



ELSEVIER

Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

Child Abuse & Neglect

journal homepage: www.elsevier.com/locate/chiabuneg

Meta-analysis of the effects of two interviewing practices on children's disclosures of sensitive information: Rapport practices and question type

Jennifer Lavoie^{a,*}, Joshua Wyman^b, Angela M. Crossman^c, Victoria Talwar^b

^a Moray House School of Education & Sport, University of Edinburgh, United Kingdom

^b Department of Educational and Counseling Psychology, McGill University, Canada

^c John Jay College of Criminal Justice, City University of New York, United States

ARTICLE INFO

Keywords:

Child

Adolescent

Interviewing practices

Disclosures

ABSTRACT

Background & objective: The forensic interview is an important part of the investigative process with child witnesses, and ensuring evidence-based practices is crucial to its success. This meta-analysis examined the overall effect of rapport practices and question type on children's disclosures during forensic interviews to determine (a) how large of an influence existing practices have on children's tendency to disclose information, and (b) how consistent the effect sizes of interviewing practices are across studies, given that inconsistent results have been found.

Method: A systematic review of child interviewing practices was conducted, and 35 studies met the inclusion criteria. Articles were categorized thematically according to interviewing practice. Two practices were predominantly represented in the literature and were selected for review and meta-analysis: rapport techniques, including interviewer support, ($n = 9$), and question type ($n = 25$ samples, 23 studies). Random-effects meta-analytic models were computed separately for rapport practices and question type, and moderator analyses were conducted to test for differences according to age and interviewing protocol.

Results: Rapport techniques had a medium overall effect on children's disclosures ($d = 0.55$, $p < .001$), and was moderated by the interviewing protocol used, but not children's age. Open-ended questions compared to closed-ended questions had a medium overall effect on children's descriptions of sensitive events ($d = 0.52$, $p < .001$), and was not moderated by age or interviewing protocol.

Conclusions: These findings provide overarching support for the use of rapport and support, and the use of open-ended questions in forensic interviews with child witnesses.

Children's disclosures of sensitive information play a key role in uncovering information about hidden experiences of violence, abuse, and neglect in their lives. When experiences of violence or abuse are covert, such as sexual maltreatment, disclosures are a catalyst to beginning the investigation process (Rush, Lyon, Ahern, & Quas, 2014). However, even children who initially disclose in an informal setting, for example to a friend, can be hesitant to disclose to the authorities in a formal setting (Hershkowitz, Lamb, & Katz, 2014; Priebe & Svedin, 2008). Yet for justice to be meted out, the formality of a structured, unbiased interview process is needed.

* Corresponding author.

E-mail addresses: Jennifer.lavoie@ed.ac.uk (J. Lavoie), Joshua.wyman@mail.mcgill.ca (J. Wyman), Acrossman@jjay.cuny.edu (A.M. Crossman), Victoria.talwar@mcgill.ca (V. Talwar).

<https://doi.org/10.1016/j.chiabu.2021.104930>

Received 27 June 2020; Received in revised form 26 November 2020; Accepted 3 January 2021

Available online 14 January 2021

0145-2134/© 2021 Elsevier Ltd. All rights reserved.

Therein lies the great challenge for forensic interviewers: facilitate children's ease and comfort in talking about sensitive subjects, while remaining a neutral party to the fact-finding process.

Given that children are such an important part of the fact-finding process in child welfare and criminal investigations, there is a considerable body of literature on experimental and field report studies related to interviewing children (e.g., Ahern, Hershkowitz, Lamb, Blasbalg, & Winstanley, 2014; Brubacher, Malloy, Lamb, & Roberts, 2013; Malloy, Katz, Lamb, & Mugno, 2015; Quas, Davis, Goodman, & Myers, 2007; Saykaly, Talwar, Lindsay, Bala, & Lee, 2013). Unsurprisingly, given the size of this body of knowledge, there are instances of inconsistent findings across the various interviewing practices (e.g., Korkman, Santtila, & Sandnabba, 2006; Lewy et al., 2015; Melinder & Gilstrap, 2009; Phillips, Oxburgh, Gavin, & Myklebust, 2012). For example, although many studies have found that open-ended questions tend to yield richer (more substantively detailed) narratives, other studies have found that closed-ended questions are necessary to elicit information from children because open-ended questions may leave room for evasive responses, especially with specific victim populations who may be defensive or reluctant to disclose in an interview setting (e.g., Lindholm, Cederborg, & Alm, 2015 in victims of sex trafficking). It is possible that additional factors that are examined more broadly across the body of literature on child interviewing can explain such differences, for example, the type of interviewing protocol being used, and the developmental differences in language, cognitive, and social-emotional skills that are associated with age and maturation.

At the same time, the inconsistencies in the literature point to more substantial questions: Can we determine with confidence the effectiveness of specific interviewing practices across the body of existing knowledge? And can additional factors, such as a child's age, help to explain inconsistencies across the body of knowledge to provide more confidence in the type of interviewing practice being used? The fact that the outcomes of such interviewing practices have far-reaching implications only serves to underscore the importance of these questions.

The current study systematically reviewed the empirical literature on interviewing practices that facilitate child witness disclosures to aggregate results according to specific practices, which were subsequently analyzed meta-analytically for their effect on children's disclosures of sensitive events. The goal of this approach was to survey the child interviewing literature holistically to examine current practices and identify future directions for interviewing children to increase children's disclosures in forensic settings.

1. Disclosures and concealment

During forensic interviews, children may wrestle with the internal decision to disclose or to conceal information, and previous findings suggest that children can and do withhold information at times (Goodman-Brown, Edelstein, Goodman, Jones, & Gordon, 2003; London, Bruck, & Wright, 2008). There is general agreement among researchers that it is not uncommon for children to be reluctant to disclose, whether by concealing information or by delaying disclosures (Hershkowitz, Lanes, & Lamb, 2007; Paine & Hansen, 2002; range of 4–75 % non-disclosures across reviewed studies by London, Bruck, Ceci, & Shuman, 2005).

One question that is relevant for measuring whether children have disclosed a sensitive experience is how "disclosure" is defined and consequently measured. At the broadest level, disclosures can be measured in a binary sense, that is, either the child disclosed or they did not (e.g., Hershkowitz, Orbach, Lamb, Sternberg, & Horowitz, 2006; Lyon et al., 2014). However, treating disclosures as binary overlooks the question of whether the child provided a full (detailed) disclosure, one that is detailed enough for accuracy and credibility to be assessed (Wood & Garven, 2000), and for legal professionals to determine whether the act fulfills the legal criteria for charges against the perpetrator (e.g., extent of force or violence being used). It also overlooks the complexity of disclosure as a process that can unfold over time (Alaggia, 2004), which can also have forensic implications. Thus, the question of the degree to which the child fully discloses their experiences is relevant in applied forensic settings.

Researchers to date have defined and operationalized disclosures in many different ways (Jones, 2000; Lyon, 2007); as binary disclosures or allegations (e.g., Hershkowitz et al., 2006; Lyon et al., 2014), as partial disclosures that provide some information about an event but are not complete (e.g., Lyon & Dorado, 2008), and at a more micro-level, as substantive details about an alleged event (e.g., Dion & Cyr, 2008; Hershkowitz, 2009; Lyon et al., 2014). For our purposes, we use the term disclosure to refer globally to any of the above-listed methods. We use the most specific measure or operationalization of disclosure available in each study (e.g., children's allegations, children's descriptions of sensitive events) to refer to children's disclosures.

Several factors can affect whether children disclose or conceal information, for example, the child's age. Some studies have found that younger children are less likely than older children to spontaneously disclose a sensitive or negative event (e.g., Leach, Powell, Sharman, & Anglim, 2017), and that they tend to disclose fewer details of the event (Hershkowitz, Lamb, Orbach, Katz, & Horowitz, 2012; Lamb et al., 2003), perhaps due to less developed language and narrative sequencing skills (Miragoli, Camisasca, & Di Blasio, 2017). Conversely, other studies have found that older children are more reluctant to disclose a sensitive or negative event (e.g., Goodman-Brown et al., 2003; Hershkowitz et al., 2007), especially adolescents (Leach et al., 2017), yet at the same time they are likely to provide more substantive details in their responses to an interviewer when questioned (Alonzo-Proulx & Cyr, 2016).

In a meta-analysis of the prevalence of children's disclosures during a forensic interview, studies of children with a higher mean age tended to report higher disclosure rates than those with a lower mean age (Azzopardi, Eirich, Rash, Macdonald, & Madigan, 2019). Thus, although the findings regarding whether younger or older children are more likely to disclose a negative event are quite nuanced, they suggest that age is a factor in explaining whether or not children are likely to disclose. As such, age is included as a moderator analysis in our study.

2. Interviewing practices

Across the body of knowledge on child forensic interviewing, there are many practices that have been tested and implemented with

child witnesses. Specific interviewing protocols have outlined procedures for integrating such practices, but the broad components that comprise the protocols are similar. For example, the Memorandum of Good Practice was established in the United Kingdom in 1992 to guide forensic interviewers on how to best interview child witnesses (Davies & Wescott, 1999), which has since been revised to Achieving Best Evidence guidelines that recommend Enhanced Cognitive Interview practices (United Kingdom Home Office Ministry of Justice 2002, revised 2007 & 2011 United Kingdom Ministry of Justice, 2011 United Kingdom Home Office Ministry of Justice 2002, revised 2007 & 2011). In Canada, the Step-Wise Interview (Yuille, Hunter, Joffe, & Zaparniuk, 1993) was introduced to facilitate developmentally-appropriate methods for conducting investigative interviews with children, and remains a common interviewing method, along with the National Institute of Child Health and Human Development (NICHD) protocol (Westman, 2018). The NICHD introduced an additional interviewing protocol based on evidence-based practices for conducting developmentally-appropriate interviews (Orbach et al., 2000), and has undergone revisions to include a stronger emphasis on rapport (Hershkowitz & Lamb, 2020; Hershkowitz et al., 2014), both establishing rapport at the beginning of the interview and maintaining rapport throughout the interview. The broad components within these protocols include a rapport-building period, open free-recall questions, and closed-ended direct questions.

2.1. Interviewer-child rapport and interviewer supportiveness

One area that has been of particular interest of late for researchers and professionals interviewing children is the practice of establishing rapport, both early in the interview (“rapport-building”) and throughout the interview. The goal of establishing rapport at the beginning of the interview is to build a basic level of trust with child witnesses (e.g., ice-breaking). It can also allow the child to practice providing narrative responses about neutral or positive events, which can act as a baseline for how forthcoming the child generally is when talking with the interviewer about neutral events (Hershkowitz et al., 2006). Many of the current child interviewing protocols recommend establishing rapport with the child witness before beginning the substantive part of the interview, with the expectation that this will make the child comfortable enough with the interviewer to disclose sensitive information later during the substantive portion of the interview (Hershkowitz, Lamb, Katz, & Malloy, 2015; Leander et al., 2009; Saywitz, Larson, Hobbs, & Wells, 2015). Interviewer supportiveness is a form of maintaining rapport (Hershkowitz et al., 2014) and refers to the actions of the interviewer throughout the interview that work to enhance and maintain a trusting and comfortable environment for the child and interviewer. Specific actions include providing unconditional positive reinforcement, personalizing the questions by using the child’s name, and acknowledging the child’s emotions that the child references during the interview (Hershkowitz et al., 2006).

Both rapport-building and interviewer supportiveness serve to build trust with the child, but definitional and operational distinctions between the two constructs have not been clear in past literature, with some researchers asserting that supportiveness is a form of rapport-building and some asserting that rapport-building includes supportiveness (see Saywitz et al., 2015 for a discussion). In the current study, we consider “rapport practices” to be an umbrella term that incorporates supportive practices – both meant to achieve and maintain interpersonal trust and comfort in the interview context. Regarding interviewer supportiveness specifically, Saywitz, Wells, Larson, and Hobbs (2016) conducted a meta-analysis of eight experimental studies in which children responded to different types of questions under experimental conditions that included suggestive and leading conditions, and found that interviewer support (that was not dependent on the child’s behavior) was associated with higher accuracy, even when children were asked suggestive questions. This finding demonstrates the value of interviewer support when speaking with children, and complements the findings of field studies that have analyzed the impact of using rapport with children during forensic interviews regarding alleged maltreatment (e.g., Ahern et al., 2014; Hershkowitz, 2009).

2.2. Question type

Open-ended invitation, or free-recall, questions may be used early in an interview to encourage children to recall all the information they can about an event (e.g., “tell me what happened that day”). Children’s responses are then used to create non-suggestive follow-up questions (e.g., “did anything else happen” or “what happened next?”), to make clarifications and to obtain more information (La Rooy et al., 2015; Lamb, Orbach, Hershkowitz, Esplin, & Horowitz, 2007). Open-ended invitation or free-recall reports are generally longer, more informative, and more accurate than responses to closed-ended questions in typically-developing (Orbach & Pipe, 2011) and in special needs populations (Cederborg & Lamb, 2008). However, the broad nature of these questions can lead to uninformative responses (e.g., “we played games”), in young children, in those with limited language skills (Hershkowitz et al., 2012), and with specific victim populations (Lindholm et al., 2015).

Closed-ended questions are frequently asked by interviewers to obtain specific information from children (Johnson, McWilliams, Goodman, Shelley, & Piper, 2016). Common types include yes or no questions (e.g., “was your parent there while this happened?”), option-posing questions (e.g., “did the crime happen during the day or at night?”), and leading or suggestive questions (e.g., “where did he touch you?”, which leading if the child has not disclosed any touch). Closed-ended questions have been criticized for being suggestive and leading, which can result in inaccurate information as the child may feel forced into choosing a specific answer (Bowles & Sharman, 2014; Ceci & Bruck, 1995). Moreover, these questions encourage short, specific responses, which can lead to the omission of important facts (Okanda & Itakura, 2010), obscuring details or events germane to a full disclosure. However, closed-ended questions can be useful for clarifying information from free-recall narratives when they are presented in a non-suggestive format, such as through close-ended directive wh-questions (e.g., “what was the color of the car you described earlier?”), especially with children who are unable or unwilling to openly discuss the event (Klemfuss, Quas, & Lyon, 2014; Lyon, 2014).

3. Current study

Although there is a vast body of empirical research on child forensic interviewing, there has been very little aggregation of this work to examine the overall effects of specific interviewing practices on children’s disclosures. Three review or meta-analytic studies exist and have focused on accuracy and suggestibility in experimental child studies (e.g., for a review of rapport-building in child interviews, see Saywitz et al., 2015; for a review and meta-analysis of the effects of interviewer support on accuracy, see Saywitz et al., 2016), or on protocol differences (for a comparison of NICHHD protocol to standard interviews, see Benia, Hauck-Filho, Dillenburg, & Stein, 2015). To establish best-practices for interviewing children, an aggregate analysis of literature is necessary to determine how effective certain individual practices are across studies (i.e., the size of the effects), and to explore whether there are contradictory results across the body of literature and whether these differences can be explained by specific variables or methodological differences. We conducted a systematic review and meta-analysis to examine the magnitude of effects of interviewing practices on children’s tendencies to disclose sensitive information, as well as the consistency of effects across studies.

4. Method

4.1. Search strategy

We conducted a systematic review of the literature on interviewing practices with children to gather our sample to meta-analyze, following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher, Tetzlaff, Liberati, Altman, & The PRISMA Group, 2009). Five psychology and law databases were searched with similar terms that had been mapped to the preferred terminology of each database, based on the recommendations of two specialist university librarians as well as the recommendations of two senior experts in the field of forensic child psychology: PsycInfo, PsycArticles, Scopus (social sciences and humanities), Proquest research library (criminology and social work databases), and HeinOnline. Searches were conducted concurrently by two individuals (first and second authors) to reduce possible human errors in entry of search terms and criteria. Search terms included variations of “interview,” “testimony,” “disclosure,” “allegation,” and “report,” to ensure that a broad range of articles on interviewing processes with children was gathered. Sources were limited to peer-reviewed journals to introduce a baseline quality control for the meta-analyses, and articles that were published after 1992, based on the introduction of established child interviewing protocols during or after that year (e.g., the Memorandum of Good Practice, 1992; the Step-Wise Procedure; Yuille et al., 1993). Individual hand searches of key authors’ professional or informal websites or online depositories were also conducted, based on recurring author names within the disclosure literature, the culling of key article reference lists, and author recommendations by two senior experts in the field of child forensic psychology. This method was chosen rather than emailing authors directly given that initial contact attempts with several authors were unsuccessful, and the method of culling key author websites and depositories was less likely to introduce a response bias from non-responses of key authors. Twenty-nine key author websites were culled for relevant sources in

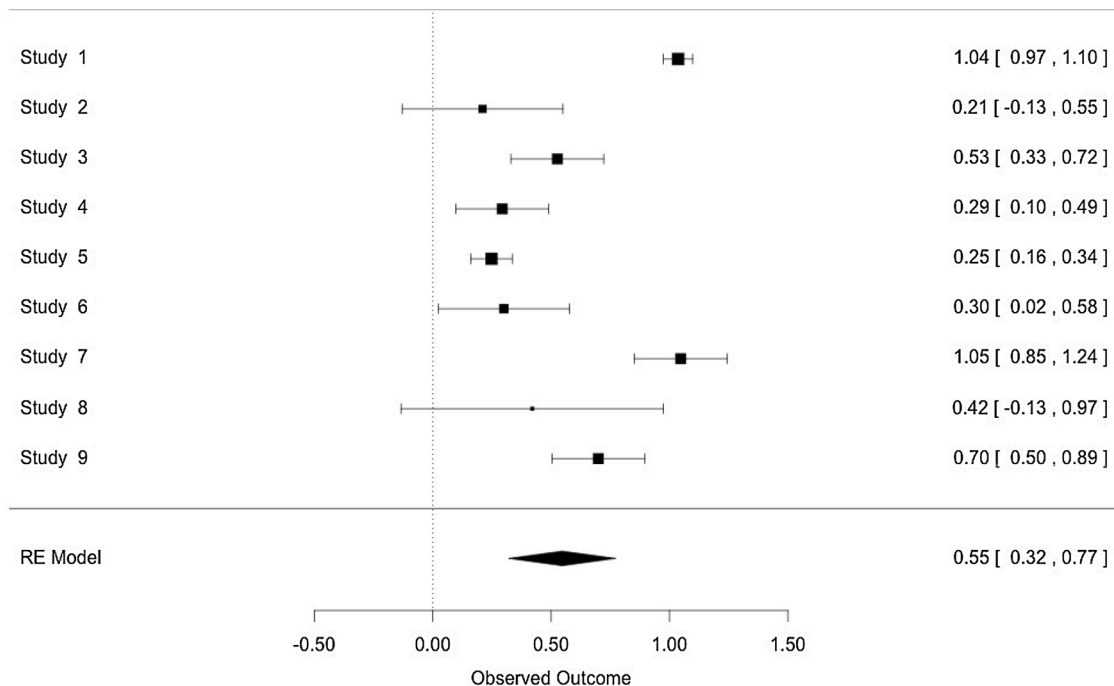


Fig. 1. Forest plot of *d*-family effects of rapport practices in children’s disclosures.

Table 1
Study Characteristics.

Study	Year	Sample Size	Age Range	% Female	Field Report	Protocol
<i>Rapport</i>						
1 Anderson (R)*	2014	115	3–18	77	Yes	NS/NA
2 Hamilton (R)	2016	70	5–16	86	Yes	NICHD
3 Hershkowitz (S)	2006	100	4–13	43	Yes	NICHD
4 Hershkowitz (R)	2009	71	4–9	72	Yes	NICHD
5 Hershkowitz (B)	2014	426	4–13	46	Yes	NICHD/RP
6 Leander (R)	2009	61	8–16	79	Yes	NS/NA
- Lewy	2015	90	9–13	74	Yes	NICHD
7 Lyon (S)	2008	72	6–7	52 ³	No	NS/NA
8 Sternberg (R)	2001	100	3–12	73	Yes	NICHD
9 Teoh (S)	2013	75	5–15	89	Yes	NS/NA
<i>Question Type</i>						
1 Ahern	2018	95	4–13	80	Yes	NICHD
2 Cederborg	2000	72	4–13	89	Yes	NS/NA
3 Dion	2008	11	6–13	76 ³	Yes	NICHD
4 Gagnon	2017	55	3–5	65	Yes	NICHD
5 Gudjonsson	2010	215	3–17	85	Yes	NICHD
6 Hamilton	2016	70	5–16	86	Yes	NICHD
7 Hershkowitz	2012	299	3–6	NI	Yes	NICHD
8 Hershkowitz	2001	46	4–13	74	Yes	CIT
9 Hershkowitz	2001	50	4–13	80	Yes	NICHD
10 Hershkowitz	2002	46	4–13	74	Yes	CIT
11 Hershkowitz	2002	50	4–13	80	Yes	NICHD
12 Hutcheson	1995	47	5–9	36	No	NS/NA
13 Lamb	1996	22	5–11	NI	Yes	NS/NA
14 Lamb	2000	145	4–12	89	Yes	NS/NA
15 Lamb	2003	130	4–8	69	Yes	NICHD
16 Lamb	2007	43	3–13	NI	Yes	NICHD
17 Lamb	2009	50	4–13	80 ³	Yes	NICHD
- Lamb	2009	50	4–13	80 ³	Yes	NS/NA
18 Leander	2009	61	8–16	79	Yes	NS/NA
19 Leander	2010	27	5–17	81	Yes	NS/NA
20 Malloy	2016	73	6–9	53	No	NICHD
21 Myklebust	2010	100	6–16	71	Yes	NS/NA
22 Orbach	2000	55	4–13	78	Yes	NICHD
- Orbach	2000	50	4–13	60	Yes	NS/NA
23 Patterson	2009	22	3–6	42 ³	Yes	NS/NA
- Phillips	2012	21	5–15	95	Yes	ABE
24 Sternberg	1996	45	4–12	78	Yes	NS/NA
25 Talwar	2004	32	3–11	41	No	NS/NA
- Yi	2016	18	5–14	94	Yes	NICHD
- Yi	2016	18	5–14	94	Yes	NS/NA

*Note*¹. Protocol not specified/not applicable (NS/NA); Achieving Best Evidence (ABE); Cognitive Interview Technique (CIT); National Institute of Child Health and Human Development (NICHD; Revised Protocol, RP).

*Note*². A “-” indicates that the study was not included in the meta-analysis due to an outlying effect size.

*Note*³. Gender breakdown was extracted as indicated within each study, when precise breakdowns were not provided (e.g., in the case of a single condition being extracted), the estimated breakdown is provided, when no breakdown is provided, NI (not indicated) is listed.

*A moderator regression analysis tested for differences between studies that examined a rapport-building practice (R) or a supportive interviewing practice (S), or both combined (B), with no significant differences in effect size. Hershkowitz et al. (2009) included separate effect sizes for rapport-building practices and supportive interviewing practices, and the rapport-building effect size was retained so as to include only one sample from this study in the rapport analysis.

Specific methods within rapport-building (R) included the effect of a narrative building stage of rapport (first authors only: Anderson, 2014); the effect of a practice narrative (Hamilton, 2016); specific open-ended questions to establish rapport (Sternberg, 1997); the effect of characteristics of rapport-building (proportion of invitations and length of rapport-building; Hershkowitz, 2009); and the effect of rapport-building utterances, including open-invitations about a neutral or positive event (Leander, 2009).

Specific methods within supportive interviewing practices (S) included the effect of comments throughout interview with the purpose of providing unconditional support (first authors only: Hershkowitz, 2006); the effect of techniques designed to personalize the interview, express care and interest, reinforce efforts, and remove responsibility from the child (Hershkowitz, 2014); the effect of reassuring the child would not be held responsible (Lyon, Carrick, & Quas, 2010); and the effect of supportive comments, positive reinforcement and non-suggestive reassurance to the child (Teoh, 2013).

total, and hits were added to the database search results (see Supplemental Fig. 1 for a complete flow diagram).

4.2. Eligibility criteria

Database and journal searches yielded 10,657 articles, and hand searches of individual key authors yielded an additional 20 articles. After duplicates were removed, 9972 articles were screened for relevance, and articles that successfully passed the screening underwent a full review for eligibility ($n = 85$; see Supplemental Fig. 1). Inclusion criteria included: (1) an empirical study published in English or French in a peer-reviewed journal; (2) typically-developing participants under 18 years of age, given that the United Nations Convention on the Rights of the Child considers “children” to be under the age of 18 years and asserts that children should be cared for and protected until such an age (UNICEF, 2015); (3) findings that reported the results of an interviewing approach (i.e., an interviewing effect on child disclosures) with a child witness or alleged victim; (4) child participant(s) must have had a motivation to keep a secret, for example they were being interviewed about a sensitive event such as alleged maltreatment or the child was motivated to keep a secret to avoid getting in trouble (mainly relevant for experimental studies that focused on the effectiveness of interviewing practices after a child experienced a staged sensitive event, such as witnessing a parent break an off-limits object while in the laboratory, and being asked by the parent to keep the event secret so the parent would not get in trouble); (5) protocol could not include a purposeful introduction of bias or coaching from the interviewer for the participants if an experimental study, unless the introduction of bias came at the end of the interview and the effect of the earlier interviewing approach was extractable without the bias portion of the interview (i.e., only the “pure” condition was extracted); and (6) enough information had to be provided in the results section to extract an interviewing effect on children’s disclosures of sensitive information to be included in the meta-analysis. Studies that satisfied each of the inclusion criteria were included in the review. Each included study was reviewed for an overall risk of bias assessment and passed a minimum threshold for low risk of bias, based on clarity of the method and results sections.

4.3. Article preparation for analyses

A broad range of articles on interviewing practices with children was obtained through this search process. The purpose of seeking such a broad range was to select interviewing practices with an extensive enough literature base to be synthesized and analyzed to determine how effective such practices are, based on the corporate results of the body of literature. To meta-analyze this broad range, interviewing practices were grouped under similar themes to ensure similar construct effects (Borenstein, Hedges, Higgins, & Rothstein, 2009). That is, articles that passed the eligibility screening were organized thematically according to the specific interviewing practices they included. Two interviewing practices emerged as most prevalent across the studies: rapport practices (including suppositiveness; $n = 10$) and (2) question type ($n = 30$ samples within 25 studies). Rapport practices and question type were each analyzed meta-analytically for their effects on children’s disclosures of sensitive information.

4.4. Meta-analytic strategy

A random-effects model for Cohen’s d -family effects was conducted using the DerSimonian-Laird approach (Schulze, 2004; Schwarzer, 2015) for rapport practices and question type interviewing practices. Data were extracted from each study and effect sizes were calculated using the Practical Meta-Analysis Effect Size Calculator (Wilson, 2001). Overall effect sizes and heterogeneity analyses were conducted in R using the Meta-Analysis with Mean Differences (MAD) and Meta-Analysis Package for R (metafor) packages. The type of interviewing protocol used in the study (i.e., codes included not specified/not applicable, Cognitive Interview technique, National Institute of Child Health and Human Development or close variant; Orbach et al., 2000) and the level of disclosure (coded as an allegation, provision of substantive details, or informativeness according to how it was measured in each study, 20 % of cases coded by two raters, there was substantial agreement with interrater reliability = 89 %, Cohen’s kappa = 0.78) were categorized to account for potential differences in study methodology (listed in Table 1).

Following the calculation of overall effect sizes, outlying effect sizes were removed from the remainder of the analyses, following the method proposed by Hedges and Olkin (1985). Specifically, a visual inspection of the effect sizes and confidence intervals as well as an examination of the residuals and heterogeneity after each suspected outlier was removed was conducted to determine which studies were unduly influencing the overall results, and to determine whether heterogeneity was spread across the samples or contained within a handful of outlying samples. This method ensures that effect sizes that were outliers did not affect the pooled results (indicated by “-” in Table 1). Based on this method, one sample was removed from the rapport practices meta-analysis (a comparison study of specific protocol training and integration in a field study), and five samples were removed from the question-type meta-analysis (four of which were pre-post comparisons after specific protocol training and integration in field studies, one of which had no outstanding methodological differences other than using a different interviewing protocol to others in the meta-analysis sample), for a final total of nine samples in the rapport practices meta-analysis and 25 samples in the question type meta-analysis. Following meta-analyses, meta-regression analyses were used to explore whether differences between the article methodologies (e.g., interviewing protocol, level of disclosure) explained any of the variance in the effect sizes between the studies in the two meta-analyses.

5. Results

5.1. Rapport practices

There were a total of 1041 participants, ages 3–18 years old, across the 9 studies in the meta-analysis (see Fig. 1 for forest plot). The rapport practices across the articles were coded according to how they were operationalized in the study as: (a) rapport-building practices; (b) interviewer supportiveness; or (c) combined effect of both rapport and support. There were no significant differences in effect size according to the type of rapport, $p = .994$, thus we included both rapport-building and rapport-maintaining (i.e., interviewer supportiveness) for the meta-analysis of rapport practices, and we use the term rapport practices through the results and discussion to encompass both approaches.

The overall d -effect of rapport practices was 0.55 ($z = 4.73$, $k = 9$, $p < .001$, 95% CI 0.32, 0.77), which can be classified as a medium effect (Cohen, 1988; see Table 2 for model information). There was significant heterogeneity in effect sizes among the studies, $Q_T(1) = 22.41$, $p < .001$, which suggests that the rapport practices had a different level of influence on children's disclosures of sensitive information among the various studies. Specifically, approximately 95 % of the variance in effect sizes could be attributed to differences between the studies, $I^2 = 94.59$ (95 % CI 87.02, 98.47). We assessed for differences in effect size according to the level of disclosure as operationalized by the studies using a moderator regression analysis, but found no significant differences, $p = .480$, as such, we did not further differentiate between the level of disclosure in the rest of the rapport meta-analysis findings.

To explore moderator variables (covariates; Borenstein et al., 2009) that might explain some of the variance in effect sizes, a meta-regression was conducted with two covariates: the interviewing protocol that was used in the study (protocol not specified/not applicable, NICHHD or a very close variant), and the mean age reported in each study to assess possible age differences (when not specifically reported, we used the midpoint between the lowest age and the highest age). The model was significant, $Q_{bet}(2) = 8.18$, $p = .017$. The interviewing protocol used in the study did significantly explain differences in effect sizes between studies, $p = .005$, but age did not explain any differences in effect sizes between studies. Specifically, studies that used a non-specified protocol were more likely to report higher effect sizes than studies that used the NICHHD or close variant interviewing protocol (see Table 3 for moderator effects). However, there was residual heterogeneity of effects beyond those tested by the covariates, $Q_{within}(6) = 40.64$, $p < .001$, which suggests that additional moderator variables in the reviewed studies may influence the magnitude of effect of rapport techniques on children's disclosures.

5.2. Question type

Twenty-five samples in 23 studies were included in the question type meta-analysis, for a combined total of 1861 participants from 3 to 17 years old (forest plot in Fig. 2). In two studies, the methodology (interviewing protocol) differed between groups of participants, and the effects for each group were extracted separately. Effects were also extracted for different types of questions, specifically open-ended and closed-ended on children's disclosures. When multiple subtypes of open-ended or closed-ended questions were included in a study, subtypes were combined using a weighted average score to generate one open-ended value and one closed-ended value. In the case of WH- questions in particular (e.g., What happened?), question types were considered based on the context of the question, as outlined by the authors of each study that focused on WH questions specifically. For example, WH- questions that could elicit a narrative, such as an invitation would, were categorized as open-ended (e.g., What happened?), whereas WH- questions that could elicit a brief response were categorized under close-ended (e.g., What color was his shirt?; Gagnon & Cyr, 2017).

The combined effect size of open-ended questions compared to closed-ended questions on children's disclosures was 0.52 ($z = 4.15$, $k = 25$, $p < .001$, 95% CI 0.27, 0.76; see Table 2 for model information). This is a medium effect (Cohen, 1988), and suggests that using open-ended questions over closed-ended questions did have a significant positive effect on children's disclosures. There was significant heterogeneity among the study effect sizes, $Q_T(1) = 17.20$, $p < .001$, with approximately 99% of the variance in effect sizes attributable to differences across the studies, $I^2 = 98.60$ (95% CI 97.62, 99.30). This suggests that the effect of using open-ended questions on children's disclosures was inconsistent across the studies included for review, with a wide range of effect sizes. We used a moderator regression analysis to test for differences in effect size according to the level of disclosure, as operationalized by each study, the protocol type, and the mean age of children in the sample, and found that although the overall model was not significant, $Q_{bet}(3) = 4.60$, $p = .203$, there were significant differences according to the level of disclosure only, $p = .033$. As such, we divided the samples according to the level of disclosure, as allegations (binary) or substantive details for further examination. (We did not further analyze the one study, Myklebust & Bjørklund, that operationalized disclosure as informativeness due to too little variance for further analyses.)

Table 2
Model Effects for Rapport and Question Type Meta-Analyses.

Meta-Analysis	k	N	d -effect	95 % CI	z	p	I^2
Rapport	9	1041	.55	0.32 0.77	4.73	.000	94.6
Question Type	25	1860	.52	0.27 0.76	4.15	.000	98.6
QT-binary allegations	4	197	.02	-0.04 0.07	0.57	.569	44.11
QT-substantive details	20	1663	.63	0.36 0.89	4.65	.000	97.20

Table 3
Moderator Effects for Rapport.

Meta-Analysis	Parameter	Estimate	SE	z-value	CI	p
Rapport	β_0	1.49	.52	2.88	0.48 2.50	.004
	age	-0.06	.05	-1.22	-0.16 0.04	.224
	protocol	-0.15	.05	-2.84	-0.26 -0.05	.005

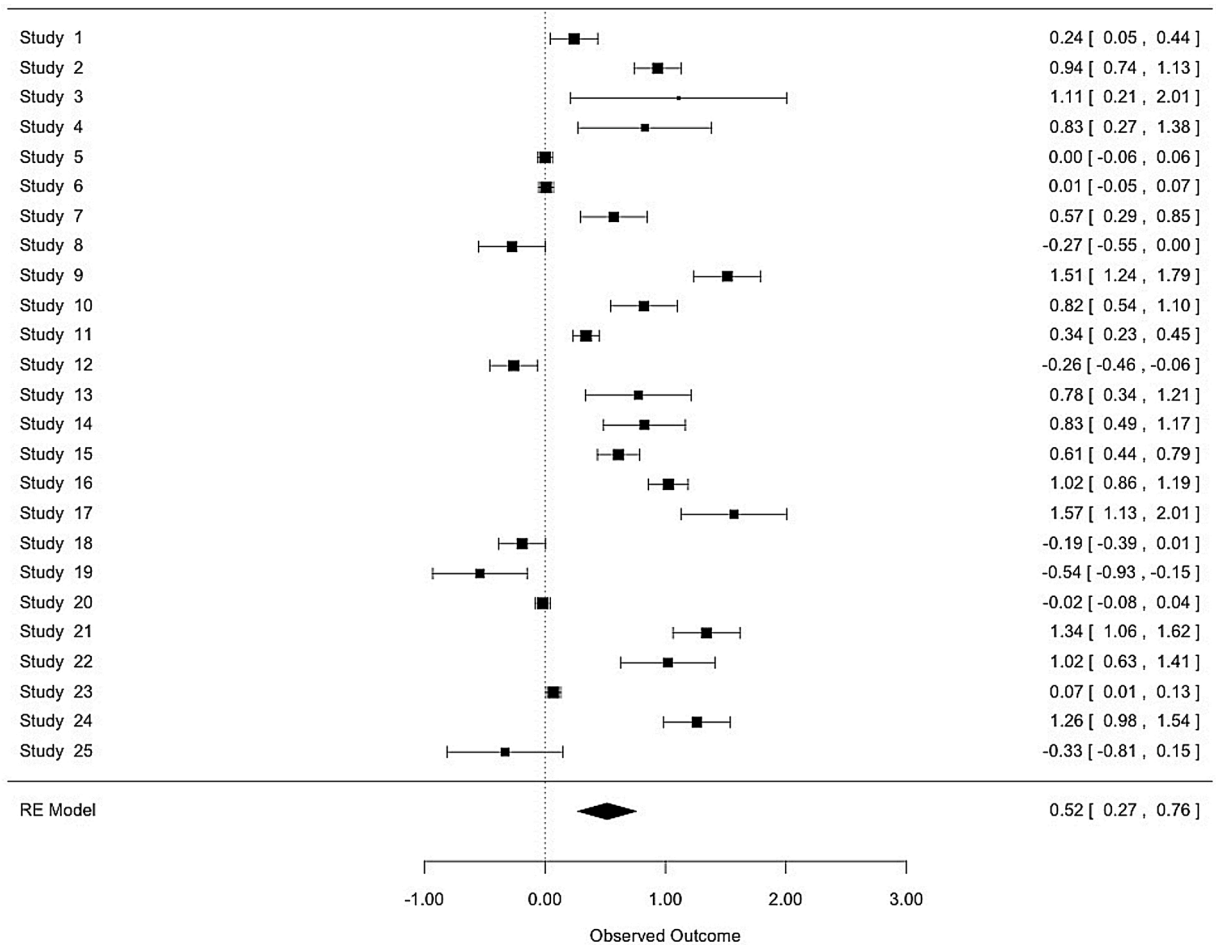


Fig. 2. Forest plot of effect sizes of question type on children’s disclosures.

5.2.1. Disclosures as binary allegations

Four studies operationalized disclosures as binary allegations (first authors and year only: Hamilton, 2016; Malloy, 2007; Patterson, 2009; Talwar, 2004), with a combined total of 197 participants. We reran the meta-analysis to determine the overall effect size between question type and children’s disclosures as binary allegations, and found a non-significant effect size, 0.02 ($z = 0.57, k = 4, p = .569, 95\% \text{ CI } -0.04, 0.07$, model information in Table 2). Due to the small combined sample size, we tentatively present this result and note the results should not be considered conclusive. We did not rerun moderator analyses with this subsample due to the small combined sample size.

5.2.2. Disclosures as provision of substantive details

Twenty samples within eighteen studies operationalized children’s disclosures as the provision of substantive details (first authors and year only: Ahern, 2018; Cederborg, 2000; Dion, 2008; Gagnon & Cyr, 2017; Gudjonsson, 2010; Hershkowitz, 2002, 2002, 2012; Hutcheson, 1995; Lamb, 1996, 2000, 2003, 2007, 2009; Leander, 2009, 2010; Orbach, 2000; Sternberg, 1996), with a combined total of 1664 participants. We reran the overall effect size calculation for this subsample and found a medium effect size, 0.63 ($z = 4.65, k = 20, p < .001, 95\% \text{ CI } 0.36, 0.89$, see Table 2 for model information). We also reran the moderator analysis with protocol type and mean age as predictors, but did not find any significant differences according to either protocol type or mean age, $ps = .987$ and $.697$

respectively.

5.3. Publication Bias

Funnel plots of the effect sizes of each meta-analysis (rapport practices and question type) were consulted to explore whether any publication bias seemed present (see Supplemental Figures 2 and 3 respectively). Publication bias is the phenomenon of significant results having a higher likelihood of being published, and thus more locatable and likely to be included in meta-analyses (Viechtbauer & Cheung, 2010). Asymmetry in the funnel plot can indicate a possibility of publication bias. Based on a visual inspection of the funnel plot of rapport practices effect sizes, there did not seem to be a publication bias toward significant or non-significant results. Further, Egger's test indicated that no statistically significant publication bias was present, $p = .306$. Visual inspection of the funnel plot of question type on disclosure suggests that a slight publication bias toward publishing results with larger effect sizes may have existed, but Egger's test indicated that no publication bias was present in the question type results, $p = .090$.

6. Discussion

Rapport practices and question type emerged as prevalent practices in this review, and we found that rapport practices had a medium effect on children's disclosures while open-ended questions had a medium overall effect on children's descriptions of sensitive events.

6.1. Rapport practices

It is encouraging that rapport practices did have a significant overall effect on children's disclosures because this suggests that rapport is an effective part of the interviewing process that can significantly impact not only how children feel (Roberts, Lamb, & Sternberg, 2004), but also the information that they disclose. In fact, previous studies have found that children who do not disclose in a forensic interview are more reluctant early in the interview (Hershkowitz et al., 2006) and tend to have more disengaged non-verbal behavior (Katz & Hershkowitz, 2012). However, it is possible that rapport techniques may increase engagement with the interviewer and the tendency to disclose information. At the same time, the fact that existing rapport practices had a large range of effect sizes (ranging from a small effect to a large effect), suggests that there is room for improvement in the current practices. For example, perhaps there may need to be an additional element to rapport-building, beyond a standard list of rapport-building questions, that establishes a baseline level of warmth and trust through speech and body language communication, for rapport practices to have a larger effect.

Further, although we did not find significant differences in effect size according to the mean age of children in each study, it is also possible that the types of rapport-building activities that are more effective may vary according to children's developmental stage. For example, younger children may especially benefit from a shortened rapport-building period early in the interview to preserve their cognitive resources (though both younger and older children may benefit; e.g., Teoh & Lamb, 2010), while older children may especially benefit from enhanced support from the interviewer (e.g., Hershkowitz, 2009).

The interviewing protocol reported by the studies significantly predicted the effect size of rapport practices, with studies that used a non-specified protocol (typically developed or adapted for the particular study) reporting higher effect sizes than those using the NICHD protocol or close variant. The studies that used a non-specified protocol may have had higher effect sizes because they may have developed specific rapport techniques to be tested in their interviews beyond a standard rapport-building set of questions. Indeed, recent efforts to enhance the impact of rapport-building support this possibility. Ahern and colleagues (2014) provided NICHD protocol training that emphasized rapport and found that when support was given in response to child reluctance, there was greater cooperation from the child interviewees. It may also be the case that several of the studies that used the NICHD protocol tested samples of particularly reluctant children who were hesitant in providing information about alleged maltreatment, which may explain the smaller effect size in such studies. Finally, many of the studies included in the meta-analysis that used the NICHD protocol or close variant did not use the revised NICHD protocol, which has undergone substantial revisions to effectively enhance rapport between the interview and child and support for the child throughout the interview (Blasbalg, Hershkowitz, Lamb, Karni-Visel, & Ahern, 2019; Hershkowitz & Lamb, 2020; Hershkowitz et al., 2014).

6.2. Question type

The findings of this meta-analysis also indicate that open-ended questions were moderately effective in eliciting detailed descriptions of sensitive events in mainly field studies (3 experimental samples, 21 field samples). These findings build on previous research that has established a strong positive result for asking open-ended questions as they may facilitate children's detailed responses while avoiding any suggestiveness from the researcher (Hershkowitz, Orbach, Lamb, Sternberg, & Horowitz, 2002; Lamb et al., 2009). However, this meta-analysis also includes several studies that found an effect in the opposite direction (e.g., Hutcheson, Baxter, Telfer, & Warden, 1995; Leander, 2010), which also aligns with some research that suggests that open-ended questions may not always facilitate disclosures because they can leave room for evasive responses (e.g., Lindholm et al., 2015).

Overall, these results suggest that question type has an effect on children's descriptions of sensitive events, but given the range of effect sizes and, at times, even directionality, the type of question is likely only one of several factors that influence children's decisions to disclose or conceal information. For example, several studies have included a comparison of children's disclosures in response to

open-ended and closed-ended questions before and after changing interview protocols, and in several cases, the direction of effect size reverses, with a strong effect in the opposite direction (e.g., [Hershkowitz, Orbach, Lamb, Sternberg, & Horowitz, 2001, 2002](#); [Lamb et al., 2009](#); [Orbach et al., 2000](#)). However, in spite of this, the type of protocol used did not explain any significant differences in effect sizes. This suggests that there may be additional factors at play in determining whether open-ended or closed-ended questions have a greater effect on helping to foster children's descriptions of sensitive events.

One possibility is that the training and use of a new protocol may encourage interviewers to focus more intently on their interviewing practice, and this may affect additional factors, such as their non-verbal behavior, timing, and use of follow-up probes, beyond the questioning procedure outlined in the protocol. Perhaps more effective rapport enhances the impact of open-ended questioning, while less effective rapport leads to more child reluctance and more interviewer closed-ended questioning ([Hershkowitz et al., 2006](#)). Even though we did not find that the mean age of children was a significant moderator of the relation between question type and disclosures, it is also possible that the differential effects of open-ended questions may be explained by children's age and development, when a more precise breakdown of the effect of question type by age is available. For example, older children may provide more informative responses to an open-ended question than younger children ([Aldridge & Wood, 1998](#); [Hershkowitz et al., 2012](#); [Horowitz, 2009](#)), who may require more probing, which could inadvertently lead to closed-ended probing questions.

7. Implications and directions for future research

There is great value in the systematic replication of studies testing child forensic interviewing approaches, to both confirm results and to address any contrasting findings, especially given the far-reaching implications of how such findings are applied. There are several practical implications that arise from our review and meta-analysis. First, across studies that focused on rapport and providing interviewer support, we found a consistent positive moderate effect, and this finding suggests that rapport practices and supportive practices during the interview are a beneficial component of the interviewing process when speaking with children about sensitive information. Further, no negative effects on children's disclosures were found, as such, integrating rapport and support into the interview setting with children is clearly an important direction for child forensic interviewing practices. Interviewing protocol was a significant moderator, which highlights the possibility of enhanced effectiveness through improved protocol development (as seen in current developments, e.g., [Hershkowitz & Lamb, 2020](#)).

We also found that rapport and support were only loosely defined and differentiated in terms of their constituent behaviors and comments (although there were no significant differences in effect sizes across rapport and support practices), which means that it is difficult to narrow in on what precisely is needed for effective rapport. A key direction for future research is to determine what specific components of rapport and support are beneficial, so that these practices can be incorporated into and perhaps enhanced in interview settings.

A second implication relates to the finding that open-ended questions had a consistent moderate effect on children's descriptions of sensitive events, above closed-ended questions. This provides aggregate empirical support and a specific effect size that can be anticipated when using open-ended questions and invitations with children as an effective approach for generating substantive information about their experiences. It is also helpful in the design of future studies and when making overarching policy and practice decisions that need to take into account the overall body of knowledge (including differing directionality of findings). At the same time, future research should explore whether open-ended questions need to be tweaked with specific victim populations, for example, those who seem defensive or reluctant during the interview.

There are several limitations to be considered in the overall interpretation of the results. For one, this review focused on disclosures of sensitive information, given the overall objective of the review as well as the nature of the studies included for review. However, within children's disclosures there is a two-fold possibility of bias: first, that children's disclosures were not entirely accurate, which could not be determined by the studies, and second, that there may have been instances in which children truly did not have sensitive information to disclose. Given the emphasis on facilitating disclosures (i.e., helping children to overcome reluctance to talk about sensitive information), we took study results at face value, though there is the inherent possibility that not all disclosures were true. Further, some authors of studies included in our review and meta-analysis did not reference a specific interviewing protocol within the study methodology (some referenced that it followed a model of a specific protocol, for example, being based on the NICHHD, but was not *the* NICHHD), which may artificially appear to restrict the scope of protocols used by studies in this review and meta-analysis. However, at the same time, given that many best-practice child interviewing protocols follow a similar structuring and include similar components, and the fact that specific practices were reviewed, rather than protocols, suggests that the main essence of differing interviewing protocols was captured in the analyses. Studies that assess the differences in efficacy of interviewing practices according to protocol is also an area for continued research and study (e.g., [Benia et al., 2015](#)). We also chose not to include unpublished studies given that no peer-review process had been undergone to vouch for a baseline quality control in the method and presentation of results, and secondly to not introduce bias from author non-responses (i.e., authors not responding to contact).

8. Conclusions

The current meta-analytic study focused on the impact of rapport-building and question type to determine whether these existing interviewing practices are effective for fostering children's eyewitness disclosures of sensitive information. Overall, results indicate that rapport practices had a significant effect on children's disclosures of sensitive information and that the interviewing protocol used may moderate the effect size of these findings. Question type also had a significant effect on children's descriptions of sensitive events, but no significant moderators emerged to explain differences in effect sizes across studies. Practically, these findings provide evidence-

based support for rapport and open-ended questioning practices as effective interviewing practices for facilitating disclosures and descriptions of sensitive events. At the same time, these findings highlight the need for further research on existing interviewing practices that encourage children's honest and forthcoming disclosures in forensic settings.

Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:<https://doi.org/10.1016/j.chiabu.2021.104930>.

References

- Ahern, E. C., Hershkowitz, I., Lamb, M. E., Blasbalg, U., & Winstanley, A. (2014). Support and reluctance in the pre-substantive phase of alleged child abuse victim investigative interviews: Revised versus standard NICHHD protocols. *Behavioral Sciences & the Law*, *32*, 762–774. <https://doi.org/10.1002/bsl.2149>
- Alaggia, R. (2004). Many ways of telling: Expanding conceptualizations of child abuse disclosure. *Child Abuse & Neglect*, *28*, 1213–1227. doi:10.1016/j.chiabu.2004.03.016.
- Aldridge, M., & Wood, J. (1998). *Interviewing children: A guide for child care and forensic practitioners*. West Sussex, England: John Wiley.
- Alonzo-Proulx, A., & Cyr, M. (2016). Factors predicting central details in alleged child sexual abuse victims' disclosure. *Journal of Forensic Psychology Practice*, *16*, 129–150. <https://doi.org/10.1080/15228932.2016.1172422>
- Azzopardi, C., Eirich, R., Rash, C., Macdonald, S., & Madigan, S. (2019). A meta-analysis of the prevalence of child sexual abuse disclosure in forensic settings. *Child Abuse & Neglect*, *93*, 291–304. <https://doi.org/10.1016/j.chiabu.2018.11.020>
- Benia, L. R., Hauck-Filho, N., Dillenburg, M., & Stein, L. M. (2015). The NICHHD investigative interview protocol: A meta-analytic review. *Journal of Child Sexual Abuse*, *24*, 259–279.
- Blasbalg, U., Hershkowitz, I., Lamb, M. E., Karni-Visel, Y., & Ahern, E. C. (2019). Is interviewer support associated with the reduced reluctance and enhanced informativeness of alleged child abuse victims? *Law and Human Behavior*, *43*, 156–165. <https://doi.org/10.1037/lhb0000303>
- Borenstein, M., Hedges, L. V., Higgins, J. P. T., & Rothstein, H. R. (2009). *Introduction to meta-analysis*. Chichester, U.K: John Wiley & Sons.
- Bowles, P. V., & Sharman, S. J. (2014). A review of the impact of different types of leading interview questions on child and adult witnesses with intellectual disabilities. *Psychiatry Psychology and Law*, *21*, 205–217. <https://doi.org/10.1080/13218719.2013.803276>
- Brubacher, S. P., Malloy, L. C., Lamb, M. E., & Roberts, K. P. (2013). How do interviewers and children discuss individual occurrences of alleged repeated abuse in forensic interviews? *Applied Cognitive Psychology*, *27*, 443–450. <https://doi.org/10.1002/acp.2920>
- Ceci, S. J., & Bruck, M. (1995). *Jeopardy in the courtroom: A scientific analysis of children's testimony*. Washington, DC: American Psychological Association.
- Cederborg, A.-C., & Lamb, M. (2008). Interviewing alleged victims with intellectual disabilities. *Journal of Intellectual Disability Research*, *52*, 49–58. <https://doi.org/10.1111/j.1365-2788.2007.00976.x>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: Erlbaum.
- Davies, G. M., & Wescott, H. L. (1999). *Interviewing children under the Memorandum of Good Practice: A research review*. London: Home Office.
- Dion, J., & Cyr, M. (2008). The use of the NICHHD protocol to enhance the quantity of details from children with low verbal abilities in investigative interviews: A pilot study. *Journal of Child Sexual Abuse*, *17*, 144–162. <https://doi.org/10.1080/10538710801916564>
- Gagnon, K., & Cyr, M. (2017). Sexual abuse and preschoolers: Forensic details in regard of question types. *Child Abuse & Neglect*, *67*, 109–118. <https://doi.org/10.1016/j.chiabu.2017.02.022>
- Goodman-Brown, T. B., Edelstein, R. S., Goodman, G. S., Jones, D. P. H., & Gordon, D. S. (2003). Why children tell: A model of children's disclosure of sexual abuse. *Child Abuse & Neglect*, *27*, 525–540.
- Hedges, L. V., & Olkin, I. (1985). *Statistical methods for meta-analysis*. New York: Academic Press.
- Hershkowitz, I. (2009). Socioemotional factors in child sexual abuse investigations. *Child Maltreatment*, *14*, 172–181. doi:10.1177/1077559508326224.
- Hershkowitz, I., & Lamb, M. E. (2020). Allegation rates and credibility assessment in forensic interviews of alleged child abuse victims: Comparing the revised and standard NICHHD protocols. *Psychology, Public Policy, and Law*. Advance online publication. <https://doi.org/10.1037/law0000230>
- Hershkowitz, I., Lamb, M. E., & Katz, C. (2014). Allegation rates in forensic child abuse investigations: Comparing the revised and standard NICHHD protocols. *Psychology Public Policy and Law*, *20*, 336–344. <https://doi.org/10.1037/a0037391>
- Hershkowitz, I., Lamb, M. E., Katz, C., & Malloy, L. C. (2015). Does enhanced rapport-building alter the dynamics of investigative interviews with suspected victims of intra-familial abuse? *Journal of Police and Criminal Psychology*, *30*, 6–14. <https://doi.org/10.1007/s11896-013-9136-8>
- Hershkowitz, I., Lamb, M. E., Orbach, Y., Katz, C., & Horowitz, D. (2012). The development of communicative and narrative skills among preschoolers: Lessons from forensic interviews about child abuse. *Child Development*, *83*, 611–622. <https://doi.org/10.1111/j.1467-8624.2011.01704.x>
- Hershkowitz, I., Lanes, O., & Lamb, M. E. (2007). Exploring the disclosure of child sexual abuse with alleged victims and their parents. *Child Abuse & Neglect*, *31*, 111–123. <https://doi.org/10.1016/j.chiabu.2006.09.004>
- Hershkowitz, I., Orbach, Y., Lamb, M. E., Sternberg, K. J., & Horowitz, D. (2002). A comparison of mental and physical context reinstatement in forensic interviews with alleged victims of sexual abuse. *Applied Cognitive Psychology*, *16*, 429–441. <https://doi.org/10.1002/acp.804>
- Hershkowitz, I., Orbach, Y., Lamb, M. E., Sternberg, K. J., & Horowitz, D. (2006). Dynamics of forensic interviews with suspected abuse victims who do not disclose. *Child Abuse & Neglect*, *30*, 753–769.
- Hershkowitz, I., Orbach, Y., Lamb, M. E., Sternberg, K. J., & Horowitz, D. (2001). The effects of mental context reinstatement on children's accounts of sexual abuse. *Applied Cognitive Psychology*, *15*, 235–248. <https://doi.org/10.1002/acp.699>
- Horowitz, S. W. (2009). Direct mixed and open questions in child interviewing: An analog study. *Legal and Criminological Psychology*, *14*, 135–147.
- Johnson, J. L., McWilliams, K., Goodman, G. S., Shelley, A. E., & Piper, B. (2016). Basic principles of interviewing the child eyewitness. In W. T. O'Donohue, & M. Fanetti (Eds.), *Forensic interviews regarding child sexual abuse* (pp. 179–195). Switzerland: Springer International Publishing.
- Jones, D. (2000). Editorial: Disclosure of child sexual abuse. *Child Abuse & Neglect*, *24*, 269–271. [https://doi.org/10.1016/S0145-2134\(99\)00125-8](https://doi.org/10.1016/S0145-2134(99)00125-8)
- Katz, C., & Hershkowitz, I. (2012). The effect of multipart prompts on children's testimonies in sexual abuse investigations. *Child Abuse & Neglect*, *36*, 753–759. <https://doi.org/10.1016/j.chiabu.2012.07.002>
- Klemfuss, J. Z., Quas, J. A., & Lyon, T. D. (2014). Attorneys' questions and children's productivity in child sexual abuse criminal trials. *Applied Cognitive Psychology*, *28*, 780–788. <https://doi.org/10.1002/acp.3048>
- Korkman, J., Santtila, P., & Sandnabba, N. K. (2006). Dynamics of verbal interaction between interviewer and child in interviews with alleged victims of child sexual abuse. *Scandinavian Journal of Psychology*, *47*, 109–119. <https://doi.org/10.1111/j.1467-9450.2006.00498.x>
- La Rooy, D., Brubacher, S. P., Aromáki-Stratos, A., Cyr, M., Hershkowitz, I., Korkman, J., et al. (2015). The NICHHD protocol: A review of an internationally-used evidence-based tool for training child forensic interviewers. *Journal of Criminological Research Policy and Practice*, *1*, 76–89. <https://doi.org/10.1108/JCRPP-01-2015-0001>

- Lamb, M. E., Orbach, Y., Hershkowitz, I., Esplin, P. W., & Horowitz, D. (2007). A structured forensic interview protocol improves the quality and informativeness of investigative interviews with children: A review of research using the NICHD Investigative Interview Protocol. *Child Abuse & Neglect*, *31*, 1201–1231. <https://doi.org/10.1016/j.chiabu.2007.03.021>
- Lamb, M. E., Orbach, Y., Sternberg, K. J., Aldridge, J., Pearson, S., Stewart, H. L., et al. (2009). Use of a structured investigative protocol enhances the quality of investigative interviews with alleged victims of child sexual abuse in Britain. *Applied Cognitive Psychology*, *23*, 449–467. <https://doi.org/10.1002/acp.1489>
- Lamb, M. E., Sternberg, K. J., Orbach, Y., Esplin, P. W., Stewart, H., & Stewart, S. (2003). Age differences in young children's responses to open-ended invitations in the course of forensic interviews. *Journal of Consulting and Clinical Psychology*, *71*, 926–934. <https://doi.org/10.1037/0022-006X.71.5.926>
- Leach, C., Powell, M., Sharman, S., & Anglim, J. (2017). The relationship between children's age and disclosures of sexual abuse during forensic interviews. *Child Maltreatment*, *22*, 79–88. <https://doi.org/10.1177/1077559516675723>
- Leander, L., Granhag, P. A., & Christianson, S. A. (2009). Children's reports of verbal sexual abuse: Effects of police officers' interviewing style. *Psychiatry, Psychology, & Law*, *16*, 340–354. <https://doi.org/10.1080/13218710902930226>
- Lewy, J., Cyr, M., & Dion, J. (2015). Impact of interviewers' supportive comments and children's reluctance to cooperate during sexual abuse disclosure. *Child Abuse & Neglect*, *43*, 112–122. <https://doi.org/10.1016/j.chiabu.2015.03.002>
- Lindholm, J., Cederborg, A. C., & Alm, C. (2015). Adolescent girls exploited in the sex trade: Informativeness and evasiveness in investigative interviews. *Police Practice and Research*, *16*, 197–210. <https://doi.org/10.1080/15614263.2014.880839>
- London, K., Bruck, M., Ceci, S. J., & Shuman, D. W. (2005). Disclosure of child sexual abuse: What does the research tell us about the ways that children tell? *Psychology Public Policy and Law*, *11*, 194–226. <https://doi.org/10.1037/1076-8971.11.1.194>
- London, K., Bruck, M., & Wright, D. B. (2008). Review of the contemporary literature on how children report sexual abuse to others: Findings, methodological issues and implications for forensic interviewers. *Memory*, *16*, 29–47.
- Lyon, T. D. (2007). False denials: Overcoming methodological biases in abuse disclosure research. In M.-E. Pipe (Ed.), *Child sexual abuse: Disclosure, delay, and denial* (pp. 41–63). Mahwah, N.J.: Lawrence Erlbaum Associates.
- Lyon, T. D. (2014). Interviewing children. *Annual Review of Law and Social Science*, *10*, 73–89. <https://doi.org/10.1146/annurev-lawsocsci-110413-030913>
- Lyon, T. D., & Dorado, J. S. (2008). Truth induction in young maltreated children: The effects of oath-taking and reassurance on true and false disclosures. *Child Abuse & Neglect*, *32*, 738–748. <https://doi.org/10.1016/j.chiabu.2007.08.008>
- Lyon, T. D., Carrick, N., & Quas, J. A. (2010). Young children's competency to take the oath: Effects of task, maltreatment, and age. *Law and Human Behavior*, *34*, 141–149.
- Lyon, T. D., Wandrey, L., Ahern, E., Licht, R., Sim, M. P. Y., & Quas, J. A. (2014). Eliciting maltreated and nonmaltreated children's transgression disclosures: Narrative practice rapport building and a putative confession. *Child Development*, *85*, 1756–1769. <https://doi.org/10.1111/cdev.12223>
- Malloy, L. C., Katz, C., Lamb, M. E., & Mugno, A. P. (2015). Children's requests for clarification in investigative interviews about suspected sexual abuse. *Applied Cognitive Psychology*, *29*, 323–333. <https://doi.org/10.1002/acp.3101>
- Malloy, L. C., Lyon, T. D., & Quas, J. A. (2007). Filial dependency and recantation of child sexual abuse allegations. *Journal of the American Academy of Child and Adolescent Psychiatry*, *46*, 162–170. <https://doi.org/10.1097/01.chi.0000246067.77953.f7>
- Melinder, A., & Gilstrap, L. L. (2009). The relationships between child and forensic interviewer behaviours and individual differences in interviews about a medical examination. *The European Journal of Developmental Psychology*, *6*, 365–395. <https://doi.org/10.1080/17405620701210445>
- Miragoli, S., Camisasca, E., & Di Blasio, P. (2017). Narrative fragmentation in child sexual abuse: The role of age and post-traumatic stress disorder. *Child Abuse & Neglect*, *73*, 106–114. <https://doi.org/10.1016/j.chiabu.2017.09.028>
- Moher, D., Tetzlaff, J. A., Liberati, G., Altman, D., & The PRISMA Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *British Medical Journal*, *339*, 332–336.
- Okanda, M., & Itakura, S. (2010). When do children exhibit a "yes" bias? *Child Development*, *81*, 568–580. <https://doi.org/10.1111/j.1467-8624.2009.01416>
- Orbach, Y., & Pipe, M. E. (2011). Investigating substantive issues. In M. E. Lamb, D. J. La Rooy, L. C. Malloy, & C. Katz (Eds.), *Children's testimony: A handbook of psychological research and forensic practice* (pp. 147–163). Chichester, UK: Wiley.
- Orbach, Y., Hershkowitz, I., Lamb, M. E., Sternberg, K. J., Esplin, P. W., & Horowitz, D. (2000). Assessing the value of structured protocols for forensic interviews of alleged child abuse victims. *Child Abuse & Neglect*, *24*, 733–752. [https://doi.org/10.1016/S0145-2134\(00\)00137-X](https://doi.org/10.1016/S0145-2134(00)00137-X)
- Paine, M. L., & Hansen, D. J. (2002). Factors influencing children to self-disclose sexual abuse. *Clinical Psychology Review*, *22*, 271–295. [https://doi.org/10.1016/S0272-7358\(01\)00091-5](https://doi.org/10.1016/S0272-7358(01)00091-5)
- Phillips, E., Oxburgh, G., Gavin, A., & Myklebust, T. (2012). Investigative interviews with victims of child sexual abuse: The relationship between question type and investigation relevant information. *Journal of Police and Criminal Psychology*, *27*, 45–54. <https://doi.org/10.1007/s11896-011-9093-z>
- Priebe, G., & Svedin, C. G. (2008). Child sexual abuse is largely hidden from the adult society. An epidemiological study of adolescents' disclosures. *Child Abuse & Neglect*, *32*, 1095–1108. doi:1016/j.chiabu.2008.04.001.
- Quas, J. A., Davis, E. L., Goodman, G. S., & Myers, J. E. B. (2007). Repeated questions, deception, and children's true and false reports of body touch. *Child Maltreatment*, *12*, 60–67. <https://doi.org/10.1177/1077559506296141>
- Roberts, K. P., Lamb, M. E., & Sternberg, K. J. (2004). The effects of rapport-building style on children's reports of a staged event. *Applied Cognitive Psychology*, *18*, 189–202. <https://doi.org/10.1002/acp.957>
- Rush, E. B., Lyon, T. D., Ahern, E. C., & Quas, J. A. (2014). Disclosure suspicion bias and abuse disclosure: Comparisons between sexual and physical abuse. *Child Maltreatment*, *19*, 113–118. <https://doi.org/10.1177/1077559514538114>
- Saykaly, C., Talwar, V., Lindsay, R. C. L., Bala, N. C., & Lee, K. (2013). The influence of multiple interviews on the verbal markers of children's deception. *Law and Human Behavior*, *37*, 187–196.
- Saywitz, K. J., Larson, R. P., Hobbs, S. D., & Wells, C. R. (2015). Developing rapport with children in forensic interviews: Systematic review of experimental research. *Behavioral Sciences & the Law*, *33*, 372–389. <https://doi.org/10.1002/bsl.2186>
- Saywitz, K. J., Wells, C. R., Larson, R. P., & Hobbs, S. D. (2016). Effects of interviewer support on children's memory and suggestibility: Systematic review and meta-analyses of experimental research. *Trauma, Violence & Abuse*, 1–18. <https://doi.org/10.1177/1524838016683457>
- Schulze, R. (2004). *Meta-analysis: A comparison of approaches*. Göttingen, Germany: Hogrefe & Huber.
- Schwarzer, G. (2015). *Meta: General package for meta-analysis. R package version 4.1-0*. <http://cran.r-project.org/web/packages/meta/meta.pdf>.
- Teoh, Y.-S., & Lamb, M. E. (2010). Preparing children for investigative interviews: Rapport-building, instruction, and evaluation. *Applied Developmental Science*, *14*, 154–163. <https://doi.org/10.1080/10888691.2010.494463>
- UNICEF. (2015). *Fact sheet: A summary of the rights under the Convention on the Rights of the Child*. Retrieved from http://www.unicef.org/crc/files/Rights_overview.pdf.
- United Kingdom Ministry of Justice. (2011). *Achieving best evidence in criminal evidence proceedings: Guidance on interviewing victims and witnesses, and guidance on using special measures*. Retrieved from https://www.cps.gov.uk/sites/default/files/documents/legal_guidance/best_evidence_in_criminal_proceedings.pdf.
- Westman, J. (2018). No matter how small: Child witnesses in Canadian criminal trials. *Appeal, Review of Current Law and Law Reform*, *65*, 66–88.
- Wilson, D. B. (2001). *Practical meta-analysis effect size calculator*. Retrieved from <http://www.campbellcollaboration.org/escalc/html/EffectSizeCalculator-Home.php>.
- Wood, J. M., & Garven, S. (2000). How sexual abuse interviews go astray: Implications for prosecutors, police, and child protection services. *Child Maltreatment*, *5*, 109–118. <https://doi.org/10.1177/1077559500005002003>
- Yuille, J. C., Hunter, R., Joffe, R., & Zaparniuk, J. (1993). Interviewing children in sexual abuse cases. In G. Goodman, & B. Bottoms (Eds.), *Understanding and improving children's testimony: Clinical, developmental and legal implications*. New York: Guilford Press.