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Mari-Liis Tohvelmann
MA
School of Natural Sciences and Health
Tallinn University

Kristjan Kask
PhD
School of Natural Sciences and Health
Tallinn University

From Child to Adult Victims and Witnesses:

Ways of Improving the Quality of Investigative Interviews

Witness statements[*1] are, in judicial practice, irreplaceable pieces of evidence in criminal proceedings. Still, interviewing both child and adult witnesses, though crucial, remains a difficult skill. A recent survey among adults demonstrates that most incidents of physical violence (70%) and harassment (89%) are not reported to the police[*2], and in crimes against children, online sexual exploitation is on the increase[*3]. With people of any age, witness statements may be easily influenced by inappropriate interviewing style, resulting in miscarriages of justice.[*4] With this paper, we begin by providing an overview of appropriate investigative interviewing techniques for interviews of child and adult witnesses. We continue by discussing training. There is more literature about interviewing child witnesses and training those investigators who conduct these interviews, and we make references to that child-witness literature where doing so is appropriate and necessary, both for its domain-specific relevance and – since there are similarities in investigative interviews of child and adult witnesses – for the light it sheds more broadly. Finally, we discuss particular ways in which investigators can be trained to increase and maintain the quality of interviews.

1. Investigative interviewing of witnesses

Witness statements are often the only evidence available to authorities.[*5] Whenever a witness account is the sole evidence in the case, the pivotal aspect is the statements' factuality. Although the evidence that witnesses provide can be tremendously helpful in developing leads, it may not always be accurate. The criminal-justice system places a great deal of faith in eyewitness testimony despite psychological research

1 When using the term 'witness', we refer to both victims and witnesses.

2 European Union Agency for Fundamental Rights. 'Crime, safety and victims' rights: Fundamental rights survey. Retrieved 26.03.2022 from https://fra.europa.eu/en/publication/2021/fundamental-rights-survey-crime.

3 United Nations Children's Fund (2021) Ending online child sexual exploitation and abuse: Lessons learned and promising practices in low- and middle-income countries. UNICEF: New York. Retrieved on March 26th 2022 from: https://www.unicef.org/media/113731/file/Ending%20Online%20Sexual%20Exploitation%20and%20Abuse.pdf.

4 R. Milne & R. Bull. *Investigative Interviewing: Psychology and Practice*. Chichester, UK: Wiley 1999.

5 U. Undeutsch. 'Courtroom evaluation of eyewitness testimony'. *International Review of Applied Psychology* 1984(33), pp. 51–67. – DOI: https://doi.org/10.1111/j.1464-0597.1984.tb01416.x; M.B. Powell R.P. Fisher, R. Wright. Investigative interviewing - In N. Brewer & K. D. Williams (Eds.), *Psychology and law: An empirical perspective,* 2005, pp. 11–42. The Guilford Press 2005, pp. 11–42.

showing that witness reports may be misleading even while appearing particularly credible.*[6] Any useful technique for the evaluation of witness testimony must work in both directions – it should have equal use in the detection of possible errors and for the verification of truthful and reliable accounts.*[7]

Many previous studies have contributed in regard to that matter – i.e., to trying to find a way to increase the amount of information elicited from witnesses through improved interview techniques in order to increase the accuracy of witness statements and improve the criminal-justice system's ability to evaluate it.*[8]

Investigative interviews are conducted at various points in the investigative process, but interviews conducted in the initial phase of the police investigation are usually the most critical*[9], especially when there is little or no physical evidence and only one witness to guide the investigation.*[10] Therefore, interviews conducted in an appropriate manner can advance the police investigation immeasurably by facilitating thorough, accurate records of the crime details. On the other hand, witnesses' memory of an event may be fragile, and the amount and accuracy of information obtained from a witness's testimony depends in part on the method of interviewing applied.*[11]

Eliciting reliable and detailed information from someone about an alleged offence is a unique and complex process that must take into account a broad range of both internal factors (age, cognitive ability, language skills, etc.) and external ones (such as events' sensitivity and the interview methods).*[12] These factors can influence what is said or omitted during an interview, including interviewees' willingness to disclose information and the ability to elicit that information. The questions asked by the interviewer are viewed as one of the most important variables.*[13] Children's immature cognitive abilities require additional consideration with regard to interview as compared to adults' faculties, but a special approach is needed also with elderly and other vulnerable people (e.g., mentally disabled or traumatised individuals).*[14] There is growing recognition that some elderly witnesses may require interviewers to utilise special skills for

6 S. Penrod & B. Cutler. 'Witness confidence and witness accuracy: Assessing their forensic relation'. *Psychology, Public Policy, and Law* 1995/1, pp. 817–845. – DOI: https://doi.org/10.1037/1076-8971.1.4.817; C.A. Morgan, 3rd, et al. 'Accuracy of eyewitness memory for persons encountered during exposure to highly intense stress'. *International Journal of Law and Psychiatry* 2004(27)/3, pp 265–279. – DOI: https://doi.org/10.1016/j.ijlp.2004.03.004; N. Brewer et al. 'Eyewitness identification' in N. Brewer (ed.), *Psychology and Law*. Guilford Publications 2005, pp. 177–221; C.A. Morgan, 3rd, et al. 'Efficacy of forensic statement analysis in distinguishing truthful from deceptive eyewitness accounts of highly stressful events'. *Journal of Forensic Sciences* 2011(56)/5, pp. 1227–1234. – DOI: https://doi.org/10.1111/j.1556-4029.2011.01896.x; B.L. Garrett. 'Contaminated confessions revisited'. *Virginia Law Review* 2015(101), pp. 395–454. Available at https://scholarship.law.duke.edu/faculty_scholarship/3846 (most recently accessed on 23.6.2022).

7 U. Undeutsch (see Note 5).

8 National Institute of Justice (US). 'Eyewitness evidence: A guide for law enforcement'. Washington, DC: US Department of Justice, Office of Justice Programs. Available at https://www.ojp.gov/pdffiles1/nij/178240.pdf (most recently accessed on 23.6.2022); B.L. Garrett (see Note 6); C.A. Morgan, 3rd, et al. 'Efficacy of forensic statement analysis' (see Note 6).

9 R.P. Fisher et al. 'Enhancing enhanced eyewitness memory: Refining the cognitive interview'. *Journal of Police Science & Administration* 1987(15)/4, pp. 291–297.

10 M.B. Powell et al. 'Investigative interviewing' (see Note 5).

11 E. Loftus & Z. Guido. 'Eyewitness testimony: The influence of the wording of a question'. *Bulletin of the Psychonomic Society* 1975(5), pp. 86–88. – DOI: https://doi.org/10.3758/bf03336715; National Institute of Justice (see Note 8); B.L. Garrett (see Note 6).

12 Y. Orbach et al. 'Assessing the value of structured protocols for forensic interviews of alleged child abuse victims'. *Child Abuse & Neglect* 2000(24)/6, pp. 733–752. – DOI: https://doi.org/10.1016/s0145-2134(00)00137-x; M. Lamb et al. 'Age differences in young children's responses to open-ended invitations in the course of forensic interviews'. *Journal of Consulting and Clinical Psychology* 2003(71)/5, pp. 926–934. – DOI: https://doi.org/10.1037/0022-006x.71.5.926; Y. Chae & S.J. Ceci. 'Individual differences in children's recall and suggestibility: The effect of intelligence, temperament, and self-perceptions'. *Applied Cognitive Psychology* 2005(19), pp. 383–407. – DOI : https://doi.org/10.1002/acp.1094; M. Burton et al. *Are Special Measures for Vulnerable and Intimidated Witnesses Working? Evidence from the Criminal Justice Agencies*. London: Home Office 2006; M.E. Lamb et al. 'Structured forensic interview protocols improve the quality and informativeness of investigative interviews with children: A review of research using the NICHD Investigative Interview Protocol'. *Child Abuse & Neglect* 2007(31), pp. 1201–1231. – DOI: https://doi.org/10.1016/j.chiabu.2007.03.021; S.P. Brubacher et al. 'The use of ground rules in investigative interviews with children: A synthesis and call for research'. *Developmental Review* 2015(36), pp. 15–33. – DOI: https://doi.org/10.1016/j.dr.2015.01.001.

13 G. Oxburgh et al. 'The question of question types in police interviews: A review of the literature from a psychological and linguistic perspective'. *International Journal of Speech, Language and the Law* 2010(17). – DOI: https://doi.org/10.1558/ijsll.v17i1.45.

14 Ibid.; M. Benson & M. Powell. 'Evaluation of a comprehensive interactive training system for investigative interviewers of children'. *Psychology, Public Policy, and Law* 2015(21), pp. 309–322. – DOI: https://doi.org/10.1037/law0000052; M. Powell & S. Brubacher. 'The origin, experimental basis, and application of the standard interview method: An informationgathering framework'. *Australian Psychologist* 2020(55), pp. 645–659. – DOI : https://doi.org/10.1111/ap.12468; M.B. Powell et al. 'Investigative interviewing' (see Note 5).

the interview because their communication skills and cognitive functioning have declined. It is common practice for the interviewer to impose limits on witnesses' time to recall the event and develop more precise answers, or they might not establish a starting point via preliminary information from closed-ended or guiding questions, such as multiple-choice probing. Vulnerable interviewees may be quite eager to help so, accordingly, might tend toward compliance efforts by going along with much of what they believe the interviewer wants to hear or is suggesting to them.[*15]

Ultimately, the quality of any forensic interview is determined by a wide range of interrelated factors, which can be conceptualised broadly as aspects related to the interviewee, aspects related to the interviewer, and facets of the interview itself. The interviewer must take into account the interviewee's physical, mental, and emotional state; the characteristics of the offence; and eyewitnessspecific speech and language skills, alongside the witness's age and any possible disabilities, when conducting the interview, following best-practice interview guidelines. This kind of approach also aids in avoiding eyewitnesses' secondary victimisation.[*16]

In the ideal case, a well-performed investigative interview maximises the quality and quantity of the information that the interviewee is able to provide. An interview that is conducted well increases the probability of obtaining corroborative evidence in support of the eyewitness's account, thereby increasing the likelihood of successful prosecution of the law. Research over the past few decades has clearly identified certain core elements of all interviews that lead to the best performance by the interviewee.[*17]

1.1. Question types

Previous studies have found that it is important to use free recall, open-ended questions, and 'facilitators' (e.g., certain recommended questions) when one is interviewing either children[*18] or adults[*19], so as to increase the amount of information elicited from the witnesses. Free recall and open-ended questions require multiple-word responses and allow interviewees to exercise flexible choice of which aspects of the event to describe.[*20] The most useful information obtained in any forensic interview is the information given in a general free-narrative response (e.g., replies to 'Tell me…' prompts) that later is elaborated upon with more cued recall narratives (with prompts such as 'You said that Bob pushed you; tell me more about that event'). The free-narrative account should be obtained before any specific questions get asked.[*21] Open questions are formed in such a way that the interviewee is able to give an unrestrained answer. These are to be combined well with specific closed questions – typically characterised as items starting with 'wh' words ('what?', "when?', 'where?', 'why?', and 'who?') plus 'how'.[*22] Open-ended questions must be employed throughout the interview, to create a structure that advances the interviewee's role as a valued informant.[*23] Facilitators reflect back to the interviewees what they have just said and encourage them to say more.

Best practice notwithstanding, many studies, conducted across various sorts of national settings (e.g., in Australia, England and Wales, Estonia, Israel, Norway, Sweden, Finland, and the USA)[*24], attest that

15 R. Bull. 'The investigative interviewing of children and other vulnerable witnesses: Psychological research and working/professional practice'. *Legal and Criminological Psychology* 2010(15), pp. 5–23. – DOI: https://doi.org/10.1348/014466509x440160.

16 E. Loftus & Z. Guido (see Note 11); M. Burton et al. (see Note 12); G. Oxburgh et al. (see Note 13).

17 National Institute of Justice (see Note 8); R. Bull & I. Blandon-Gitlin. *The Routledge International Handbook of Legal and Investigative Psychology*. New York: Routledge 2019. – DOI: https://doi.org/10.4324/9780429326530.

18 K.P. Roberts et al. 'The effects of rapport-building style on children's reports of a staged event'. *Applied Cognitive Psychology* 2004(18)/2, pp. 189–202. – DOI: https://doi.org/10.1002/acp.957; Y. Orbach et al. (see Note 12); M.E. Lamb et al. 'Age differences in young children's responses' (see Note 12).

19 R.E. Geiselman et al. 'Eyewitness memory enhancement in the police interview: Cognitive retrieval mnemonics versus hypnosis'. *The Journal of Applied Psychology* 1985(70)/2, pp. 401–412. – DOI: https://doi.org/10.1037/0021-9010.70.2.401; National Institute of Justice (see Note 8); T. Valentine & K. Maras. 'The effect of cross-examination on the accuracy of adult eyewitness testimony'. *Applied Cognitive Psychology* 2011(25)/4, pp. 554–561. – DOI: https://doi.org/10.1002/acp.1768.

20 M.B. Powell et al. 'Investigative interviewing' (see Note 5).

21 Ibid.

22 G. Oxburgh et al. (see Note 13).

23 M.B. Powell & S.P. Brubacher (see Note 14).

24 S. Moston et al. 'The incidence, antecedents and consequences of the use of the right to silence during police questioning'. *Criminal Behaviour and Mental Health* 1993(3)/1, pp. 30–47. – DOI: https://doi.org/10.1002/cbm.1993.3.1.30; D. Mildren. 'Redressing the imbalance against Aboriginals in the criminal justice system'. *Criminal Law Journal* 1997(21)/7,

numerous interviews feature mainly 'not-recommended questions' and infrequent use of open questions.[*25] Among non-recommended questions are closed questions, lists of options, and suggestive questions, which typically limit the witnesses' time to recall the event and their opportunity to answer in greater depth or more precisely or to provide initial information of a less fully formed sort.[*26] Option-restricted and other closed questions limit the witness's recall process by forcing him or her to answer 'yes' or 'no' or to choose from among only the alternatives offered. Via implications, using suggestive questions may distort eyewitnesses' memory and could encourage false testimony.[*27] For example, Casey and Powell's (2021)[*28] analyses revealed that 77.7% of the questions asked in their sample with children were closed ones, of which 49.2% were specific cued-recall questions (questions specifying the information the child was asked to report) and 28.4% specific yes/no questions.

1.2. The cognitive interview as a structured interviewing method

The criminal-justice system has to take into account that witnesses' memory is fragile. Research shows that the first interview with a witness is especially important, particularly when children are involved.[*29] With children, not accounting for developmental factors such as the interviewee's abilities and boundaries could result in inaccurate testimony.[*30] When the interview is targeted at confirming a specific investigative hypothesis, interviewers could end up asking even more closed and suggestive questions, which may well distort children's memories further.[*31] Studies indicate that interviewing children is the most complicated task for psychologists and police investigators alike.[*32]

There are many concerns associated with interviewing adults as well, especially with regard to more vulnerable witnesses.[*33] It is beyond doubt that the ability of police investigators to obtain accurate and detailed information from vulnerable witnesses constitutes a vital component of law enforcement. In practice, though, the interviewer often limits the time for answering or opportunities for starting with a foundation of more preliminary information by means of multiple-choice or other closed-ended questions.[*34]

Researchers have found that, relative to minors, adults provide more precise and more detailed information about what happened, but this should not be expected as a matter of course – it does not necessarily generalise to any specific interviewee.[*35] For example, adults may differ in their cognitive abilities, irrespective of their age, or in their abilities to understand speech; some have a mental or behavioural disorder,

pp 21–22; A.-C. Cederborg et al. 'Investigative interviews of child witnesses in Sweden'. *Child Abuse & Neglect* 2000(24), pp. 1355–1361. – DOI: https://doi.org/10.1016/s0145-2134(00)00183-6; C. Clarke & R.J. Milne. *National Evaluation of the PEACE Investigative Interviewing Course* (PRAS, no. 149). Home Office 2001. Available at http://www.researchgate.net/profile/Colin_Clarke3/publication/263127370_National_Evaluation_of_the_PEACE_Investigative_Interviewing_Course/links/53da3b620cf2e38c63366507.pdf (most recently accessed on 23.6.2022); T. Myklebust & R.A. Bjørklund. 'The effect of long-term training on police officers' use of open and closed questions in field investigative interviews of children (FIIC)'. *Journal of Investigative Psychology and Offender Profiling* 2006(3)/3, pp. 165–181. – DOI: https://doi.org/10.1002/jip.52; K. Kask. *Ways of Improving Child and Young Adult Witnesses' Performance*. Doctoral thesis, University of Leicester; J. Korkman et al. 'Interview techniques and follow-up questions in child sexual abuse interviews'. *European Journal of Developmental Psychology* 2008(5), pp. 108–128. – DOI: https://doi.org/10.1080/17405620701210460.

25 M. Benson & M. Powell (see Note 14); S. MacDonald. 'Witness interview training: A field evaluation'. *Journal of Police and Criminal Psychology* 2017(32), pp. 77–84. – DOI: https://doi.org/10.1007/s11896-016-9197-6; R. Bull & I. Blandon-Gitlin (see Note 17).

26 R. Bull (see Note 15).

27 G. Oxburgh et al. (see Note 13).

28 S. Casey & M.B. Powell. 'Usefulness of an e-Simulation in improving social work student knowledge of best-practice questions'. *Social Work Education* 2021. – DOI: https://doi.org/10.1080/02615479.2021.1948002.

29 F. Pompedda. *Training in Investigative Interviews of Children: Serious Gaming Paired with Feedback Improves Interview Quality*. Doctoral thesis, Åbo Akademi University, 2018.

30 Ibid.

31 M. Benson & M. Powell (see Note 14).

32 F. Pompedda (see Note 29).

33 For example, related to increased suggestibility and mental disorders. See M. Burton et al. (see Note 12); R. Bull (see Note 15); R. Bull & I. Blandon-Gitlin (see Note 17).

34 R. Bull (see Note 15).

35 M.R. Leippe et al. 'Eyewitness memory for a touching experience: Accuracy differences between child and adult witnesses'. *The Journal of Applied Psychology* 1991(76)/3, pp. 367–379. – DOI: https://doi.org/10.1037/0021-9010.76.3.367.

diagnosed or not, or a language barrier that may influence their understanding of a given question; and there may be obstacles due to the sensitivity of the situation.[*36]

One of the main structured methods used for interviewing adult witnesses is the cognitive interview.[*37] Initially developed principally for the interviewing of co-operative adults[*38], the cognitive interview is used primarily in situations wherein the witness is genuinely attempting to recall and describe what he or she knows but needs assistance to overcome difficulties in remembering and describing the alleged offence in detail. This style of interview is designed to assist the witness by making use of such memory-enhancing techniques as context reinstatement and imagery while further facilitating communication by encouraging the witness to convey his or her knowledge in non-verbal form too (e.g., with nods of the head, pauses, silence, and vocalisations such as 'mhmm').[*39] An open-ended style of interaction at this stage conveys the impression that the interview is interviewee-focused. Giving this impression from early on promotes more detailed responses to subsequent questions, posed during the main part of the interview, about the alleged offence.[*40]

Near the beginning of the interview, the witness describes the event in his or her own words and speaks freely about what he or she remembers. Then the interviewer helps to extend the memory, selecting from among the recommended question types and techniques. One of the most important techniques entails the interviewer remaining silent while the interviewee recalls experiences. However much interviewees appear to be drifting into irrelevancies, they should continue uninterrupted. Also, witnesses often are asked to consider all of their senses when recalling the event. This kind of approach may aid in re-creating the event and trigger more memories. An important pillar of the cognitive interview is to avoid leading questions and minimise the use of closed questions.[*41] In analyses examining the effectiveness of the cognitive interview as compared to unstructured interviewing methods, researchers found the use of recommended questions able to increase the amount of information by 35%, with only a 2% reduction in detail accuracy.[*42] In addition, the cognitive interview has been found to be effective also with interviewees who have learning disabilities and with children.[*43]

Several distinct interview protocols, depending in part on the country, are currently favoured by police and other investigative interviewers to support interviewing adults and/or children. Among them are the National Institute of Child Health and Human Development (NICHD) protocol[*44], Guidance for Achieving Best Evidence (ABE) in Criminal Proceedings[*45], Tom Lyon's 10-step approach[*46], the Step-Wise guidelines[*47], the National Children's Advocacy Center's Forensic Interview Structure (2019)[*48], the CornerHouse

36 Ibid.; R. Bull (see Note 15); R. Bull & I. Blandon-Gitlin (see Note 17).

37 R. Milne & R. Bull (see Note 4).

38 R.P. Fisher & R.E. Geiselman. *Memory-enhancing Techniques in Investigative Interviewing: The Cognitive Interview*. Springfield, IL: Thomas 1992.

39 R.E. Geiselman et al. (see Note 19); M.B. Powell et al. 'Investigative interviewing' (see Note 5).

40 M.B. Powell et al. 'Investigative interviewing' (see Note 5).

41 R.E. Geiselman et al. (see Note 19); National Institute of Justice (see Note 8); M.B. Powell et al. 'Investigative interviewing' (see Note 5); T. Valentine & K. Maras (see Note 19).

42 R.E. Geiselman et al. (see Note 19); K.P. Roberts et al. (see Note 18); M. Benson & M. Powell (see Note 14); R. Bull & I. Blandon-Gitlin (see Note 17).

43 R. Bull (see Note 15).

44 K.J. Sternberg et al. 'Using a structured protocol to improve the quality of investigative interviews' in M. Eisen et al. (eds), *Memory and Suggestibility in the Forensic Interview*. Mahwah, NJ: Erlbaum 2002, pp. 409–436; also see http://nichd-protocol.com/wp-content/uploads/2017/09/InteractiveNICHDProtocol.pdf (most recently accessed on 23.6.2022).

45 Ministry of Justice (UK). 'Achieving best evidence in criminal proceedings: Guidance on interviewing victims and witnesses, and guidance on using special measures', 2011. Available at https://www.cps.gov.uk/sites/default/files/documents/legal_guidance/best_evidence_in_criminal_proceedings.pdf (most recently accessed on 23.6.2022).

46 T.D. Lyon. 'Ten step investigative interview (version 3)', 2021. Available at http://works.bepress.com/thomaslyon/184/ (most recently accessed on 23.6.2022).

47 J.C. Yuille et al. 'The Step-Wise guidelines for child interviews: The new generation' in M. Casonato & Pfafflin (eds), *Handbook of Pedosexuality and Forensic Science*, 2009. Available at https://theforensicpractice.com/pdf/Step-Wise%20guidelines%20for%20child%20interviews%20-%20the%20next%20generation%202009.pdf (most recently accessed on 23.6.2022).

48 National Children's Advocacy Center (US). 'National Children's Advocacy Center's child forensic interview structure'. Huntsville, AL.

Forensic Interview Protocol*[49], Developmental Narrative Elaboration*[50], and various others. The structure and format of these sets of guidelines are quite similar, because they are grounded in the same body of experiment-based literature.*[51] There is still a need to find ways of increasing the use of recommended questions, however. Best-practice interviewing needs to be actively learnt because open-ended questions are seldom used in everyday conversation.*[52]

2. Training in interview skills

On account of previous findings, it appears important to find ways to improve the quality of investigative interviewing of both child and adult witnesses. On the basis of his extensive literature review, Pompedda has suggested that investigator-training formats can be grouped into three main types: short and intensive theory-based training, training that focuses on practice and ongoing feedback, and training sessions with computerised methods and 'serious gaming'.*[53] While addressing all three to some extent below, in this section we focus on the last of these, training that utilised computer-based methods and serious gaming. This choice is informed by the fact that we can benefit from a growing body of literature pertaining to training of investigators who interview child witnesses, particularly in light of the lack of similar applications for training those investigators who interview adult witnesses.

2.1. Brief and intensive theoretical-training courses

There is evidence that the traditional classroom-based mass training model is not successful in translating theoretical skills into practice.*[54] Even though going against research-based recommendations, short and intensive theory-based training is still one of the most common training formats.*[55] Research has shown that, while theoretically oriented training does improve interviewers' knowledge of interview skills, transference of this knowledge into practical skills applied in real investigative interviews is difficult.*[56] At the same time, these training programmes are often expensive, logistically difficult to arrange, and time-consuming, which facts together render it difficult to implement them.*[57]

2.2. Practical training and ongoing feedback

The most commonplace components of practical training consist of lectures about the use of a structured interview protocol and practising the interviewing skills in work with mock victims or witnesses. Interviewers obtain detailed feedback on their performance and supervision throughout all phases of this training. It is noteworthy that this type of training increases the proportion of open questions and reduces the use of suggestive questions in interviewers' speech.*[58] Lamb and colleagues have emphasised that, if the train-

[49] J. Anderson et al. 'The CornerHouse forensic interview protocol: RATAC®'. *The Thomas M. Cooley Journal of Practical and Clinical Law* 2010(12)/2, pp. 193–331.

[50] K. Saywitz & L. Camparo. *The Core Developmental Narrative Elaboration Interview: The Developmental Narrative Elaboration Interview*, 2013. – DOI: https://doi.org/10.1093/med:psych/9780199730896.003.0008.

[51] M. Powell & S. Brubacher (see Note 14).

[52] M.B. Powell et al. 'Investigative interviewing' (see Note 5).

[53] F. Pompedda (see Note 29).

[54] M. Lamb. *Difficulties Translating Research on Forensic Interview Practices to Practitioners: Finding Water, Leading Horses, but Can We Get Them To Drink?*, 2016. – DOI: https://doi.org/10.1037/amp0000039.

[55] F. Pompedda (see Note 29).

[56] J. Hattie & H. Timperley. 'The power of feedback'. *Review of Educational Research* 2007(77)/1, pp. 81–112. – DOI: https://doi.org/10.3102/003465430298487; M. Johnson et al. 'Best practice recommendations still fail to result in action: A national 10-year follow-up study of investigative interviews in CSA cases'. *Applied Cognitive Psychology* 2015(29)/5, pp. 661–668. – DOI: https://doi.org/10.1002/acp.3147.

[57] F. Pompedda (see Note 29); F. Pompedda et al. 'Transfer of simulated interview training effects into interviews with children exposed to a mock event'. *Nordic Psychology* 2020(73), pp. 43–67. – DOI: https://doi.org/10.1080/19012276.2020.1788417.

[58] F. Pompedda (see Note 29).

ing is to be effective, feedback must be provided on a continuous basis and be detailed and immediate.*[59] Interviewing skills exhibit improvement when the interviewers are given an opportunity to revisit the concepts from their learning. Obtaining more complex skills – e.g., in eliciting a narrative account well – requires more time and the application of practical exercises that include personalised feedback from interview assessments.*[60] The feedback should be detailed, including attention to individual questions, such as feedback on particular questions that features articulation of why another question might have been more appropriate and offering of suggested examples for better ones.*[61] It is important that the learners be able to target their weaknesses through the exercises, therefore benefiting from tailored content oriented to their actual needs. Researchers have been studying the importance of feedback for the quality of the questions asked and use of recommended questions, with their reports stating that participants who received feedback showed greater use of recommended questions and less use of closed questions.*[62]

2.3. Training with computerised methods and a serious-gaming element

We should stress that prior research attests that theoretical training in best practice does not improve interview quality.*[63] The training that has gained empirical validation often consists instead of multiple days of intensive workshops that include provision of continuous support and feedback to trainees. In these settings, the interviewers are supported also via one-on-one work and through 'covisions' that entail discussing the details of the interviews conducted. However effective they may be, interventions of these sorts are labour-intensive, and it is challenging to implement them on an ongoing basis.*[64] Hence, they do not constitute a practical way of tackling the above-mentioned shortcomings in other training formats.

Technological innovations open the doors to alternative possibilities for changes in practice within the criminal-justice system, though.*[65] Within the last decade, several computer-based methods and learning activities based on serious gaming have been created to offer an alternative to the facetoface training format. Serious gaming is a type of training that employs avatars of various kinds instead of actors and/or real interviews*[66], and it has already seen use for training in specific skills needed by adults working in emergency response and medicine, alongside some application in airline pilots' training and for cultural training in military settings.*[67] In some cases, the two methods are combined.*[68]

Studies have revealed that training methods that utilise computer-based approaches and/or serious gaming allow students to learn in an environment where there is no risk of harming actual witnesses while also reaping an emotional benefit. The setting's benefit stems from the anonymity of the simulation, which provides an opportunity to practice without fear of embarrassment or criticism. This opportunity, in turn,

59 K.J. Sternberg et al. (see Note 44).

60 S. Brubacher et al. 'Teaching child investigative interviewing skills: Long-term retention requires cumulative training'. *Psychology, Public Policy, and Law* 2021(28)/1, pp. 123–136. – DOI: https://doi.org/10.1037/law0000332.

61 S. Casey & M.B. Powell (see Note 28).

62 F. Pompedda et al. 'Simulations of child sexual abuse interviews using avatars paired with feedback improves interview quality'. *Psychology, Crime & Law* 2015(21)/1, pp. 28–52. – DOI: https://doi.org/10.1080/1068316x.2014.915323.

63 C. Thoresen et al. 'Forensic interviews with children in CSA cases: A large-sample study of Norwegian police interviews'. *Applied Cognitive Psychology* 2009(23)/7, pp. 999–1011. – DOI: https://doi.org/10.1002/acp.1534; C. Thoresen et al. 'Theory and practice in interviewing young children: A study of Norwegian police interviews 1985–2002'. *Psychology, Crime & Law* 2006(12)/6, pp. 629–640- - DOI: https://doi.org/10.1080/10683160500350546.

64 F. Pompedda (see Note 29).

65 D.A. Taylor & C.J. Dando. 'Eyewitness memory in face-to-face and immersive avatar-to-avatar contexts'. *Frontiers in Psychology* 2018(9)/507. – DOI: https://doi.org/10.3389/fpsyg.2018.00507.

66 F. Pompedda (see Note 29).

67 D.E. Brown et al. 'Design and evaluation of an avatar-based cultural training system'. *Journal of Defense Modeling and Simulation* 2019(16)/2, pp. 159–174. https://doi.org/10.1177/1548512918807593; M. Graafland et al. 'Systematic review of serious games for medical education and surgical skills training'. *British Journal of Surgery* 2012(99), pp. 1322–1330. – DOI: https://doi.org/10.1002/bjs.8819; D.J. Van Der Zee et al. 'Conceptual modeling for simulation-based serious gaming'. *Decision Support Systems* 2012(54), pp. 33–45. – DOI: https://doi.org/10.1016/j.dss.2012.03.006; D. Coleman et al. 'Kognito's avatar-based suicide prevention training for college students: Results of a randomized controlled trial and a naturalistic evaluation'. *Suicide and Life-Threatening Behavior* 2019(49)/6, pp. 1735–1745. – DOI: https://doi.org/10.1111/sltb.12550.

68 M.B. Powell et al. 'Improving child investigative interviewer performance through computer-based learning activities'. *Policing & Society* 2016(26)/4, pp. 365–374. – DOI: https://doi.org/10.1080/10439463.2014.942850.

helps the trainee gain confidence.*[69] Furthermore, the researchers found that training based online makes the learning more accessible, more flexible in terms of time, and less expensive, and it gives trainees the opportunity to learn and drill in their own time and at a pace they find comfortable.*[70] It differs from the traditional classroom setting in that it usually enables completion over a more extended time, with ongoing, incremental learning, and there is the possibility of giving personalised feedback to the trainees regularly.*[71] Also, using an online distancelearning format decreases travel costs and pares back the need to hire expensive actors or bring people together in one place for role-play activities.*[72]

In aims of providing solutions of this sort, several digital-avatar-mediated solutions have been introduced. The majority of work on avatar-based technological solutions in interviewer training has focused on the creation of algorithmically and computationally controlled avatars.*[73]

One of the studies reported upon investigated the effect of a long training program*[74] that included mock-interview-afforded practice in utilising open questions, implemented by means of Skype. The investigative interviewers participated in a training programme featuring modules focused on such topics as knowledge of different question types, child development, and techniques promoting disclosure. They also honed their interview skills through mock interviews that used trained actors pretending to be kindergarteners. The results revealed that the participants ended up using more open questions than in pre-training interviews and that this effect was still evident 12 months after the training period.

In another study, the trainees participated in computed-based activities over several months,*[75] studying various question types and best practice for interviewing, completing several tasks connected with ways of eliciting disclosure from a child, and interviewing a virtual child. In the interview settings, trainees were asked to choose the best questions from among the options presented, and they received immediate feedback on their performance. The proportion of open and of recommended questions in trainees' active use increased, with these improvements being sustained at least for between three and six months after the training period.

Avatar-based applications were introduced to serve as an alternative to mock witness interviews with actors. One of these, Avatar Based Interview Training (AvBIT), is an online technology that simulates a face-to-face conversation by means of a virtual representation of a child.*[76] This tool is used mainly to train professionals in conducting sensitive interviews with children. A further development of role-play training, AvBIT is an effort to overcome various limitations of traditional training methods and at the same time improve the effectiveness of standard human-to-human roleplay training methods.*[77] The usual model employed in interviewers' training includes an interview conducted in the form of role-playing, where one person plays the role of a child via an avatar and the trainee gets practice by conducting the interview. A major disadvantage of this method is that it is often perceived as not particularly realistic.

AvBIT online technology provides an opportunity to hone one's skills in conducting interviews by means of child avatars. The online tool makes it possible for the interviewer to interact with an adult behind the avatar of a child on a computer screen in real time. However, no studies have yet examined the effectiveness of this method for increasing the use of recommended questions as a proportion of interviewers' utterances.

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69 S. Casey & M.B. Powell (see Note 28).

70 M. Benson & M. Powell (see Note 14); F. Pompedda et al. 'A combination of outcome and process feedback' *Frontiers in psychology* 2017 (8). – DOI: https://doi.org/10.3389/fpsyg.2017.01474; F. Pompedda et al. 'Transfer of simulated interview training effects' (see Note 57).

71 M.B. Powell. 'Designing effective training programs for investigative interviewers of children'. *Current Issues in Criminal Justice* 2008(20)/2, pp. 189–208. – DOI: https://doi.org/10.1080/10345329.2008.12035804; S. Casey & M.B. Powell (see Note 28).

72 M. Benson & M. Powell (see Note 14).

73 Ibid.; M. Powell & S. Brubacher (see Note 12); S.P. Brubacher et al. 'The effects of e-simulation interview training on teachers' use of open-ended questions'. *Child Abuse & Neglect* 2015(43), pp. 95–103. – DOI: https://doi.org/10.1016/j.chiabu.2015.02.004; M.B. Powell et al. 'Improving child investigative interviewer performance' (see Note 68); F. Pompedda et al. 'Simulations of child sexual abuse interviews (see Note 62).

74 M. Benson & M. Powell (see Note 14); see also, on a study with a sample of teachers, S.P. Brubacher et al. 'The effects of e-simulation interview training' (see Note 73); M. Powell & S. Brubacher (see Note 12).

75 M.B. Powell et al. 'Improving child investigative interviewer performance' (see Note 68).

76 A. Dalli. *Technological Acceptance of an Avatar Based Interview Training Application*, 2021. Master's thesis, Linnaeus University.

77 Ibid.

Another noteworthy computer-assisted training method for improving interviews is In My Shoes[*78], intended to facilitate sensitive conversations between professionals and children. This solution helps the professional gain facility in leading the conversation while enabling the child to talk about his or her experiences, feelings, and views. During the interview, the trainee sits in front of the computer and engages in structured conversation (e.g., rapport-building and information-sharing). Research[*79] indicates that In-My-Shoes-style interviews were as effective as best-practice interviews by several metrics for accuracy.[*80] On the other hand, an interview based on the In My Shoes method usually takes longer than a traditional forensic interview. This difference arises on account of the additional time allocated for building rapport[*81]. The trade-off is that the rapport achieved may be especially beneficial for children who are shy or otherwise find it hard to open up in communication with professionals.

Numerous studies emphasise how crucial feedback is in the learning process.[*82] The type of feedback is important also. It should consist of information about the tasks and how to perform them more effectively; only then does it assist in reducing the discrepancy between the expected results and the interviewer's actual performance. Appropriate feedback does not consist merely of providing information – it can be defined as feedback only if the performance is better next time. In some cases, improvements in performance may necessitate repeating the task more than once.[*83]

Ongoing and immediate feedback is important for genuinely improving interviewers' skills in conducting interviews.[*84] One of the solutions created to train them in making use of different question types when interviewing child-abuse victims and other witnesses is Empowering Interviewer Training (EIT), developed at Finland's Åbo Akademi University.[*85] In this programme, there are two kinds of child avatars, programmed with either an abuse or a no-abuse scenario. Also, half of the avatars are emotional (e.g., crying) while the other half remain neutral.[*86] After reading a brief scenario description regarding an allegation, the interviewer has 10 minutes to interview the avatar shown. An operator listens to the question asked by the interviewer, classifies it in accordance with the question type, and inputs the category information to the simulation software through a graphical interface. As soon as it receives the operator's input, the software automatically displays an appropriate video clip, comprising the avatar response dictated by algorithms. Each child avatar has pre-specified memory content that it may or may not reveal during the interview. The algorithms that the program follows for determining how the avatars respond to interviewers' questions come from experiment-based research studying children's memory and suggestibility. This technique ensures that the avatar behaves in the same manner as a real child, analogously to well-trained actors in a role-play setting.

In real-world interview environments, it is almost impossible to state with certainty whether the child's testimony is factual or not. This renders it impossible to supply appropriate feedback to the interviewer on his or her performance.[*87] In the EIT software, the inherent knowledge of the avatarspecific memory contents makes it possible to give feedback not only on the types of questions the interviewer used (i.e., process feedback) but also on what really happened per the predefined reality and, hence, how close the interviewer got to the truth (i.e., outcome feedback).[*88]

78 K. Fängström et al. 'In my shoes – validation of a computer assisted approach for interviewing children'. - *Child Abuse & Neglect,* 58(2016), pp. 160–172. – DOI: https://doi.org/10.1016/j.chiabu.2016.06.022.

79 K. Fängström, P. Bokström, A. Dahlberg, R. Calam, S. Lucas, A. Sarkadi (see Note 78) Ibid.

80 See also Fängström et al. (ibid.); K. Fängström et al. '"And they gave me a shot, it really hurt." Evaluative content in investigative interviews with young children'. *Children and Youth Services Review* 2017(82), pp. 434–443. – DOI: https://doi.org/10.1016/j.childyouth.2017.10.017; P. Bokström et al. '"I felt a little bubbly in my tummy". Eliciting preschoolers' accounts of their health visit using a computer-assisted interview method'. *Child: Care, Health and Development* 2015(42), pp. 87–97. – DOI: https://doi.org/10.1111/cch.12293.

81 D. Wenke. 'Listen up! Creating conditions for children to speak and be heard: Professional communication with children at risk of exploitation and trafficking – experience and lessons learned from the Baltic Sea region'. Stockholm: Council of the Baltic Sea States Secretariat 2019.

82 S. Casey & M.B. Powell (see Note 28); S. Brubacher et al. (see Note 60).

83 D. Boud & E. Molloy. 'Rethinking models of feedback for learning: The challenge of design'. *Assessment & Evaluation in Higher Education* 2012(38), pp. 1–15. – DOI: https://doi.org/10.1080/02602938.2012.691462.

84 M.E. Lamb et al. 'Is ongoing feedback necessary to maintain the quality of investigative interviews with allegedly abused children?'. *Applied Developmental Science* 2002(6)/1, pp. 35–41. – DOI: https://doi.org/10.1207/s1532480xads0601_04.

85 F. Pompedda et al. 'Simulations of child sexual abuse interviews' (see Note 62).

86 F. Pompedda et al. 'Transfer of simulated interview training effects' (see Note 57).

87 Ibid.

88 N. Krause et al. 'The effects of feedback and reflection on the questioning style of untrained interviewers in simulated child sexual abuse interviews.'. *Applied Cognitive Psychology* 2017(31)/2, pp. 187–198. – DOI : https://doi.org/10.1002/

While several studies, with samples composed of professionals of several types[*89], attest that the proportions of recommended questions increase both in avatar interviews and in interviewing of real children, the EIT approach has proved to be effective also in transferring knowledge into practice[*90]. This is where other training formats have failed.

In addition, another widely used training intervention, behaviour modelling, is worth considering in this context.[*91] It is based on Bandura's social learning theory, addressing how well-defined behaviours (skills) can be learned by providing models that display the effective use of particular behaviours.[*92] Studies using EIT have shown that the proportion of recommended questions rises when the interviewers have, in addition to receiving feedback on their performance, watched a short video clip of best-practice behaviours interviewing child witnesses before conducting interviews themselves, compared to receiving only feedback.[*93]

Researchers assessing avatar-based training have found that, in the absence of extensive theoretical guidance, the quality of the interview improves significantly after just an hour of practice when the interviewer is provided with feedback after every interview conducted.[*94] Highlighting another relevant factor, most researchers agree that the more relaxed the interviewee feels while carrying out the interview, the more information the interviewee is likely to give. This is especially true when the topic is sensitive or connected with trauma, or when the interviewee is fearful of the consequences that could arise from reporting the offence.[*95] Results demonstrate that, even in such tricky conditions, the number of recommended questions increases both in simulated interviews and in later practice through training with the software.[*96] One way to provide feedback continuously is to implement 'booster sessions' using EIT after a certain span of time since the last training or interview.

3. Conclusions and directions for the future

With this paper, we have drawn attention to the room for improvement in the quality of investigative interviews with both child and adult victims/witnesses. Victims of and witnesses to any crime should receive a respectful, sensitive, professional, and non-discriminatory response from competent authorities. Therefore, the practitioners who are likely to receive and handle complaints should be trained accordingly.[*97] It is important that the witness trust the official who is responsible for the investigation, and every effort should be made to encourage and facilitate reporting of especially crimes against person, to allow the victims to break the cycle of repeat victimisation. If investigative interviews are conducted by skilled professionals, we can better avoid miscarriages of justice and witnesses' secondary victimisation.

The research to date indicates that the best outcome when one is interviewing either adult or child witnesses can be achieved when structured interviewing methods are followed. By means of structured interviewing methods, the interviewers ask more recommended questions, which let the interviewee recall details of what happened in greater accuracy, thereby enhancing the quality of the interview. The benefits can manifest themselves in reliable and accurate evidence in criminaljustice proceedings.

acp.3316; F. Pompedda et al. 'Simulations of child sexual abuse interviews' (see Note 62); F. Pompedda (see Note 29).

89 S. Brubacher et al. (see Note 60).

90 F. Pompedda et al. 'Simulations of child sexual abuse interviews' (see Note 62); F. Pompedda et al. 'A combination of outcome and process feedback' (see Note 64); N. Krause et al. (see Note 88); F. Pompedda et al. 'Transfer of simulated interview training effects' (see Note 57).

91 P.J. Taylor et al. 'A meta-analytic review of behavior modeling training'. *The Journal of Applied Psychology* 2005(90), pp. 692–709. – DOI: https://doi.org/10.1037/0021-9010.90.4.692.

92 A. Bandura. 'Self-efficacy: Toward a unifying theory of behavioral change'. *Psychological Review* 1977(84), pp. 191–215. – DOI: https://doi.org/10.1037/0033-295x.84.2.191.

93 S. Haginoya et al. 'The combination of feedback and modeling in online simulation training of child sexual abuse interviews improves interview quality in clinical psychologists'. Child Abuse & Neglect 2021(115). – DOI: https://doi.org/10.1016/j.chiabu.2021.105013.

94 F. Pompedda (see Note 29).

95 M.B. Powell et al. 'Investigative interviewing' (see Note 5).

96 M. Benson & M. Powell (see Note 14); S. Haginoya et al. 'Online simulation training of child sexual abuse interviews with feedback improves interview quality in Japanese university students'. *Frontiers in Psychology* 2020(11)/998. – DOI : https://doi.org/10.3389/fpsyg.2020.00998; S. Haginoya et al. 'The combination of feedback and modeling' (see Note 93).; F. Pompedda et al. 'Transfer of simulated interview training effects' (see Note 57).

97 See the 'Crime, safety and victims' rights' survey of the EU Agency for Fundamental Rights (see Note 2).

We have addressed the fact that interviewer training can be implemented in several formats. Short and intensive theory-oriented training tends to increase the participants' knowledge of the subject matter, but they then face difficulties in applying the knowledge in practice. Training with a practice element that involves immediate, continuous feedback is important to assist in overcoming that shortcoming and others discussed above. Often, however, immediate and ongoing feedback may not be available, especially after the investigator's completion of the training programme. In addition, frequent training sessions may exhibit limitations created by such factors as high costs and authorities' busy schedules. We have found a promising way forward nonetheless: one way to continue providing feedback on interviewers' performance is by using so-called booster sessions before the next investigative interview, to refresh interviewer skills (e.g., sessions several months after the last training or when a specified amount of time has passed since the previous interview).

Training with computerised methods and serious gaming is worthy of consideration also. Both techniques have been implemented to simulate investigative interviews, especially with child witnesses. There are diverse solutions, designed for training in particular skills, so considerable study both in the laboratory and in the field is still required. For example, what is the effect of using the AvBIT solution on the use of preferred question types and on adherence to structured-interview guidelines? Similarly, the EIT solution can be applied in training interviewers not only to use recommended questions and better question types but also to adhere fully to a given structuredinterviewing method, such as the NICHD protocol. There is a need to test the effectiveness of these solutions too, especially among such advanced-needs users as police investigators. Also, computerised methods aid in endeavours to find solutions for other methods' limitations. For instance, using them in addition to other approaches reduces the cost of training and is more flexible in its time demands while also catering to trainees in a more personalised manner.

Finally, there are numerous pieces of research conducted to examine the quality of investigative interviews, with adult witnesses as well as children. Regrettably, the results show a parallel to those from interviewing children: the quality remains low. Therefore, it would be beneficial to develop a computer-based solution to train investigators – police investigators, prosecutors, judges, and lawyers alike – in skills in interviewing adult witnesses. This should increase the proportion of recommended questions and improve adherence to the guidelines for interviewing adult witnesses in line with structured methods such as the cognitive interview. Practice of this nature also supports high quality of eyewitnesses' testimony in both pre-trial and judicial proceedings, thereby reducing the risk of wrongful conviction. As the quality of interrogation rises, so does the likelihood of victims and other persons reporting crimes to the authorities in the future.