interviews were conducted between October 2015 and December 2017 following the introduction of The New Norwegian General Civil Penal Code.

1.2 | The sequential interview

All investigative interviews with preschoolers and children/adults with intellectual disabilities were conducted in accordance with an investigative interview method that was developed in 2012 by police-investigators from The National Criminal Investigation Service (NCIS) (Langballe & Davik, 2017; Ministry of Justice and Public Security, 2012). The SI model, which was inspired by the EFI (Carnes et al., 1999, 2001) was developed following two national evaluations of the Norwegian child forensic interview practice identified the need for more child-friendly interviewing strategies for preschool children. The SI model was extended to investigative interviews of children and children/adults with intellectual disabilities in 2015 after a few Norwegian police officers were trained in the USA to use the EFI method. Prior to the implementation of the SI, the need for more than single interviews with preschool children was highlighted in a national evaluation suggesting the need for more rapport-building sessions (Ministry of Justice and Public Security, 2012; Ministry of Justice and Public Security, 2004, 2012 in Langballe & Davik, 2017).

The SI model is tailored to the need of 3- to 6-year-old children (Langballe & Davik, 2017). Because preschool children may have

TABLE 1 Descriptive statistics regarding the children's ethnicity, relationship to the suspect, and type of suspect abuse

Age	36–54 months	55–66 months	67–84 months
Number of children	($n = 66$) 31.9%	($n = 93$) 44.9%	($n = 48$) 23.2%
Ethnicity			
Norwegian (%)	51.50	52.70	42.60
Non-Norwegian (%)	47.00	47.30	57.40
Not known (%)	1.50		
Relation to alleged perpetrator			
Intrafamilial (%)	77.2	89.10	91.90
Extrafamilial (%)	24.10	9.90	4.30
Type of suspected abuse			
Physical (%)	65.2	73.30	83.00
Sexual (%)	33.10	18.70	8.50
Phys/sexual (%)	1.50	5.50	8.50

difficulty understanding the context of single interviews, the chief principle of EFI is the multiple interview format (Carnes et al., 2001; Faller et al., 2010). The main difference between SIs and EFIs is that the SI method splits one interview into 2–3 sessions with breaks in between (Langballe & Davik, 2017) whereas EFIs typically involve 4–8 sessions as well as an assessment of the child's functioning (Faller & Nelson-Gardell, 2010). Furthermore, in the SI method, the child comes to the Barnahus and completes interview in a single day; the goal is to allow more time and breaks during the interview to enable the child to relax and feel safe. In some cases, the law enforcement officer schedules the child for a second interview (Langballe & Davik, 2017) but in the present study, all children were interviewed on a single day, often following a meeting in which the involved professionals discussed the case. In these interviews, 52.2% of the children had one session, 45.4% had two sessions, 1.4% had three sessions, and only 1% had four sessions. Conducting an SI interview requires more time (2–4 hr) than a traditional investigative interview (which typically last 1 hr or less).

The structure of the SI-model has many similarities with the regular interview model in Norway, the Dialogical Communication Model (Gamst, & Langballe, 2004), which is a Norwegian version of the evidence-based NICHD Investigative Protocol (Lamb et al., 2007; Orbach et al., 2000; Sternberg et al., 1996). The structure of the SI model covers several phases of the investigative interview. First, there is a pre-substantive part with an introductory phase designed to create a relaxed and supportive environment to prepare the child and the interviewer for the interview, during which the ground rules are explained. The main goal here is to establish contact and trust between the child and the interviewer. This is followed by a rapport-building phase that precedes the substantive phase during which the possibility of abuse is explored. The SI model follows universally accepted guidelines by encouraging the use of open-ended questions at the start of the substantive phase, with directive questions used when the first narrative is completed. The model holds that there should be few option-posing and yes/no questions, and the interviewer should avoid using suggestive questions. In the SI model, interviews comprise two to four sessions with breaks during and between the sessions; there may be more sessions if needed. Hence, the number of sessions and breaks are flexible and are determined by the interviewer in consultation with the prosecutor and the Barnahus counselor. The first session should include a presentation of ground rules; the interviewer should also establish rapport and allow the child to practice providing narrative reports of neutral experienced events by responding to open-ended invitations. The first break takes place after the first session and it usually lasts for 45–60 min. Before the interview closes, a final break for 5–10 min offers the legal representatives (for the defense or prosecution) the chance to suggest any remaining questions they would like the interviewer to ask. The use of props like human drawings, puzzles, drawing materials, picture books, plasticine, and other objects are recommended in the first non-substantive part of the interview in order to establish contact and familiarize the child with talking using the props, and to prepare the child for talking about the alleged abuse experiences. The props may

also be used to examine the interviewee's knowledge of abstract concepts (e.g., colors, shapes, and quantity). In the present study, 91.8% of the children were asked one or more questions in association with props and only 8.2% of the children did not receive any prop-associated prompts during the interview. Across all sessions, the children were provided with an average of 2.4 props ($SD = 1.46$). In session one, on average, the children were provided with three props ($SD = 1.43$), in sessions two 1.74 props ($SD = 1.18$), in session three 0.67 props ($SD = 1.15$), and in session four 3.5 props ($SD = 0.71$). The SI guidance recommends that props should be used at the start of the interview, but there are no specific guidelines regarding when they should appear.

The SI interview is conducted by a specially trained interviewer, and the other members of the investigative team follow the interview via closed-circuit TV or through a one-way mirror. As in the EFI-model, the SI-model emphasizes preinterview preparations, including interdisciplinary collaboration and meetings with both legal participants and other professionals such as counselors from the Barnahus. During the breaks, the interviewer and the other team members meet so that the latter can suggest questions to be asked.

Unfortunately, there appears to be no written or formal guidelines/protocol for the SIs except for a recent book chapter describing the SI model (Langballe & Davik, 2017). The method is taught through lectures and exercises.

1.3 | Interviewers

Currently, all investigative interviews of preschoolers must be conducted by experienced police officers who have completed a 3-year bachelor's degree from the police academy. The interviewers must have at least 3 years of experience as police investigators, have completed training in basic questioning techniques and general investigation procedures, and have conducted at least 30 investigative interviews over the past 3 years before they can be trained to interview vulnerable alleged victims using the SI method (Norwegian Police University College, 2019). The interviewers learn about communication, children's memory development, the effects of violence and trauma on children's development, disability in individuals, vulnerability factors, attachment theory, and legal issues regarding forensic interviews of preschool children and individuals with disability (Norwegian Police University College, 2019). Training is conducted part-time in group and individual settings; as a general rule, training is completed within 18 months and is worth 15 ECTS in the university accreditation system (Myklebust, 2017). The training is estimated at approximately to 420 hr with group sessions comprising up to 90 hr spread over two 4-day weeks of training. Interviewers must conduct at least one investigative interview between each session on which they receive individual feedback. In addition, they have Skype supervision after the last day. Attendance of group sessions is compulsory. The curriculum includes individual work, group work, reading of the literature, and participation in teaching, case assignments, exercises, and participation in teaching. The students get supervision during

their work assignments in the field (Norwegian Police University College, 2019) and at the end of the course they take two exams which comprise an investigative interview the interviewer has conducted and an oral exam. Both tasks are evaluated and the students have to pass them both to be allowed to conduct investigative interview using the SI method (Norwegian Police University College, 2019). There is no follow-up training after the course. Due to the overall focus in Norway on the quality of interviews with children over the last few decades, police officers with the necessary formal requirements conducted the vast majority of the interviews.

1.4 | Data coding and analysis

Both the substantive and the non-substantive parts of the interview were coded, but in the present study we focused solely on the substantive part of the interview. All questions and utterances in the substantive phase of the interviews [the portions in which the alleged victim is encouraged to describe the incident(s) under investigation] were coded using definitions developed and refined over the past 30 years (e.g., Lamb et al., 1996, 2007, 2018; Sternberg et al., 2001) and used in earlier studies of investigative interviewing in Norway (Johnson et al., 2015; Thoresen et al., 2008). Details were defined as phrases identifying or describing individuals, objects, events, and actions related to the investigated incident. The interviewer's questions and utterances were categorized as open-ended invitations, directives, option-posing questions, yes/no questions, suggestive questions, and facilitators. These were defined as follows:

1. *Open-ended invitations*: The term open-ended is a broad category that encompasses free narrative invitations (e.g., 'Tell me everything that happened') and cued questions that encourage the child to talk at some length about a topic that has been mentioned by the child (e.g., 'You mentioned that he touched you. Tell me about that').
2. *Directive questions* include specific person- and context-related questions that request specific information about something already mentioned by the child. Directive questions often include requests for additional information using who, what, when, and where (e.g., 'What did he look like?' and 'When did it happen?').
3. *Option-posing questions* are forced-choice questions that ask the child to choose between or among limited response alternatives provided by the interviewer (e.g., 'Did it happen in the car or in the house?' and 'Did he touch you over or under your clothes?').
4. *Yes/no questions* are closed questions that ask the child to affirm or deny something stated by the interviewer. Yes/no questions may also be used to cue the child's memory for specific information that has not been discussed or made clear (e.g., 'Did he say anything to you?', 'Was he in the room all the time?').
5. *Suggestive questions/statements* either strongly communicate what response is expected from the interviewee or assume details that had not been mentioned earlier by the interviewee. Suggestive questions were categorized in six subcategories based on specific characterizations: (a) leading—introducing information not disclosed by the child

and stated without any prior information from the child (e.g., *Child*: 'We went into his house'. *Interviewer*: 'And then he took off your clothes, didn't he?' (When the child has not mentioned this earlier), (b) repeated—asking the same question for the second/third time in the same interview, even after it was answered, (c) positive reinforcement—including rewards, promises, or praise (e.g., 'I'm sure you can remember that, you are such a clever boy, aren't you?') or negative reinforcement including criticizing or disagreeing with a child's statement, or otherwise indicating that the child's response is inadequate or disappointing (e.g., 'If you can't remember that, I guess you don't have a good memory'), (d) questions and statements referring to other people's statements or beliefs about the topic of concern (e.g., 'Your sister already told us that he did something bad to you. Is that right?'), (e) indicating—questions and statements suggesting obedience to authority (e.g., 'Do you know what I think? I think he did something bad to you'), and (f) visualization/reflecting—questions and statements promoting speculation by asking what might have happened or encouraging the child to speculate, guess, or imagine other people's intentions and state of mind or reasons for action (e.g., 'What did he feel when he did that?' and 'What was the reason why he did that to you?').

6. *Facilitators* include non-suggestive utterances designed to facilitate communication (e.g., 'I see', 'Ok', and 'Uhhh') or comments and statements that sum up or paraphrase the child's previous statements.

Allegation pattern was coded using the following categories: (a) Active allegation involved detailed descriptions of abuse in response to open-ended invitations at the beginning (i.e., in response to one of the first five interviewer questions) of the substantive phase of the interview. (b) Gradual allegation involved piecemeal 'disclosure' during the substantive phase of the interview or after the child first denied abuse by responding 'no' or 'I don't know' in response to open-ended invitations. (c) Nondisclosure included cases in which the child did not report any information related to sexual or physical abuse throughout the interview.

The data were analyzed with analyses of variances (ANOVAs) using SPSS version 24.

1.4.1 | Inter-rater reliability

The second author (MSJ) trained the third author (HBH) who coded all transcribed interviews. The coders established inter-rater reliability on a separate set of transcripts until they reached 90% agreement regarding the question types. To ensure that adequate inter-rater reliability was maintained throughout the coding process, 35 randomly chosen transcripts were independently coded by both coders. Inter-rater reliability was calculated for the categorization of question type, $Kappa = .90$.

1.5 | Ethical considerations

All researchers with access to the registry data in this study signed the State Attorney's confidentiality declaration.

2 | RESULTS

First, a preliminary two-way between groups ANOVA revealed no association between type of abuse (sexual vs. physical) and scores on the dependent variables, Wilks' Lambda = .94, $F(12, 588)$, $p = .41$, so the type of abuse was not included in further analyses. Second, no significant interaction effects emerged between different sessions in the interviews, age group, and scores on the dependent variables ($ps \geq .15$).

2.1 | The interview

In the substantive phase of the interviews, police officers addressed an average of 326.26 ($SD = 157$) questions or facilitators to the children, whereas in the non-substantive phase they used 165.20 ($SD = 139.6$) questions on average. Thus, the non-substantive phase comprised roughly one-third of the total interview, suggesting that the task of rapport building was taken seriously by the interviewers.

2.2 | The substantive phase of the interview

The total number of interviewer questions/utterances in the 207 interviews was 67,543, of which 43,546 were facilitators, making these the most common type of interviewer utterance although, as in many previous studies (e.g., Price, Ahern, & Lamb, 2016; Lamb, & Fauchier, 2001), they were not included in the subsequent analyses. Excluding the facilitators, interviewers asked an average of 96 ($SD = 47$) questions of children in age group 1, 121 ($SD = 51$) of children in age group 2, and 134 ($SD = 59$) questions of those in age group 3. A one-way between-groups ANOVA revealed a significant group difference ($p < .05$) in the number of questions asked, facilitators excluded ($F[2, 206] = 8.521$). Scheffe post hoc tests showed that children in

the youngest age group 1 ($M = 95.70$, $SD = 47.70$) were asked significantly fewer questions ($p < .008$) than children in group 2 ($M = 121.02$, $SD = 51.70$) and 3 ($M = 134.4$, $SD = 58.90$).

The detailed distributions of question types are presented in Table 2 and the main trends are depicted in Figure 1, where the various sub-categories of suggestive questions are combined into one superordinate category due to extremely low frequencies for some of the categories, and option posing and yes/no questions are collapsed. Analyses of proportions showed that type of questions were quite similar across the age groups except for an alarming tendency for more suggestive questions to be addressed to children in the youngest group.

Statistical analyses confirmed that many of the differences evident in Figure 1 were statistically significant. A multivariate ANOVA with 5 (type of question: open-ended, yes/no, option posing, directive, suggestive questions—within subject) \times 3 (age groups—between group) showed a main effect of question type ($F[4, 204] = 882.544$, $p < .0001$, $\eta^2 = .10$), as well as an interaction between age group and

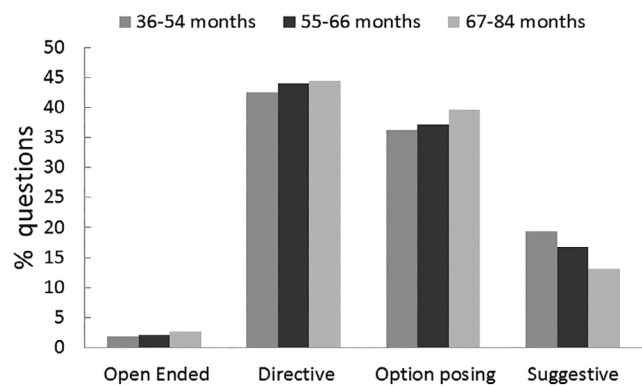


FIGURE 1 Distributions of types of interviewer utterances/questions in the three age groups of children interviewed

TABLE 2 Proportions of questions of each type

Age	36–54 months	55–66 months	67–84 months
Questions			
Interviewer questions			
Open ended	0.02 (0.03)	0.02 (0.01)	0.03 (0.02)
Directive	0.43 (0.11)	0.44 (0.09)	0.44 (0.11)
Option posing	0.02 (0.02)	0.03 (0.02)	0.04 (0.03)
Yes/no	0.34 (0.10)	0.34 (0.09)	0.36 (0.11)
Leading	0.12 (0.09)	0.11 (0.06)	0.08 (0.05)
Repeated	0.06 (0.05)	0.04 (0.03)	0.03 (0.02)
Negative reinforcement	0.00 (0.00)	0.00 (0.01)	0.00 (0.00)
Positive reinforcement	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Refers to others	0.01 (0.01)	0.01 (0.02)	0.01 (0.02)
Indicating	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Vizualization	0.00 (0.01)	0.01 (0.01)	0.01 (0.01)

Note: Values in parentheses are standard deviations

question type ($F [8, 204] = 2.616, p < .008, \eta^2 = .03$), reflecting the difference in the number of suggestive questions asked of children in the three age groups; the youngest children were asked significantly more suggestive questions than children in the two older age groups. Post-hoc comparison using the Tukey HSD test indicated that significantly more suggestive questions were asked of children in group 1 ($M = 0.12, SD = .09$) than of the children in group 3 ($M = .08, SD = .05$). There were no significant differences between the group 2 and group 3 means. There was also a small but statistically significant difference, $F (2, 204) = 3.658, p < .03, \eta^2 = .03$, between the numbers of option-posing questions addressed to children in group 1 ($M = .30, SD = .02$) and group 3 ($M = .04, SD = .03$). Again, there was no significant difference between the group 2 and 3 means.

2.3 | Allegations and interviewer questions

The rates of allegation for the three age groups varied between 87.9 and 92.5%, and the patterns of allegation were similar in all age groups. Allegations were spontaneous or gradual, and some of the gradual 'disclosures' followed suggestive utterances as shown in Figure 2. A Chi-square analysis of the association between allegation patterns and age of the child revealed no significant association, $\chi^2 (6, n = 207) = 4.591, p = .06, \text{Cramér's } V = .11$.

A series of univariate ANOVA with proportions of different interviewer utterances as dependent variables revealed a significant main effect for age on the number of suggestive questions asked, $F (2, 207) = 9.845, p < .0001, \eta^2 = .09$, as well as a significant interaction between allegation and age on the number of suggestive questions asked $F (6, 207) = 3.410, p < .003, \eta^2 = .10$. The results are shown graphically in Figure 3. Post-hoc test Tukey showed that the youngest children ($M = .35, SD = .03$) were asked significantly more suggestive questions when they did *not* make an allegation than were children in age groups 2 ($M = .17, SD = .06$) and 3 ($M = .14, SD = .04$). Fewer suggestive questions were asked of 5- to 6-year-olds than of 3- to 4-year-olds. In addition, there was a small but statistically significant main effect of age on the number of direct questions addressed to the children, $F (6, 207) = 7.162, p < .001, \eta^2 = .07$, as well as a significant interaction between allegation and age on the number of direct questions asked $F (6, 207) = 3.032, p < .007, \eta^2 = .09$. Post-hoc tests revealed that children in age groups 2 ($M = .80, SD = .06$) and 3 ($M = .82, SD = .06$) were asked significantly more directive questions when they did not make allegations than were children in group 1 ($M = .64, SD = .22$).

3 | DISCUSSION

This study examined a large, representative sample of recent interviews with preschool aged children who were suspected victims of physical or sexual abuse. The interviews were conducted by specially trained police officers using the Norwegian version of the EFI interviewing-model, the sequential forensic interview. Although

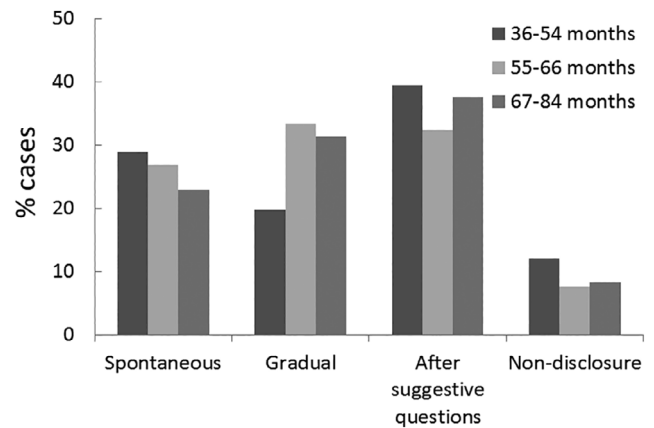


FIGURE 2 Patterns of allegation/non-allegation by children in the three age groups

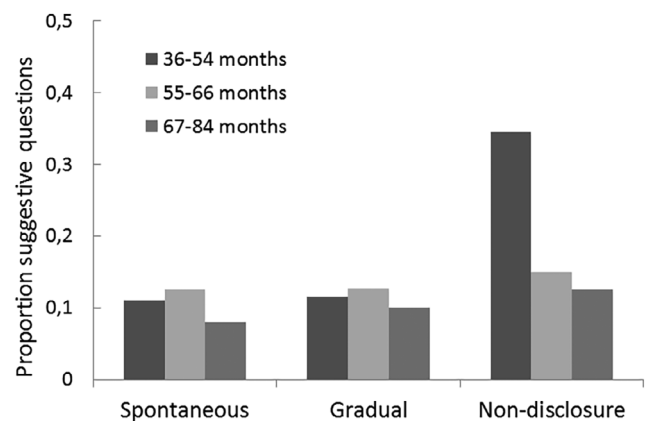


FIGURE 3 Proportion of questions that were suggestive in relation to allegation type

extended interviews are intended to allow extended rapport building, researchers have expressed concerns about the enhanced risk of contamination (Ceci & Bruck, 1995). Our analysis showed that the interviews were indeed extended and extensive: In the non-substantive phase of the interviews, an average of 160 questions were asked, while in the substantive part of the interview an average of more than 300 questions were asked, many more than in previous studies of forensic interviews with preschoolers (e.g., Hershkowitz et al., 2012) and a large number is absolute terms given the children's immature language skills, their ability to provide narrative details over time, as well as their understanding of the interview process itself (Peterson, 2012). Preschool children are less accustomed to engaging in conversations about experiences than are older children (Perona, Bottoms, & Sorenson, 2006). Hershkowitz et al. (2012) reported that preschool children were able to answer a substantial number of questions, with children at the age of three being able to answer an average of 84 questions. However, results of the current study showed that the interviewers asked almost four times as many questions in the substantive phase of the single interview studied, which may have overloaded the children's attentional and cognitive capacity. Children

below the age of six have more difficulty focusing their attention and may not understand, only responding to the words or simple phrases they recognize (Lamb, Malloy, Hershkowitz, & La Rooy, 2015).

In the substantive phase of the interview, the average number of interviewer questions/utterances was quite similar across age groups. The limited use of open-ended questions was disappointing, because best practice guidelines have strongly recommended the use of open-ended questions and cued questions and the avoidance of questions that may contaminate children's accounts (Lamb et al., 2018). Although school-age children respond more informatively to open-ended questions than do younger children (Price, Ahern, & Lamb, 2016), preschool-aged children are likely to respond positively to open-ended invitations as well (Lamb et al., 2018; Sternberg et al., 2001) making their usage desirable (Lyon, 2014). However, the limited use of open-ended questions in the present study has been reported from studies examining Israeli interviews before national adoption of the NICHD Protocol (Lamb et al., 1996) as well as other studies focused on interviews from the same era in the USA (Sternberg et al., 1996), Sweden (Cederborg et al., 2000), Finland (Korkman et al., 2006; Santtila et al., 2004) and Australia (Powell & Hughes-Scholes, 2009), as well as in Norway between 1990 and 2012 (Thoresen et al., 2006, 2008). By contrast, a recent study conducted in New Zealand reported that nearly a quarter of the interviewers' questions were open-ended (Wolfman, Brown, & Jose, 2016).

The results of the present study showed that the interviewers used many suggestive questions/utterances, particularly when interviewing the youngest children who did not disclose. Similar averages were reported in previous studies of Norwegian forensic interviews (Johnson et al., 2015). It is alarming that the youngest and most vulnerable children were probed using suggestive questions/utterances, because this may adversely affect their accuracy (Ceci & Bruck, 1995) and their perceived reliability in court (Anderson, Anderson, & Gilgun, 2014; Lamb et al., 2018). The results further suggest that interviewing styles in Norway have not changed very much over time, even with the use of the innovative SI by specially trained police interviewers. Because many researchers have similarly reported difficulties encouraging interviewers to adhere to best-practice methods (Lamb, 2016), the findings underline the need to develop new forms of interviewer training that are more intensive, involve repeated feedback, and involve sessions distributed over months and years.

The current study also found that 90.8% of the children reported at least some information about the alleged physical or sexual abuse. This is quite a high proportion, especially because young children are less likely to make allegations than those aged 7 and above (Hershkowitz et al., 2005; Leach, Powell, Sharman, & Anglim, 2017). Many children do not disclose abuse when formally interviewed due to motivational factors including shame, fear of reprisal, protecting loved or feared perpetrators, and distrust in the system (Hershkowitz et al., 2005; Hershkowitz, Lanes, & Lamb, 2007; Pipe, Lamb, Orbach, & Cederborg, 2007). However, the high allegation rates may have been affected by the recruitment of a sample of cases that led to prosecution; in many of these cases, the children may have told somebody about the abuse before the police interview. Thus the allegation rate may not be representative for all preschool children being interviewed

by the Norwegian police using the SI method. Once children have made allegations, they are likely to maintain their allegations during formal assessments and are more likely to repeat the allegations in formal investigative interviews (London, Bruck, Ceci, & Shuman, 2005; Magnusson, Ernberg, & Landström, 2017). Furthermore, the high allegation rate may also be a result of the suggestive questions addressed to young preschool children, because previous research has found lower allegation rates for preschool children than for older children (Hershkowitz et al., 2005; Leach et al., 2017).

In sum, the present study showed that the interviews conducted with young children in Norway in accordance with the SI method, by especially trained police investigators, did not appear to be of higher quality than those conducted prior to the introduction of new techniques and training. Such findings are consistent with international research showing limited improvements in practice over the last two decades despite extensive focus on the development of best-practice standards.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

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