



# Evaluating a Pilot Pioneering Training on Conducting Forensic Interviews with Children in Mozambique

Sidnei Priolo Filho<sup>1</sup> · Alexandra Simbine Nhamussua<sup>2</sup> ·  
Rosalina Zamora Jorge<sup>2</sup> · Ana Rebeca Benevides Domingues<sup>1</sup> ·  
José Macaringue<sup>3</sup> · Fatima Assane<sup>3</sup> · Adelina Mutambe<sup>3</sup> ·  
Renan Hoinski<sup>1</sup> · Matheus Carrascoso<sup>1</sup> · Fernanda Ottoni<sup>4</sup> ·  
Luciana Assini Meytin<sup>5</sup> · Ma'ayan Jacobson<sup>6</sup> · Carmit Katz<sup>7</sup>

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## Abstract

In child sexual abuse (CSA) cases, children undergo a series of forensic interviews, which have the potential to escalate the consequences of the abuse. However, in Mozambique, a low-income country, access to tools that facilitate justice for survivors of CSA is limited, and rates of violence against children are high. We pilot tested a training workshop on CSA and the use of the NICHD protocol in Mozambique and tested the training's effectiveness in increasing participant knowledge about CSA. Forty-four students of sign language and psychology courses at a university in Mozambique enrolled in this three-day workshop. Their knowledge of CSA, examining evidence in CSA cases, establishing rapport in forensic interviews, and the use of open-ended and closed-ended questions was tested before and after the workshop. Participants' knowledge of using open-ended questions in forensic interviews with children increased after attending the workshop and participants aged 26 years or above also gained knowledge on establishing rapport in interviews. Training professionals in Mozambique helps ensure that children have access to justice. Training conducted in this study successfully increased participant knowledge on how to conduct interviews and showed the importance of context in the delivery of training.

**Keywords** Childhood sexual abuse · Forensic interviewing · Training

Child sexual abuse (CSA) is a global health and safety problem with rates ranging from 8 to 31% for girls and 3 to 17% for boys (Barth et al., 2013). CSA survivors might present consequences into psychiatric, social psychological, and health realms (Hailes et al., 2019). In low- and middle-income countries (LMIC), CSA faces

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specific issues, including taboos regarding CSA even identifying as a new phenomenon and barriers for survivors to have access to justice (Veenema et al., 2015).

Access to justice for children is a key limitation in the current context of Mozambique, a LMIC, which faces significant challenges related to child abuse and sexual violence. Factors such as economic dependence on perpetrators, lack of trust in authorities, low educational attainment, and high patriarchal cultural norms contribute to this challenge (Teles, 2019).

Dealing effectively with cases of CSA is an important step in pursuing justice for children who have had their rights violated (Fernandes et al., 2024). Children's testimony is very important in deciding the outcomes of cases of CSA, many times the sole evidence of this crime (Lamb et al., 2018). However, children are often not believed when disclosing CSA and it may be hard to obtain testimony. Child forensic interviews are important in obtaining testimonies and should follow an evidence-based practice to ensure child's safety (Fernandes et al., 2024).

Forensic interviews have been the subject of decades of research that supports children's abilities to testify about their experiences of violence. Research has emphasized the importance of interviewing children using empirically validated investigative techniques that consider their individual differences (Aznar-Blefari et al., 2023; Lamb et al., 2008). For example, Magnusson et al. (2020) highlighted the difficulty of interviewing and obtaining accounts from children of different ages, especially younger ones, which led to the creation of forensic interview protocols capable of obtaining qualified reports for judicial use while being non-aversive or traumatic.

Given that forensic interviews are important for obtaining testimony and that testimonies are important for the outcome of CSA cases and in pursuing justice for children, it is crucial that these interviews are carried out effectively and to a high standard. One of the main goals of a forensic interview is to obtain information from specific events being investigated (Lamb et al., 2008; Orbach et al., 2000). Common elements across these protocols include a well-established rapport, a good relationship between the interviewer and interviewee, a clear description of the interviewer's investigative needs, an open questioning style, and a willingness to explore alternative hypotheses (Orbach et al., 2000; Powell et al., 2005). Additionally, Troxel et al. (2009) emphasized that forensic interview protocols should involve bonding, developmental assessments, ensuring the child understands the difference between truth and falsity, explaining interview data, allowing the child to admit uncertainty, using open or neutral questions. Forensic interview protocols also highlight the importance of conducting only one interview with the child to avoid re-victimization (Troxel et al., 2009).

One recent focus of research on the protocol is on the use of rapport and its effectiveness during the interview, with studies showing that an increased time building rapport diminishes resistance during the interview (Hershkowitz & Lamb, 2020; Hershkowitz et al., 2014, 2015; Lavoie et al., 2021). For example, Blasbalg et al. (2018) found that interviewer support during forensic interviews reduces the child's reluctance to disclose details of the abuse, resulting in more information. Recent research also points to the need for providing continuous feedback to interviewers to maintain interview quality post-training (La Rooy et al., 2015; Lamb et al., 2002a,

2002b), and establishing forensic protocols adapted to different audiences, such as using sign language, to enable proper interviews for children with higher levels of social vulnerability (Aznar-Blefari et al., 2023).

The NICHD protocol is one of the best-known child abuse interview protocols, having been the subject of study for several years (Faller, 2014; La Rooy et al., 2015). This structured forensic interview protocol, consisting of six parts, aims to collect information from child and adolescent survivors or witnesses of violence about the events, and employs techniques to minimize alterations in victims' reports (Lamb et al., 2007). The protocol emphasizes the importance of rapport in the interview process, and it incorporates a high number of open-ended questions to increase the accuracy of data collection. The creation of the NICHD protocol has helped investigations into violence against children by enhancing the dynamics of survivor interviews and enabling the collection of a significant amount of data from children (even from young children) when the interviews follow best practices (Bjorklund et al., 2000; Ceci & Bruck, 1995; Memon et al., 1996). The NICHD protocol was created to provide interviewers with a foundation, guiding them through each stage of the interview and helping avoid inappropriate questioning that may lead to confusion (Lamb et al., 2007; Williams et al., 2014). Lamb et al., (2002a, 2002b) research showed that training interviewers to use the NICHD protocol, combined with frequent supervision and detailed individual feedback on interviews, resulted in drastic improvements in interview quality with children. Also, Cyr and Lamb (2009) and Pipe et al. (2013) found that the quality of interviews increased and became more effective after professionals received training and used evidence-based capacity-building programs. A meta-analysis conducted by Benia et al. (2015) concluded that the NICHD protocol enhances interviewer's efficacy during sexual abuse investigations. Those adhering to the protocol consistently posed a higher number of open-ended queries while minimizing suggestive and multiple-choice questions. The NICHD protocol showed effectiveness in enhancing the depth of information gathered from open-ended questions.

Research shows that the NICHD protocol is one of the most efficacious for use in forensic interviews with children. Otgaar et al. (2021) showed that forensic interviews conducted with the NICHD protocol resulted in fewer reports of incorrect information provided by children compared to interviews conducted through free recall and without a structured interview. The study also reported improved memory retrieval with more detailed and accurate statements (Otgaar et al., 2021).

It is crucial that professionals responsible for interviewing child victims of violence receive training in the use of empirically validated forensic interview protocols that also considers the language and culture of the interviewee (Lamb et al., 2008; Saywitz et al., 2011; Stewart et al., 2011). For example, research shows that the number of relevant details disclosed related to the abuse increased when interviews were conducted with trained versus untrained professionals (Hackbarth et al., 2015). Training has to evaluate cultural and societal norms, as well as the legislation in order to enhance the engagement of participants (Ahn & Gilbert, 1992), and in the case of the protocol, future interviewers.

In creating training models, it is also important to consider the context in which the interviews will be conducted. It is crucial to adapt protocols to consider both language

and culture. Benuto and Garrick's (2016) review highlights that cultural norms can play a role in the disclosure process, and that language proficiency is important in the child's ability to answer questions. Ensuring that protocols are in a language suiting the child is essential to preserving their dignity, enhancing their access to justice, and avoiding the need to redo interviews, which, as mentioned, can re-traumatize children. Moreover, translating protocols into different and diverse languages helps establish children's accessibility to their rights to justice across the globe. This includes consideration for children with disabilities, who may require sign language.

Unfortunately, LMIC, such as Mozambique, face challenges in accessing tools that facilitate justice for survivors of CSA. Also, Mozambique is a country that faces high rates of violence committed against children and youth. According to a recent nationally representative household-based survey, the Mozambique Violence Against Children and Youth Survey (VACS), the prevalence of any form of child abuse before the age of 18 in Mozambique is 32.1% for women and 40.3% for men (Instituto Nacional de Saúde de Moçambique, 2019). This survey also found that 14.3% of females and 8.4% of males of the 18–24-year-olds in their study experienced sexual violence before the age of 18, and that 11.7% of females and 5.8% of males of the 13–17-year-olds had experienced sexual violence in the past year (Instituto Nacional de Saúde de Moçambique, 2019). Given the high rates of violence committed against children in Mozambique and the unique cultural and linguistic contexts there, culturally and linguistically adapted forensic protocols are needed for professionals in Mozambique to use to increase the accuracy of investigations into CSA and ensure children have their rights met, including access to justice.

## The Current Study

The current study conducted a forensic interview pilot training workshop in Mozambique with students of sign language and psychology courses, with two main aims: (a) to evaluate the effectiveness of this training in improving the participants' knowledge of CSA and the NICHD Protocol and (b) to evaluate the satisfaction of participants with this workshop. The ultimate goal was to assess if such a training workshop could be effective and well-received in Mozambique. This study hoped to contribute to empowering children, improving their access to justice, bettering their protection from violence, and ensuring that children's rights are being considered and met across the globe, including in low-income countries like Mozambique. This approach benefits not only survivors and their families, but society that might have a legal system that has tools to be more accurate into child forensic interviews. To the authors' knowledge, this is the first forensic interview training workshop that has been conducted in Mozambique.

## Method

### Participants

A total of 44 individuals participated in the training with every participant completing pre- and post-test questionnaires. Participants included students enrolled in sign language and psychology courses at the Universidade Eduardo Mondlane in Mozambique, ranging in age from 18 to 55 years ( $M=26.57$ ;  $SD=8.19$ ). Of the participants, 15.9% were male ( $n=7$ ) and 84.1% were female ( $n=37$ ). None of the participants had any prior experience with forensic interviews.

### Measures

#### Demographics

Participants provided information relevant to their demographics, including their gender, age, degree they are studying, and marital status.

#### Knowledge Questionnaire

These questions were utilized by Aznar-Blefari (2020) and validated in NICHD training sessions conducted in Brazil by the lead author of this study. The questionnaire was created in Brazilian Portuguese and adapted to Mozambican Portuguese. The knowledge questionnaire encompassed four sections and 17 items (true/false affirmations) in total, aiming to test participants' knowledge about CSA and skills to apply the NICHD protocol before and after the workshop. The first section of the questionnaire ("CSA") included four questions on sexual abuse (e.g., "Every sexual abuse involves necessarily physical touches from the abuser to the victim"); the second section ("evidence in CSA cases") had four questions on collecting evidence in cases of sexual abuse (e.g., "Children's disclosure delays hampers the evidence quality. Usually, children disclose sexual abuse after one year"); the third section ("rapport") included four questions on establishing rapport in forensic interviews (e.g., "It is important to thank the child for its efforts into answering the questions"); and the fourth section ("open-ended questions") was made up of five questions on the use of open and closed-ended questions in interviews (e.g., "Closed ended questions provide more detailed information"). Each question was formulated in a "true or false" format, with one point being awarded for every correct answer from the participant. The total scores for this questionnaire could range from 0 to 17, with a range of 0–4 for the "CSA" section, 0–4 for the "evidence in CSA cases" section, 0–4 for the "rapport" section, and 0–5 for the "open questions" section.

## Training Satisfaction Questionnaire

The workshop satisfaction questionnaire was intended to test participants' satisfaction with the training. It included questions about participants' satisfaction with the topics taught, the organization of the workshop, Q&A organization during the workshop (e.g., opportunity participants had to ask questions and have these answered), the quality of answers provided by the trainer to participants' questions, the quality of the content of each taught in each session/topic. Also, participants rated their overall satisfaction with the training. Responses were assessed on a five-point Likert scale ranging from "Very dissatisfied" (1) to "Very satisfied" (5). Participants were also invited to share their opinions on whether they would recommend the workshop (yes/no options), and provide descriptive feedback, in a sentence or a few, to the following question: "Which themes were considered most relevant or important to your reality?"

## Training Design

This training workshop followed the guidelines outlined by Dartnall et al. (2023) regarding performing research on the topic of CSA in low-income countries. The training and questionnaires provided were all conducted in Portuguese and the training was led by the leading author of this study. Table 1 provides a detailed description of the sessions and activities conducted on each day of the workshop. Slides presented visual information regarding the topics, and after every topic, participants were encouraged to engage in Q&A. The workshop was adapted to the Mozambique context in collaboration with the professors of sign language and psychology courses at the Universidade Eduardo Mondlane, after originally being used in the Brazilian context by the leading author. This included consideration for the laws in Mozambique, the language spoken there, and cultural differences. Training content was designed to cover key topics included in the NICHD protocol, including aspects such as rapport, episodic memory, protocol objectives, and the impact of interviews on access to justice for children and adolescents. Students were invited by the second and third authors to participate in the workshop and were provided with lunch and beverages. No financial incentives were provided for the participants.

## Procedure

On the first day of the workshop, before beginning the formal training, participants consented to the study. Participants were given the option not to participate and were informed they had the right to stop participating at any point during the training should they wish to. Those who accepted the terms of the consent form, which included all participants present, then began the training workshop. At the start of the workshop, participants' demographics were collected, and the pre-test knowledge questionnaire was administered. The training was conducted in person over three days during March 2022 at the Universidade Eduardo Mondlane, Maputo,

**Table 1** Description of the activities of the training workshop

Day	Training workshop content
1	<p><b>Welcome and pretest measures</b></p> <p><b>Session 1: Child abuse</b></p> <ul style="list-style-type: none"> <li>Types of violence and definitions</li> <li>Prevalence of child abuse and measurements</li> <li>Who are child protection professionals in Mozambique?</li> <li>Identifying and reporting child abuse</li> </ul> <p><b>Session 2: Forensic Interview</b></p> <ul style="list-style-type: none"> <li>Use of an interview in investigations</li> <li>Evidence in CSA cases</li> <li>NICHHD protocol history and use</li> </ul>
2	<p><b>Session 3: NICHHD protocol</b></p> <ul style="list-style-type: none"> <li>Presenting the Mozambican Portuguese version of the NICHHD protocol</li> <li>Protocol characteristics (rapport, non-substantive, and substantive phases)</li> <li>Science of the protocol</li> <li>Asking children questions</li> </ul> <p><b>Session 4: Access to justice for all children</b></p> <ul style="list-style-type: none"> <li>Accessibility as a means to preventing child abuse</li> <li>Accessibility as a means to facilitating disclosure</li> <li>Presenting the Mozambican Sign Language version of the NICHHD protocol</li> </ul>
3	<p><b>Session 5: Laws, disclosure, and interviews</b></p> <ul style="list-style-type: none"> <li>Tools to accessing justice</li> <li>Training and updating knowledge</li> </ul> <p><b>Concluding remarks and post-test measures</b></p>

Mozambique. Each workshop session, which included one topic of study (e.g., “child abuse”), lasted an average of three hours, meaning that every day, training lasted around three to six hours. After completion of the training on day three of the workshop, the knowledge questionnaire was administered to participants again, alongside the training satisfaction questionnaire.

## Data Analysis

Except for the qualitative data collected in the satisfaction questionnaire, results were analyzed using the Statistical Package for the Social Sciences (SPSS) version 29. A Shapiro–Wilk normality test indicated that the results did not exhibit a normal distribution ( $SW(137)=0.827$ ,  $p < 0.001$ ). Consequently, non-parametric analyses were conducted to analyze data. First, the Wilcoxon Signed Rank test was employed to investigate whether participants’ knowledge increased after the training. After this, Mann–Whitney  $U$  tests were performed to identify differences in scale factors

based on gender, marital status, and age. For this, participants were categorized into two groups (Group 1 = 18 to 25 years; Group 2 = 26 years or older). This was because the authors wanted to differentiate between the ages typical of students who have begun and are enrolled in university studies immediately after finishing school (Group 1) and those who went into the job market or got experience elsewhere and then returned to studying (Group 2). After this, McNemar's analysis was utilized to compare whether there were significant differences in the frequency of correct responses for each item of the knowledge questionnaire between pre-test and post-test. In addition, the frequency of each response ("very dissatisfied" to "very satisfied") provided for the satisfaction questionnaire was analyzed; descriptive analysis was utilized to analyze the descriptive data provided for the satisfaction questionnaire, to identify key topics found relevant; and the number of participants who would recommend the course versus not was counted.

### Ethical Consideration

At the time of this study, the Universidade Eduardo Mondlane did not have an ethical board. However, this study was conducted with the proper authorization from the Universidade Eduardo Mondlane, including receiving authorization from the Dean of the university, the Dean of the school, the professors of the psychology and sign language courses taught to the participating students, and the participating students.

## Results

### Knowledge Questionnaire

The Wilcoxon Signed Rank test was conducted to investigate changes in knowledge after the workshop. Overall, results showed more correct answers in the post-test compared to the pre-test for all four sections of the knowledge questionnaire (Table 2). However, only the fourth section—the section asking about whether open-ended or closed-ended questions would be a more suitable model for assessing child abuse—showed a statistically significant change for an increase in knowledge ( $z = 38.0$ ,  $p < 0.010$ ;  $r = -0.63$ ) with a strong effect size.

**Table 2** Scores for each section of the knowledge questionnaire in pre- and post-test for all participants

	CSA (max = 4)		Evidence in CSA cases (max = 4)		Rapport(max = 4)		Open questions (max = 5)		Total (max = 17)	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Mean	3.11	3.16	2.32	2.55	3.45	3.39	3.80	4.25	12.64	13.32
Median	3.00	3.00	2.00	3.00	4.00	4.00	4.00	4.00	13.00	13.50
SD	0.84	0.88	0.85	0.66	0.76	0.75	1.17	0.81	2.22	1.87



Further analyses were conducted investigating the potential association of demographics (e.g., age, gender) with test scores. The Mann–Whitney  $U$  test did not indicate differences in test scores between participants based on either gender or marital status, considering all four possible combinations (male  $\times$  single; male  $\times$  married, females  $\times$  single, female  $\times$  married). To investigate if the number of correct answers given by participants in pre-test and post-test evaluations increased with participant age, participants were categorized into two groups, as mentioned earlier. The first group included participants aged 18 to 25 years (68.2%,  $n=30$ ), and the second group included those aged 26 or older (31.8%,  $n=14$ ). Results showed that age was related to changes in test scores, with the older age group of participants (26+ years) significantly scoring higher in the “rapport” section of the knowledge questionnaire post-test compared to the pre-test ( $U=25.4$ ,  $z=-2.82$ ,  $p<0.01$ ), with a large effect size ( $r=-0.91$ ; Cohen, 2013). This was despite no significant differences existing in the pre-test scores between the age groups.

To assess whether the frequency of correct answers from participants for each item would change post-test compared to pre-test, a McNemar’s analysis was conducted (Table 3). The results showed a statistically significant change in frequency for multiple items, where, in the post-test, there was an increase in the frequency of correct true/false responses from participants for the following items: Item 8 (“Considering that situations of child sexual abuse do not require physical touch to occur, there are numerous other forms of victimization without material evidence”); Item 12 (“It is useful to start rapport by calling the child by name and expressing interest

**Table 3** Frequency and percentage of correct answers comparing pre and post-test

Section	Item	Pre-test		Post-test		$X^2$		$gl$	$p$
		$n$	%	$n$	%				
CSA	1	41	93.2	38	86.4	1.29	1	0.25	
	2	25	56.8	27	61.4	0.28	1	0.59	
	3	38	86.4	40	90.9	0.66	1	0.41	
	4	32	72.7	33	75.0	0.07	1	0.78	
Evidence in CSA cases	5	11	25.0	7	15.9	1.60	1	0.20	
	6	19	43.2	26	59.1	2.33	1	0.12	
	7	37	84.1	39	88.6	0.40	1	0.52	
Rapport	8	35	79.5	40	90.9	3.57	1	0.05*	
	9	35	79.5	38	86.4	1.00	1	0.31	
	10	40	90.9	30	68.2	1.00	1	0.01*	
	11	41	93.2	40	90.9	0.33	1	0.56	
	12	36	81.8	41	93.2	3.57	1	0.05*	
Open questions	13	28	63.6	32	72.7	1.60	1	0.20	
	14	30	68.2	33	75.0	0.69	1	0.40	
	15	35	79.5	41	93.2	3.60	1	0.05*	
	16	39	88.6	42	95.5	3.00	1	0.08	
	17	35	79.5	39	88.6	1.60	1	0.20	

\* $p<0.05$

in getting to know them better”); and Item 15 (“Open-ended questions elicit, on average, three times more details spontaneously”). In contrast, the frequency of correct responses from participants for Item 10 (“When a child cries during the establishment of rapport, it is important to acknowledge the child’s feelings, for example, by saying to them: ‘I see that you are sad, tell me more about it.’”) was significantly higher in the pre-test.

### Training Satisfaction Questionnaire

Results of the training satisfaction questionnaire revealed that the workshop was recommended by almost all participants of the study (6 participants did not answer the question and 2 were neutral). Participants also rated their satisfaction regarding each quality of the training workshop (e.g., topics taught, presentation organization, etc.) with 97.3% reporting being highly satisfied with the topics taught in the training. Quality of training sessions (94.8%), training organization (94.7%), general satisfaction (94.7%), Q&A, and quality of answers provided (92.1%) also showed elevated percentages of high satisfaction.

Additionally, data was collected about participants’ perceptions of which topics covered during the workshop they found to be most relevant or important with 38 participants providing answers. Forensic interview was the most relevant topic (13 mentions), followed by the NICHD protocol and rapport (9 mentions), interviewing techniques (7 mentions), interviewer behavior (4 mentions), and access to justice for children (4 mentions were the most frequent mentions).

### Discussion

The issue of CSA is a global and grave concern, and above the hurt that may be caused by the abuse; the interview process thereafter which children must go through to give their testimonies can exacerbate the consequences of the abuse and decrease the accuracy of reports. Accordingly, efforts have ensued worldwide to try to improve the protocol of these interviews, including bettering the training that professionals are given to conduct them. The current study was designed to test the effectiveness and satisfaction with an innovative training workshop on CSA and the use of the NICHD Protocol in forensic interviews in the unique context of Mozambique, with participants being university students of sign language and psychology courses.

To the best of our knowledge, this is the first forensic interview training that has been conducted in Mozambique, which is a crucial step in ensuring that children’s access to justice and that their rights are upheld globally, including in LMIC. Despite initiatives such as the Survey on Violence against Children and Youth (Instituto Nacional de Saúde de Moçambique, 2019) to understand the extent of the phenomenon in this country, efforts to prevent sexual abuse are still rare, echoing trends observed in several LMIC (Mathews and Collin-Vézina, 2019). Research has emphasized the importance of validated protocols for investigating CSA (Azzopardi et al.,

2019; Lamb et al., 2007; Lavoie et al., 2021). The present workshop highlighted the core characteristics of the NICHD protocol that align with aspects pointed out by Troxel et al. (2009), including rapport, knowledge about child sexual abuse, and open-ended questioning.

### Knowledge Questionnaire

Results in this study indicated that participants significantly gained knowledge after completing training about the use of open-ended questions in forensic interviews, and that participants above the age of 26 years also gained knowledge in establishing rapport during forensic interviews. Multiple studies highlight the importance of utilizing open-ended questions when interviewing children, with these sorts of questions eliciting multi-word responses and the disclosure of further and more accurate information (e.g., Brown et al., 2013; Gagnon & Cyr, 2017; La Rooy et al., 2015). Additionally, Katz and Hershkowitz (2013) study showed that interview protocols focusing on enhanced rapport-building resulted in children showing less reluctance and that, in turn, this resulted in children providing more forensically relevant details. As such, these results support the use of this training program in promoting important features of forensic interviewing.

However, it is also important to note that participants generally scored high in pre-test scores of “rapport,” and to consider a potential ceiling effect in the sample. It is possible that, due to cultural factors, rapport is a common practice in Mozambican daily life, and so participants may be naturally more accustomed to and practiced with this interview skill. Also, it is possible that rapport is a traditional behavior, more linked to older individuals. In anecdotal support of this, the first author of this paper, who facilitated the Mozambique workshop and ran a similar workshop in Brazil, observed significant differences in social interactions between these groups. For example, when formulating a question, students in Mozambique tended to provide more in-depth and meaningful self-introductions compared to Brazilian students who asked questions without presenting their personal characteristics. In addition, according to Teles (2019), CSA is often considered a community or family problem rather than a legal issue in some Mozambican contexts. Therefore, the rapport that would occur in a forensic interview may happen naturally when discussing CSA within these groups, but this hypothesis requires testing and verification in different Mozambican developmental contexts.

Context is also important when considering other elements of CSA and the forensic interview process, which may impact the training procedure. For example, in Mozambique, financial compensations are given to families of victims in turn for the perpetrator being “freed” from their act with unofficial process and deals made by the families of perpetrators and survivors without any official investigation or care provided to the survivor (Teles, 2019; Instituto Nacional de Saúde de Moçambique, 2019). This sort of agreement generates a lack of accountability for perpetrators and does not involve child protection agencies. When child sexual abuse is “resolved between the families” the victim may fear retaliation by the perpetrator when disclosing to a professional, which can impact the use of forensic interviews

with children. Context-informed approaches need to consider cultural differences and challenges in adapting protocols originating from developed countries while strengthening child protection (Muthukrishna et al., 2020), as was done in this study.

At the same time, among acknowledging the barriers to child protection, it is important to note that Mozambique has been making strides in improving its child protection systems. For example, innovative strategies to enhance child protection networks have been developed in Mozambique, such as the “Linha Fala,” a child abuse reporting service. Training professionals in these services on NICHHD protocol and CSA may also further improve the protection of children impacted by CSA, and further studies may wish to consider trialing this.

### **Satisfaction Questionnaire**

Results of the satisfaction questionnaire revealed that all participants would recommend this workshop and that a very high frequency of participants were “highly satisfied” with all the different topics in the course. This positive reception is promising for the future trajectory of this training workshop. Additionally, the study’s collection of data on which topics professionals deemed especially relevant in their everyday lives may help researchers understand how this training may be further enhanced to suit this context.

### **Study Limitations and Future Directions**

Though this workshop was received well and yielded positive results, it must be noted that this study has some limitations. Firstly, participants were not randomly selected, and there was no control group. This was mostly due to limitations in resources and funding which prevented the course from running again afterwards with a control group. However, there was also no control group as the situation in Mozambique regarding the need to train professionals on CSA and interview protocols is urgent, so collaborators of this study wanted this training to be done as soon as possible and not to have participants put on a waiting list. When conducting research in low-income countries, like Mozambique, realistic interventions and trainings (Pawson & Tilley, 1997) are usually conducted according to contextual factors and constraints. Still, this study trialed a new training program, and our aim was to create a protocol that considers the Mozambican context and improves professional knowledge of forensic interviewing elements, which was achieved. Future studies should investigate the effectiveness of such a training program in more settings and with more professionals within Mozambique, include a control group and randomization of participants, and consider other variables in participants that may influence results.

Another limitation of this study was the difficulty of measuring the analyzed constructs of knowledge and participant satisfaction, as no validated scales exist for these constructs in the context of such a workshop in Portuguese, except for the ones used in this study. Despite training having been conducted in developed countries (Cyr & Lamb, 2009; Lamb et al., 2002a, 2002b; Pipe et al., 2013) and

in Brazil (Hackbarth et al., 2015), there are no validated instruments for this measurement in Mozambican Portuguese. Future studies may wish to use other measures of testing knowledge, for example, by videotaping participants' application of learned knowledge in an interview. Also, future research must invest in designing training on forensic interviewing for professionals that may be applied in other LMIC, making special considerations like for language and culture-sensitive terminology.

Finally, Lamb et al.'s (2015) guidance recommends that such a workshop run over more days, with fewer hours per day, compared to the running of the current workshop. However, due to resources and availabilities, this was not possible. Also, the lack of frequent and high-quality supervision can be a limitation, or a consideration to improve infrastructure in Mozambique and other developing countries. Nonetheless, this training was rated highly and proved effective in some of its measures. Except for one item ("When a child cries during the establishment of rapport, it is important to help the child understand what they are feeling, for example, by saying to them: "I see that you are sad, tell me more about it.") that showed a significant decrease. Our interpretation is that culturally in Mozambique, a child crying must be addressed by the present adult by actions, not words. In this sense, engaging with a hug or any form of physical comfort for a crying child would be more appropriate leading to these results. The knowledge increase of open-ended questions shows the importance of skills for forensic interviews, and it is considered a key aspect of the NICHD protocol (Powell et al., 2005; Troxel et al., 2009).

In the future, researchers and professionals should focus on developing culturally compatible training for children that can be incorporated into Mozambique's child protection system. This way, there would be assurance of continuity of these processes with a central role played by local professionals. Also, we encourage future work to create context-informed training suitable for professionals working with children in other developing countries, to continue the momentum of recognizing children and their rights worldwide.

## Conclusion

In conclusion, training professionals in countries like Mozambique, a developing country with high rates of violence against children, helps ensure that all children have access to justice, including children from contexts not typically studied. It is our understanding that this study included the first forensic interview training conducted in Mozambique, which is a crucial step in improving children's access to justice globally. Training conducted in this study successfully increased participant knowledge on how to conduct interviews according to the gold standard of the NICHD protocol and showed the importance of considering context in the delivery of training. Additionally, the training was well received by participants. Cyr & Lamb (2009) emphasizes the importance of training professionals to conduct interviews scientifically, and we hope that workshops of this nature can have real-world effects on the protection of Mozambican children.

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**Data Availability** The data is available from the authors upon request.

## Declarations

**Conflict of Interest** The authors declare no competing interests. One of the journal's co-editors-in-chief is among the authors of this article. In line with the journal's editorial policies, the other co-editor-in-chief directed the peer-review process of this article. The co-editor-in-chief involved in the authorship of this article was not involved in the peer review process or handling of the manuscript.

## References

- Ahn, H. N., & Gilbert, N. (1992). Cultural diversity and sexual abuse prevention. *Social Service Review*, *66*(3), 410–427. <https://doi.org/10.1086/603930>
- Aznar-Blefari, C. (2020). *Desenvolvimento e avaliação de programas de treinamento para o uso do protocolo de entrevista investigativa NICHD em casos de violência sexual infantil* [Tese de Doutorado, Pontifícia Universidade Católica do Rio Grande do Sul]. <https://hdl.handle.net/10923/16670>. Accessed 19 Nov 2024
- Aznar-Blefari, C., Benevides, A. R. D., Rogenski, R. H., Pinto, M. M., Priolo-Filho, S. R., Katz, C., & Goldfarb, D. (2023). Increasing access to justice for children: A brief report on the Brazilian Sign Language version of the NICHD protocol. *Children and Youth Services Review*, *145*, 106763. <https://doi.org/10.1016/j.childyouth.2022.106763>
- Azzopardi, C., Eirich, R., Rash, C. L., 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.
- Barth, J., Bermetz, L., Heim, E., Trelle, S., & Tonia, T. (2013). The current prevalence of child sexual abuse worldwide: A systematic review and meta-analysis. *International Journal of Public Health*, *58*, 469–483.
- Benia, L. R., Hauck-Filho, N., Dillenburg, M., & Stein, L. M. (2015). The NICHD investigative interview protocol: a meta-analytic review. *Journal of Child Sexual Abuse*, *24*(3), 259–279. <https://doi.org/10.1080/10538712.2015.1006749>
- Benuto, L. T., & Garrick, J. (2016). Cultural considerations in forensic interviewing of children. In W. T. O'Donohue & M. Fanetti (Eds.), *Forensic interviews regarding child sexual abuse: A guide to evidence-based practice* (pp. 351–364). Springer International Publishing Switzerland.
- Bjorklund, D. F., Cassel, W. S., Bjorklund, B. R., Brown, R. D., Park, C. L., Ernst, K., & Owen, F. A. (2000). Social demand characteristics in children's and adults' eyewitness memory and suggestibility: The effect of different interviewers on free recall and recognition. *Applied Cognitive Psychology: The Official Journal of the Society for Applied Research in Memory and Cognition*, *14*(5), 421–433.
- Blasbalg, U., Hershkowitz, I., & Karni-Visel, Y. (2018). Support, reluctance, and production in child abuse investigative interviews. *Psychology, Public Policy, and Law*, *24*(4), 518.
- Brown, D. A., Lamb, M. E., Lewis, C. S., Pipe, M., Orbach, Y., & Wolfman, M. (2013). The NICHD investigative interview protocol: An analogue study. *Journal of Experimental Psychology: Applied*, *19*(4), 367–382. <https://doi.org/10.1037/a0035143>
- Ceci, S. J., & Bruck, M. (1995). *Jeopardy in the courtroom: A scientific analysis of children's testimony*. Washington, DC: American Psychological Association. <https://doi.org/10.1037/10180-000>
- Cohen, J. (2013). *Statistical power analysis for the behavioral sciences*. Routledge. <https://doi.org/10.4324/9780203771587>

- Cyr, M., & Lamb, M. E. (2009). Assessing the effectiveness of the NICHD investigative interview protocol when interviewing French-speaking alleged victims of child sexual abuse in Quebec. *Child Abuse & Neglect*, *33*, 257–268. <https://doi.org/10.1016/j.chiabu.2008.04.002>
- Dartnall, E., Homan, S., Lalor, K., & Undie, C. (2023). Is ethical review a barrier to research on violence against women and violence against children in low and middle income countries? *Sexual Violence Research Initiative*. <https://www.svri.org/blog/ethical-review-barrier-research-violence-against-women-and-violence-against-children-low-and>. Accessed 22 Nov 2024
- Faller, K. C. (2014). Forty years of forensic interviewing of children suspected of sexual abuse, 1974–2014: Historical benchmarks. *Social Sciences*, *4*(1), 34–65.
- Fernandes, D., Gomes, J. P., Albuquerque, P. B., & Matos, M. (2024). Forensic interview techniques in child sexual abuse cases: A scoping review. *Trauma, Violence, & Abuse*, *25*(2), 1382–1396.
- 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>
- Hackbarth, C., de Albuquerque Williams, L. C., & Lopes, N. R. L. (2015). Avaliação de capacitação para utilização do Protocolo NICHD em duas cidades brasileiras. *Revista de Psicologia*, *24*(1), 1–18. <https://doi.org/10.5354/0719-0581.2015.36916>
- Hailes, H. P., Yu, R., Danese, A., & Fazel, S. (2019). Long-term outcomes of childhood sexual abuse: An umbrella review. *The Lancet Psychiatry*, *6*(10), 830–839.
- Hershkowitz, I., & Lamb, M. E. (2020). Allegation rates and credibility assessment in forensic interviews of alleged child abuse victims: Comparing the revised and standard NICHD protocols. *Psychology, Public Policy, and Law*, *26*(2), 176.
- Hershkowitz, I., Lamb, M. E., & Katz, C. (2014). Allegation rates in forensic child abuse investigations: Comparing the revised and standard NICHD protocols. *Psychology, Public Policy, and Law*, *20*(3), 336. <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>
- Instituto Nacional de Saúde de Moçambique. (2019). Inquérito Sobre Violência Contra a Criança em Moçambique (InVIC). Instituto Nacional de Estatística. Available at [https://www.ins.gov.mz/wp-content/uploads/2021/05/InVICFinal\\_Portuges-11.12.2020.pdf](https://www.ins.gov.mz/wp-content/uploads/2021/05/InVICFinal_Portuges-11.12.2020.pdf)
- Katz, C., & Hershkowitz, I. (2013). Repeated interviews with children who are the alleged victims of sexual abuse. *Research on Social Work Practice*, *23*(2), 210–218.
- La Rooy, D., Brubacher, S. P., Aromäki-Stratos, A., Cyr, M., Hershkowitz, I., Korkman, J., Myklebust, T., Naka, M., Peixoto, C. E., Roberts, K. P., Stewart, H., & Lamb, M. E. (2015). The NICHD protocol: A review of an internally-used evidence-based tool for training child forensic interviewers. *Journal of Criminological Research, Policy and Practice*, *1*(2), 76–89. <https://doi.org/10.1108/JCRPP-01-2015-0001>
- Lamb, M. E., Brown, D. A., Hershkowitz, I., Orbach, I., & Esplin, P. W. (2018). *Tell me what happened: Questioning children about abuse* (2nd ed.). Hoboken, NY: Wiley-Blackwell.
- Lamb, M. E., Hershkowitz, I., Orbach, Y., & Esplin, P. W. (2008). *Tell me what happened: Structured investigative interviews of child victims and witnesses*. John Wiley & Sons Inc. <https://doi.org/10.1002/9780470773291>
- Lamb, M. E., Malloy, L. C., Hershkowitz, I., & La Rooy, D. (2015). Children and the law. *Handbook of child psychology and developmental science: Socioemotional processes* (pp. 464–512).
- 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*(11–12), 1201–1231.
- Lamb, M. E., Sternberg, K. J., Orbach, Y., Esplin, P. W., & Mitchell, S. (2002a). Is ongoing feedback necessary to maintain the quality of investigative interviews with allegedly abused children? *Applied Developmental Science*, *6*(1), 35–41. [https://doi.org/10.1207/S1532480XADS0601\\_04](https://doi.org/10.1207/S1532480XADS0601_04)
- Lamb, M. E., Sternberg, K. J., Orbach, Y., Hershkowitz, I., Horowitz, D., & Esplin, P. W. (2002b). The effects of intensive training and ongoing supervision on the quality of investigative interviews with alleged sex abuse victims. *Applied Developmental Science*, *6*(3), 114–125.
- Lavoie, J., Wyman, J., Crossman, A. M., & Talwar, V. (2021). Meta-analysis of the effects of two interviewing practices on children's disclosures of sensitive information: Rapport practices and question type. *Child Abuse & Neglect*, *113*, 104930.













- Magnusson, M., Ernberg, E., Landström, S., & Akehurst, L. (2020). Forensic interviewers' experiences of interviewing children of different ages. *Psychology, Crime & Law*, 26(10), 967–989. <https://doi.org/10.1080/1068316X.2020.1742343>
- Mathews, B., & Collin-Vézina, D. (2019). Child sexual abuse: Toward a conceptual model and definition. *Trauma, Violence, & Abuse*, 20(2), 131–148. <https://doi.org/10.1177/1524838017738726>
- Memon, A., Holley, A., Wark, L., Bull, R., & Koehnken, G. (1996). Reducing suggestibility in child witness interviews. *Applied Cognitive Psychology*, 10(6), 503–518.
- Muthukrishna, M., Bell, A. V., Henrich, J., Curtin, C. M., Gedranovich, A., McInerney, J., & Thue, B. (2020). Beyond Western, educated, industrial, rich, and democratic (WEIRD) psychology: Measuring and mapping scales of cultural and psychological distance. *Psychological Science*, 31(6), 678–701. <https://doi.org/10.1177/0956797620916782>
- 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(6), 733–752.
- Otgaar, H., Ruiter, C., Sumampouw, N., Erens, B., & Muris, P. (2021). Protecting against misinformation: Examining the effect of empirically based investigative interviewing on misinformation reporting. *Journal of Police and Criminal Psychology*, 36(4), 758–768. <https://doi.org/10.1007/s11896-020-09401-2>
- Pawson, R., & Tilley, N. (1997). An introduction to scientific realist evaluation. In E. E. Chelimsky & W. Shadish (Eds.), *Evaluation for the 21st Century: A Handbook* (pp. 405–418). SAGE Publications Inc. <https://doi.org/10.4135/9781483348896.n29>
- Pipe, M., Orbach, Y., Lamb, M. E., Abbott, C., & Stewart, H. (2013). Do case outcomes change when investigative interviewing practices change? *Psychology, Public Policy, and Law*, 19(2), 179–190. <https://doi.org/10.1037/a0030312>
- Powell, M. B., Fisher, R. P., & Wright, R. (2005). Investigative interviewing. In N. Brewer & K. D. Williams (Eds.), *Psychology and Law: an empirical perspective* (pp. 11–42). NY: Guilford Publications.
- Saywitz, K. J., Lyon, T. D., & Goodman, G. S. (2011). Interviewing children. *The APSAC Handbook on Child Maltreatment*, 3, 337–360.
- Stewart, H., Katz, C., & La Rooy, D. J. (2011). Training forensic interviewers. 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. 199–216). Wiley. <https://doi.org/10.1002/9781119998495>
- Teles, N. (2019). The lack of social belonging: Reflections on violence against children in Mozambique. *Aggression and Violent Behavior*, 46, 197–200. <https://doi.org/10.1016/j.avb.2019.02.010>
- Troxel, N. R., Ogle, C. M., Cordon, I. M., Lawler, M. J., & Goodman, G. S. (2009). Child witnesses in criminal court. In B. L. Bottoms, C. J. Najdowski, & G. S. Goodman (Eds.), *Children as victims, witnesses, and offenders: Psychological science and the law* (pp. 150–166). The Guilford Press.
- Veenema, T. G., Thornton, C. P., & Corley, A. (2015). The public health crisis of child sexual abuse in low and middle income countries: An integrative review of the literature. *International Journal of Nursing Studies*, 52(4), 864–881.
- Williams, L. C. D. A., Hackbarth, C., Blefari, C. A., Padilha, M. D. G. S., & Peixoto, C. E. (2014). Investigação de Suspeita de Abuso Sexual Infantojuvenil: O Protocolo NICHD. *Temas Em Psicologia*, 22(2), 415–432.

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## Authors and Affiliations

Sidnei Priolo Filho<sup>1</sup>  · Alexandra Simbine Nhamussua<sup>2</sup>  ·  
Rosalina Zamora Jorge<sup>2</sup> · Ana Rebeca Benevides Domingues<sup>1</sup>  ·  
José Macaringue<sup>3</sup>  · Fatima Assane<sup>3</sup>  · Adelina Mutambe<sup>3</sup>  ·  
Renan Hoinski<sup>1</sup>  · Matheus Carrascoso<sup>1</sup>  · Fernanda Ottoni<sup>4</sup>  ·  
Luciana Assini Meytin<sup>5</sup>  · Ma'ayan Jacobson<sup>6</sup>  · Carmit Katz<sup>7</sup> 

✉ Sidnei Priolo Filho  
sdpriolo@gmail.com

Alexandra Simbine Nhamussua  
chandanhamussua@gmail.com

Rosalina Zamora Jorge  
rosarturo@gmail.com

Ana Rebeca Benevides Domingues  
anarebecabenevides@hotmail.com

José Macaringue  
jose\_macaringue@wvi.org

Fatima Assane  
fatima\_assane@wvi.org

Adelina Mutambe  
adelina\_mutambe@wvi.org

Renan Hoinski  
renanhoinski@gmail.com

Matheus Carrascoso  
matheuscarrascoso@hotmail.com

Fernanda Ottoni  
fer\_ottoni@hotmail.com

Luciana Assini Meytin  
lassini@jhu.edu

Ma'ayan Jacobson  
maayan.cj@gmail.com

Carmit Katz  
drckatz@gmail.com

<sup>1</sup> Laboratório de Pesquisa, Prevenção e Intervenção Em Psicologia Forense, Universidade Tuiuti do Paraná, Rua Ladislau Kula, Curitiba 395, Brazil

<sup>2</sup> Universidade Eduardo Mondlane, Maputo, Mozambique

<sup>3</sup> World Vision Moçambique, Maputo, Mozambique

<sup>4</sup> Universidade Tuiuti do Paraná, Curitiba, Brazil

<sup>5</sup> Department of Mental Health, Bloomberg School of Public Health, Johns Hopkins University, Baltimore, USA

<sup>6</sup> Haruv Institute, The Hebrew University of Jerusalem, Jerusalem, Israel

<sup>7</sup> Bob Shapell School of Social Work, Tel Aviv University, Tel Aviv, Israel