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'I Use What I Use': Estonian Investigators' Knowledge of Investigative Interviewing^{*1}

1. Introduction

The information obtained from witnesses and victims in criminal investigation is important evidence, with a significant effect on the overall result.^{*2} In recent decades, the effect of structured interviewing methods, such as the cognitive interview, on both child and adult witnesses' accounts has been thoroughly studied; however, there has been less research examining which cognitive interview techniques are used more and how effective these techniques are.

The cognitive interview is one of the most effective procedures for enhancing witnesses' memory.^{*3} The original version of this technique consisted of four main elements: 1) reinstatement of mental context, 2) reporting of everything, 3) recall of events in different order, and 4) a change in perspective.^{*4} Later, the 'enhanced' cognitive interview was developed^{*5}, a form with additional instructions, establishment of rapport, transfer of control of the interview to the witness, ensuring of questions' compatibility with the witness's background and state, encouragement to use focused retrieval, and application of imagery.

Cognitive interviews have been effective when compared to standard police interviews.^{*6} Koehnken, Thurer, and Zoberbier^{*7} have found that cognitive interviews produced 35% more information than did standard interviews. Also, effectiveness of the 'enhanced' form has been demonstrated.^{*8} Although there is an increase in the absolute quantity of incorrect information when the cognitive interview is used, there is

¹ I wish to thank Hannes Hansalu, for gathering some of the data, and all of the investigators who participated in this research.

² C. Dando, R. Wilcock, R. Milne. The cognitive interview: Inexperienced police officers' perceptions of their witness/victim interviewing practices. – *Legal and Criminological Psychology* 2008/1, pp. 59–70.

³ R.P. Fisher, R.E. Geiselman. *Memory Enhancing Techniques for Investigative Interviewing: The Cognitive Interview*. Springfield, Illinois: Charles C. Thomas 1992.

⁴ R.E. Geiselman, R.P. Fisher, I. Firstenberg, L.A. Hutton, S.J. Sullivan, I.V. Avetissian, A.L. Prosk. Enhancement of eyewitness memory: An empirical evaluation of the cognitive interview. – *Journal of Police Science & Administration* 1984/3, pp. 74–80.

⁵ R.P. Fisher, R.E. Geiselman, M. Amador. Field test of the Cognitive Interview: Enhancing the recollection of actual victims and witnesses of crime. – *Journal of Applied Psychology* 1989/5, pp. 722–727; R.P. Fisher, R.E. Geiselman, D.S. Raymond, L.M. Jurkevich, M.L. Warhaftig. Enhancing enhanced eyewitness memory: Refining the cognitive interview. – *Journal of Police Science & Administration* 1987a/4, pp. 291–297.

⁶ R.P. Fisher, R.E. Geiselman, D.S. Raymond. Critical analysis of police interview techniques. – *Journal of Police Science & Administration* 1987b/3, pp. 177–185.

⁷ G. Kohnken, C. Thurer, D. Zoberbier. The cognitive interview: Are the investigators' memories enhanced too? – *Applied Cognitive Psychology* 1994/1, pp. 13–24.

⁸ Fisher, Geiselman (see Note 3); A. Memon, R. Bull. The cognitive interview: Its origins, empirical support, evaluation and practical implications. – *Journal of Community and Applied Social Psychology* 1991/4, pp. 291–307; G. Koehnken, R. Milne, A. Memon, R. Bull. The cognitive interview: A meta-analysis. – *Psychology, Crime & Law* 1999/1–2, pp. 3–27.

no evidence that the cognitive interview adversely affects accuracy rates.^{*9} A shorter version of the cognitive interview (in which the change in perspective and recall in different order were removed) did not decrease the amount of information substantially.^{*10} Also, some techniques of the cognitive interview are used more frequently than are others. For example, Clifford and George^{*11} found that officers trained in cognitive interviewing gave instructions for mentally reinstating context nine times more frequently than instructions to change perspective. Memon, Holley, Milne, Koehnken, and Bull^{*12} noted that context reinstatement was used relatively often as compared to recall in different order or transfer of control.

Although the techniques of the cognitive interview can be considered to be effective, there may be difficulties in applying them in practice. One factor might be time, as there are competing matters for the investigator to deal with.^{*13} According to Kebbell, Milne, and Wagstaff, police officers also believe frequently that the cognitive interview takes longer to complete than an ordinary police interview. A cognitive interview requires more concentration and places a large cognitive burden on the interviewer.^{*14} The interviewer also has to be flexible and able to change interviewing style very quickly, depending on the interviewee.^{*15} Also, Kebbell and colleagues^{*16} found that, as noted above, some cognitive interview components were used more often than the others were (examples being establishing rapport and reporting everything), and these techniques were rated as more useful. Clarke and Milne^{*17} reported that many of the memory-enhancing components of the cognitive interview were not used at all.

Though the cognitive interview is more widely used with adults, there is also research and practical application through the National Institute of Child Health and Human Development in the US (NICHD) protocol for interviewing sexually or physically abused children.^{*18} Elements of the cognitive interview employed include emphasis on the structure of the interview and giving attention to an increase in invitations and direct questions.^{*19} When the NICHD protocol is used, the proportion of invitations and direct questions in children's interviews increases, which indicate better quantity and quality results for these interviews.^{*20}

An important part of both cognitive interviews *per se* and the NICHD protocol is the skill of deciding which type of questions to use, and how. It is known that invitations (e.g., 'Tell me more') and direct questions (e.g., 'What happened next?') elicit more accurate information than do option-posing (e.g., 'Did he say...?') or leading questions (such as 'Did he push you several times?') from both adults and children.^{*21} Also, the information provided through the use of leading or option-posing questions can be less infor-

⁹ R.E. Geiselman. On the use and efficacy of the cognitive interview. – *Psychology* 1996/7, Witness Memory (2). Available at <http://www.cogsci.ecs.soton.ac.uk/cgi/psyc/newpsy?7.11> (most recently accessed on 14.8.2012).

¹⁰ M.R. Davis, M. McMahon, K.M. Greenwood. The efficacy of mnemonic components of the Cognitive Interview: Towards a shortened variant for time-critical investigations. – *Applied Cognitive Psychology* 2005/1, pp. 75–93.

¹¹ B.R. Clifford, R. George. A field evaluation of training in three methods of witness/victim investigative interviewing. – *Psychology, Crime & Law* 1996/3, pp. 231–248.

¹² A. Memon, A. Holley, R. Milne, G. Kohnken, R. Bull. Towards understanding the effects of interviewer training in evaluating the cognitive interview. – *Applied Cognitive Psychology* 1994/7, pp. 641–659.

¹³ M.R. Kebbell, R. Milne, G.F. Wagstaff. The cognitive interview: A survey of its forensic effectiveness. – *Psychology, Crime & Law* 1999/1–2, pp. 101–115.

¹⁴ R.P. Fisher, R.E. Geiselman (see Note 3); Kebbell *et al.* (see Note 13).

¹⁵ C. Clarke, R. Milne. National Evaluation of the PEACE Investigative Interviewing Course. London: Home Office 2001.

¹⁶ Kebbell *et al.* (see Note 13).

¹⁷ Clarke, Milne (see Note 15).

¹⁸ M.E. Lamb, I. Hershkowitz, Y. Orbach, P.W. Esplin. Tell Me What Happened: Structured Investigative Interviews of Child Victims and Witnesses. Wiley: Chichester 2008.

¹⁹ Y. Orbach, I. Hershkowitz, M.E. Lamb, K.J. Sternberg, P.W. Esplin. Assessing the value of structured protocols for forensic interviews of alleged abuse victims. – *Child Abuse and Neglect* 2000/6, pp. 733–752.

²⁰ *Ibid.*; M. Cyr, M.E. Lamb. Assessing the effectiveness of the NICHD investigative interview protocol when interviewing French-speaking alleged victims of child sexual abuse in Quebec. – *Child Abuse & Neglect* 2009/5, pp. 257–268; K.J. Sternberg, M.E. Lamb, Y. Orbach *et al.* Use of a structured investigative protocol enhances young children's responses to free-recall prompts in the course of forensic interviews. – *Journal of Applied Psychology* 2001/5, pp. 997–1005.

²¹ Fisher, Geiselman (see Note 3); I. Hershkowitz, M.E. Lamb, K.J. Sternberg, P.W. Esplin. The relationships among interviewer utterance type, CBCA scores and the richness of children's responses. – *Legal and Criminological Psychology* 1997/2, pp. 169–176; M.E. Lamb, I. Hershkowitz, K.J. Sternberg, P.W. Esplin, M. Hovav, T. Manor, L. Yudilevitch. Effects of investigative utterance types on Israeli children's responses. – *International Journal of Behavioral Development* 1996/3, pp. 627–637; K.J. Sternberg, M.E. Lamb, I. Hershkowitz, P.W. Esplin, A. Redlich, N. Sunshine. The relation between investigative utterance types and the informativeness of child witnesses. – *Journal of Applied Developmental Psychology* 1996/3, pp. 439–451.

mative and more inaccurate.^{*22} Sternberg, Lamb, Hershkowitz, Yudilevitch, Orbach, Esplin and Hovav^{*23} demonstrated that when the interview was conducted with more direct questions, the child provided more information about the crime. The use of invitations and direct questions increased the quantity of information without increasing the amount of misleading or inaccurate information.^{*24}

Although training in structured interviewing methods is widespread, the problem in application of these methods remains. For example, the investigator may know how one should conduct the interview 'according to the guidelines' but may in an actual situation of investigation revert to more habitual or commonplace methods. Cederborg, Orbach, Sternberg, and Lamb^{*25} have indicated that investigators gather large amount of information by using methods with which the probability of inaccurate information is too large.^{*26} Also, it is commonly found that option-posing questions are widely asked in police interviews of children.^{*27}

La Rooy, Lamb, and Memon^{*28} found that 97% of the Scottish investigators studied considered their training in interviewing to be good or very good and 88% believed that they will get enough information when interviewing someone; however, invitations and direct questions were not used very much in actuality. The authors also noted that after the one-week training session, feedback was rarely given to the investigators. This leads to the conclusion that, although the investigators may understand the essence of the various question types from a theoretical perspective, they do not know which questions they really use. Myklebust and Bjorklund^{*29} found that there were no differences in usage of direct and option-posing questions by investigators who were more trained and had had more practice than among those with less training and shorter practice. In training of investigators, the teaching has to be long-term and constant, with adequate feedback and supervision.^{*30} Finally, those officers who have received training try to use the newly acquired techniques more often, but if they fail to do so, the eagerness to use these techniques may wane over time.

1.1. Objective of the study

In the new form of the Estonian Code of Criminal Procedure, entering force in September 2011^{*31}, §290¹ states that interviews with children under the age of 14 should be video-recorded if the child victims' or witnesses' accounts given during preliminary investigation are to be used in court as evidence in criminal proceedings. Before this date, video recordings of interviews with children were made but for the context of preliminary investigation only, which could result in a situation wherein the child victim or witness still had to testify in court and repeat the testimony given during preliminary investigation. The change in law has created a situation wherein more investigators should be able to conduct video-recorded interviews.

For video-recorded interviews in Estonia, there are special rooms for interviewing children (and, if necessary, other vulnerable persons) in all prefectures. In comparison to regular interviewing, wherein the

²² S.J. Ceci, M. Bruck. *Jeopardy in the Courtroom: A Scientific Analysis of Children's Testimony*. – Washington, DC: American Psychological Association 1995; D.A. Poole, D.S. Lindsay. *Assessing the accuracy of young children's reports: Lessons from the investigation of child sexual abuse*. – *Applied and Preventive Psychology* 1998/1, pp. 1–26.

²³ K.J. Sternberg, M.E. Lamb, I. Hershkowitz, L. Yudilevitch, Y. Orbach, P.W. Esplin, M. Hovav. *Effects of introductory style on children's abilities to describe experiences of sexual abuse*. – *Child Abuse & Neglect* 1997/11, pp. 1133–1146.

²⁴ Hershkowitz *et al.* (see Note 21); Lamb *et al.* (see Note 21); Sternberg *et al.* (see Note 21).

²⁵ A.-C. Cederborg, Y. Orbach, K.J. Sternberg, M.E. Lamb. *Investigative interviews of child witnesses in Sweden*. – *Child Abuse and Neglect* 2000/10, pp. 1355–1361.

²⁶ J. Korkman, P. Santtila, M. Westeraker, N.K. Sandnabba. *Interviewing techniques and follow-up questions in child sexual abuse interviews*. – *European Journal of Developmental Psychology* 2008/1, pp. 108–128.

²⁷ K. Kask. *Dynamics in using different question types in Estonian police interviews of children*. – *Applied Cognitive Psychology* 2012/3–4, pp. 324–329.

²⁸ D. La Rooy, M.E. Lamb, A. Memon. *Forensic interviews with children in Scotland: A survey of interview practices among police*. – *Journal of Police and Criminal Psychology* 2011/1, pp. 26–34.

²⁹ T. Myklebust, R.A. Bjorklund. *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, pp. 165–181.

³⁰ M.E. Lamb, K.J. Sternberg, Y. Orbach, I. Hershkowitz, D. Horowitz, P.W. Esplin. *The effects of intensive training and ongoing supervision on the quality of investigative interviews with alleged sex abuse victims*. – *Applied Developmental Science* 2002/3, pp. 114–125.

³¹ *Kriminaalmenetluse seadustik*. – RT I 2003, 27, 166; RT I, 29.12.2011, 20 (in Estonian). English text available at <http://www.just.ee/23295> (12.3.2012).

accounts of victims or witnesses are handled via a protocol for written form, video-recording places greater demands on the investigator, requiring more knowledge and skills. The investigator is also responsible for the quality of the evidence fulfilling all relevant requirements of the Code of Criminal Procedure. If the evidence is of poor quality, it cannot be used in court (for example, if the voice of the child is not clearly audible in the recording or the interview is conducted in a leading manner). If some aspects of the evidence (place, time, and method) are not investigated thoroughly, the necessity could arise to interview the child again, which might traumatise the child^{*32} or have a negative effect on the accuracy of the child's memory.^{*33} Also, investigators who have not conducted video-recorded interviews may feel performance anxiety when being filmed by a camera.

The benefit of video-recorded interviews in addition to not traumatising the child is that both sides in court know what the victim or witness testified and, therefore, it is easier to form the tactics and arguments.^{*34} Westcott, Davis, and Bull argue that when the suspect sees the child giving testimony, it may influence him or her to plead guilty before the trial and the case might have a quicker outcome—for example, with simplified proceedings. However, the Code of Criminal Procedure gives no indication as to which techniques or methods (such as the cognitive interview) should be used in interviews of children. Similar problems have occurred under Swedish legislation.^{*35}

Therefore, the aim of the study reported on here was to examine Estonian investigators' knowledge of principles of the cognitive interview and question types, as structured interviewing methods are still very infrequently used in Estonia. First, the paper examines which techniques of the cognitive interview investigators use most and how effective these techniques were considered. Previous research indicates that investigators tend to use techniques they think are effective.^{*36} It is, therefore, hypothesised that investigators use techniques related to communication and the process of the interview more than techniques that involve memory improvement.

Second, investigators' knowledge of question types in investigative interviews is examined. It is known from investigative interviewing research that invitations and direct questions provide larger amounts of information than do option-posing and leading questions.^{*37} However, it is not clear how investigators understand what a direct question is, for example. Therefore, this notion is examined more thoroughly. It is hypothesised that investigators' knowledge of direct and option-posing questions is better than is knowledge of invitations and leading questions.

2. Method

2.1. Participants

In this study, two surveys were conducted, one about investigators' knowledge of principles of cognitive interviews and the other on investigators' knowledge of question types in investigative interviewing. Twenty-five investigators participated in the first survey (eight males and 17 females), with the mean age being 34.2 years (SD = 5.69, range: 24–52). The survey was sent to 29 investigators, but four did not return the form. The investigators were specialists in criminal procedure, investigating crimes against minors and/or adults. The work experience of the investigators ranged from one month to 15 years (M = 5.12, SD = 4.96).

In the second survey, 26 investigators participated (one male and 25 female) and the mean age was 35.7 years (SD = 5.31, range: 26 to 54). The survey was sent to 35 investigators, nine of whom did not respond. Again, all investigators specialised in criminal procedure and investigation of crimes against minors and/or adults. The amount of work experience ranged from four months to 20 years (M = 5.96, SD = 4.70). The

³² J. Henry. System intervention trauma to child sexual abuse victims following disclosure. – *Journal of Interpersonal Violence* 1997/4, pp. 499–512.

³³ M. Bruck, S.J. Ceci, H. Hembrooke. The nature of children's true and false narratives. – *Developmental Review* 2002/3, pp. 520–554; M.D. Leichtman, S.J. Ceci. The effects of stereotypes and suggestions on preschoolers' reports. – *Developmental Psychology* 1995/4, pp. 568–578.

³⁴ H.L. Westcott, G.M. Davis, R.H.C. Bull. Children's Testimony. *A Handbook of Psychological Research and Forensic Practice*. England: John Wiley & Sons Ltd 2002, p. 213.

³⁵ Cederborg *et al.* (see Note 25).

³⁶ Dando *et al.* (see Note 2); Kebbell *et al.* (see Note 13).

³⁷ Lamb *et al.* (see Note 18); Cederborg *et al.* (see Note 25); Korkman *et al.* (see Note 26); Kask (see Note 27).

first survey was conducted in April 2011 and the second in November 2011. It is important to note that some officers completed both surveys but, because the research was anonymous, the number of investigators who completed both surveys cannot be stated.

2.2. Procedure

The first survey was based on the research of Kebbell *et al.* and of Dando and colleagues.^{*38} Investigators filled in the form either with pencil-and-paper methods or over the Internet, via e-mail. The participants were asked about their gender, their position with the police (the main types of crimes they were investigating), and how long they had worked in their current position. Then they had to evaluate which of the 14 techniques they use in their everyday work on a five-point Likert scale, from 'never' (scoring 1) to 'always' (scoring 5) and how effective they consider these techniques, from 'not at all' (scored 1) to 'very effective' (5).

The techniques were the following: 1) establish rapport; 2) explain the goals and process of the interview to the interviewee; 3) create a good environment for concentration (e.g., decreasing tension and letting the interviewee know that it is OK to give a 'don't know' or 'don't remember' answer); 4) encourage concentration (e.g., 'Try hard to remember'); 5) use witness-compatible questioning (e.g., ask questions in the order that the witness remembers the event); 6) encourage mental reinstatement of context (e.g., 'Try to think about how you were feeling at the time' and 'Try to think of the physical environment where you witnessed the crime'); 7) encourage reporting everything (e.g., 'Tell me everything you can remember, even details you think are trivial and information you can only partially remember'); 8) encourage witnesses to say things in their own words, without interrupting; 9) work with recall in different orders (e.g., 'recall the event in a different order—for example, start at the end and work backwards from there'); 10) change perspective (e.g., 'Try to remember the incident from the perspective of someone else who was involved or from a different physical location'); 11) ask for imagery (e.g., 'Think of a mental image of what you wish to remember'); 12) transfer control of the interview to the witness (e.g., 'You are in charge of this interview, because you witnessed the event; I wasn't there'); 13) draw conclusions at the end of the interview; and 14) provide a final chance to recall more, at the end of the interview (e.g., asking whether the interviewee has anything to add before closure).

In the second survey, the investigators were handed a transcript of an interview of a 13-year-old boy, which was based on several real-life interviews. The investigators had to rate the question types in this transcription with pencil and paper. Although the term 'question types' is used in this paper to characterise utterance categories, some are not questions *per se* (for example, explanations and verbal affirmations).

Six distinct categories were used, stemming from the work of Lamb and colleagues.^{*39} **Invitations** were to prompt free-recall responses or making reference to the details mentioned by the child; letting the child provide a free-form account and indicating any direction in what the child should talk about (e.g., 'Please tell in your own words...', 'Let's talk more about...', or 'Describe...'). **Direct questions** dealt with the details the child had mentioned in a way that allows longer responses by the child (e.g. 'What did you say when...?'). **Option-posing questions** focused the child's attention on details or selection of an interviewer-given option, also clarifying matters (as in 'What was his name?' or 'Where (at what address) do you live?'). **Leading questions** were constructed in such a way that the interviewer indicates what response is expected from the child (e.g., 'Did he punch you several times?'). **Verbal affirmations** were interviewers' responses to children's answers (such as 'yes' or 'uh-uh'). **Explanations** were interviewer remarks during the interview such as references to the child's role, explaining the ground rules (e.g., 'Now I will tell you what's going to happen'). The interview transcript included 111 questions, of which six were invitations, 25 direct questions, 43 option-posing questions, seven leading questions, 17 verbal affirmations, and 13 explanations.

³⁸ Dando *et al.* (see Note 2); Kebbell *et al.* (see Note 13).

³⁹ Lamb *et al.* (see Note 21); M.E. Lamb, I. Hershkowitz, K.J. Sternberg, B. Boat, M.D. Everson. Investigative interviews of alleged sexual abuse victims with and without anatomical dolls. – *Child Abuse and Neglect* 1996/12, pp. 1239–1247.

3. Results

First, results pertaining to the perceived use and effectiveness of cognitive interview techniques among Estonian investigators are presented. Then the results related to investigators' knowledge of question types are analysed.

Table 1 presents the investigators' responses as to perceived frequency of use of cognitive interview techniques. It can be seen that the investigators indicate using some cognitive interview techniques more than others. According to the Friedman test⁴⁰, investigators' perceived use of the cognitive interview techniques varied significantly: $\chi^2(13, n = 25) = 212.71, p = .001$. The Kendall coefficient of concordance⁴¹ indicated that investigators were consistent in their use of the rankings, with $W(13, n = 25) = .65, p = .001$. Investigators stated that they use establishing rapport and last chance to recall most frequently, followed by explaining the goals and stating in one's own words. Less frequently used techniques were imagery and change of perspective.

Table 1: Frequencies and percentages of use ratings for cognitive interview techniques

Technique	Ratings					M (SD)
	Never n (%)	Rarely n (%)	Sometimes n (%)	Often n (%)	Always n (%)	
Establish rapport	0 (0%)	1 (4%)	0 (0%)	7 (28%)	17 (68%)	4.60 (.71)
Explain the goals	0 (0%)	1 (4%)	2 (8%)	9 (36%)	13 (52%)	4.36 (.81)
Create environment	0 (0%)	1 (4%)	9 (36%)	8 (32%)	7 (28%)	3.84 (.90)
Encourage concentration	0 (0%)	1 (4%)	7 (28%)	14 (56%)	3 (12%)	3.76 (.72)
Use witness-compatible questioning	0 (0%)	0 (0%)	5 (20%)	14 (56%)	6 (24%)	4.04 (.68)
Support mental reinstatement of context	0 (0%)	5 (20%)	3 (12%)	15 (60%)	2 (8%)	3.56 (.92)
Encourage to report everything	0 (0%)	1 (4%)	5 (20%)	11 (44%)	8 (32%)	4.04 (.84)
Use telling in one's own words	0 (0%)	1 (4%)	5 (20%)	9 (36%)	10 (40%)	4.12 (.88)
Use recall in different orders	5 (20%)	9 (36%)	8 (32%)	2 (8%)	1 (4%)	2.40 (1.04)
Change perspectives	12 (48%)	9 (36%)	4 (16%)	0 (0%)	0 (0%)	1.68 (.75)
Ask for use of imagery	10 (40%)	11 (44%)	3 (12%)	1 (4%)	0 (0%)	1.80 (.82)
Transfer control	2 (8%)	5 (20%)	10 (40%)	7 (28%)	1 (4%)	3.00 (1.00)
Draw conclusions	0 (0%)	2 (8%)	6 (24%)	8 (32%)	9 (36%)	3.96 (.98)
Provide a last chance to recall	0 (0%)	0 (0%)	2 (8%)	6 (24%)	17 (68%)	4.60 (.65)

n = number of participants, *M* = mean, and *SD* = standard deviation.

Table 2 indicates that investigators consider some of the cognitive interview techniques more effective than others. A Friedman test revealed that investigators' reports of the effectiveness of the components of a cognitive interview varied significantly: $\chi^2(13, n = 25) = 163.49, p = .001$. Again, the Kendall coefficient of concordance indicated significant consensus: $W(13, n = 25) = .50, p = .001$. Rankings for reported use of the cognitive interview techniques and perceived effectiveness were positively correlated, at $r(25) = .792, p = .001$, suggesting that those techniques rated as most useful were used most frequently. Investigators indicated that the most effective techniques are establishing rapport, last chance to recall, and drawing conclusions, followed by explaining the goals, reporting everything, and stating in one's own words. Change in perspectives and use of imagery were considered less effective.

⁴⁰ The Friedman test is a non-parametric statistical test that measures differences across multiple test attempts.

⁴¹ Kendall's coefficient of concordance is another non-parametric statistic. It is used for assessing agreement among raters (0 would denote no agreement and 1 complete agreement).

Table 2: Frequencies and percentages of effectiveness ratings for cognitive interview techniques

Technique	Ratings					M (SD)
	Not effective n (%)	Somewhat effective n (%)	On average, effective n (%)	Effective n (%)	Very effective n (%)	
Establish rapport	0 (0%)	0 (0%)	0 (0%)	8 (32%)	17 (68%)	4.68 (.48)
Explain the goals	0 (0%)	0 (0%)	3 (12%)	11 (44%)	11 (44%)	4.32 (.69)
Create environment	0 (0%)	1 (4%)	7 (28%)	9 (36%)	8 (32%)	3.96 (.89)
Encourage concentration	1 (4%)	3 (12%)	7 (28%)	8 (32%)	6 (24%)	3.60 (1.12)
Use witness-compatible questioning	0 (0%)	1 (4%)	4 (16%)	14 (56%)	6 (24%)	4.00 (.76)
Support mental reinstatement of context	0 (0%)	2 (8%)	5 (20%)	12 (48%)	6 (24%)	3.88 (.88)
Encourage to report everything	0 (0%)	2 (8%)	0 (0%)	12 (48%)	11 (44%)	4.28 (.84)
Use telling in one's own words	0 (0%)	2 (8%)	3 (12%)	10 (40%)	10 (40%)	4.12 (.93)
Use recall in different orders	0 (0%)	9 (36%)	9 (36%)	5 (20%)	2 (8%)	3.00 (.96)
Change perspectives	2 (8%)	14 (56%)	9 (36%)	0 (0%)	0 (0%)	2.28 (.61)
Ask for use of imagery	3 (12%)	9 (36%)	8 (32%)	4 (16%)	1 (4%)	2.64 (1.04)
Transfer control	1 (4%)	3 (12%)	11 (44%)	6 (24%)	4 (16%)	3.36 (1.04)
Draw conclusions	0 (0%)	0 (0%)	4 (16%)	7 (28%)	14 (56%)	4.40 (.76)
Provide a last chance to recall	0 (0%)	0 (0%)	2 (8%)	11 (44%)	12 (48%)	4.40 (.65)

n = number of participants, *M* = mean, and *SD* = standard deviation.

With chi-square analysis⁴², it was found that there were statistically significant effects present for all of the question types (see Table 3). Explanations were correctly rated in 90.7% (*n* = 225) of the cases, $\chi^2(5, n = 248) = 979.58, p = .001$. In 46.5% (*n* = 60) of the cases, the investigators correctly categorised invitations; however, investigators thought in 50.4% of cases (*n* = 65) that invitations were direct questions, $\chi^2(3, n = 129) = 113.95, p = .001$. Direct questions were correctly identified in 58% (*n* = 342) of the cases; to a lesser extent (28.3%, *n* = 167), direct questions were categorised as option-posing questions, $\chi^2(4, n = 590) = 661.20, p = .001$. Fifty-five per cent (*n* = 471) of the option-posing questions were correctly rated; to a lesser degree, the option-posing questions were considered to be either direct or leading questions, or verbal affirmations, $\chi^2(5, n = 854) = 1019.93, p = .001$. Verbal affirmations were correctly categorised in 88.8% (*n* = 342) of cases, $\chi^2(5, n = 385) = 1445.66, p = .001$. Finally, leading questions were correctly rated in 48.8% (*n* = 41) of the cases and were often considered to be either option-posing questions (22.6%, *n* = 19) or verbal affirmations (17.9%, *n* = 15), $\chi^2(3, n = 84) = 30.95, p = .001$. The overall rate of correct categorisation of question types was 64.7%.

⁴² The chi-square test measures the difference between the frequency distributions of responses given by the groups compared.

Table 3: Percentages and frequencies of question type ratings

Category	Explanations	Invitations	Verbal affirmations	Direct questions	Option-posing questions	Leading questions
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Explanations	222 (90.7%)	6 (2.4%)	3 (1.2%)	6 (2.4%)	3 (1.2%)	5 (2.1%)
Invitations	1 (0.8%)	60 (46.5%)	0 (0%)	65 (50.4%)	3 (2.3%)	0 (0%)
Verbal affirmations	13 (3.4%)	1 (0.3%)	342 (88.8%)	4 (1%)	11 (2.9%)	14 (3.6%)
Direct questions	0 (0%)	36 (6.1%)	7 (1.2%)	342 (58%)	167 (28.3%)	38 (6.4%)
Option-posing questions	20 (2.3%)	6 (0.9%)	98 (11.5%)	155 (18.1%)	471 (55%)	104 (12.2%)
Leading questions	0 (0%)	0 (0%)	15 (17.9%)	9 (10.7%)	19 (22.6%)	41 (48.8%)

Question types are presented vertically, with investigators' ratings for different question types given horizontally;
n = number of participants.

4. Discussion

In this study, two main findings emerged. First, investigators more often indicated using techniques that they separately deemed to be effective and that were more related to the communication and process of the interview than techniques involving cognitive memory improvement. Second, investigators were more correct in categorising explanations and verbal affirmations than identifying invitations or leading questions.

In an echo of the findings of Dando *et al.* and Kebbell *et al.*⁴³, the investigators more often utilised those techniques related to the process of the interview. Techniques such as establishing rapport, giving a last chance to recall at the end of the interview, and explaining the goals of the interview were more often used than cognitive techniques such as change in perspectives or recall in different order. Clarke and Milne⁴⁴ too found that many of the memory-enhancing techniques of the cognitive interview are infrequently used. Use and perceived effectiveness were related; i.e., the techniques that are used more are considered to be more effective. This is a notion that should be clearly stressed in education of police officers and investigators in new interviewing techniques. That is, the essence of the technique should be fully understandable to the investigator; otherwise, these techniques are known of but not applied in practice. Therefore, the investigator may be aware of different techniques and even of the point in the interview at which the techniques should be applied but, since he or she does not believe in the technique's effectiveness, it is not used.

As for the question types, investigators were fairly correct in their categorisation of explanations and verbal affirmations. Direct and option-posing questions created more difficulties, and invitations and leading questions were the most difficult to categorise correctly. It is known that invitations and direct questions are used in a smaller proportion than are direct or option-posing questions.⁴⁵ However, as these two types of questions create categorisation difficulties among investigators, the problem may be that, although the investigators know which are 'more appropriate' questions to use and which are not, they have difficulties in deciding in their work as to the categories of various questions.

When one is interviewing a child in preliminary investigation, leading questions can have a large effect on the child's account in response to investigator questions. Therefore, investigators must learn to identify leading questions more clearly and during the interview rephrase leading or option-posing questions as invitations or open-ended questions. However, this task is mentally challenging, because a question is considered leading if it refers to something that the child has not said before⁴⁶ and at the time of the inter-

⁴³ Dando *et al.* (see Note 2); Kebbell *et al.* (see Note 13).

⁴⁴ Clarke, Milne (see Note 15).

⁴⁵ Kask (see Note 27).

⁴⁶ For example, the question 'How many times did the suspect hit you?' can be considered leading if the child has not mentioned the suspect at all up to this point in the interview; in contrast, when the suspect has been mentioned already in the context of hitting ('The man hit me several times'), the question can be categorised as an open-ended question.

view the investigator may possess a large amount of information (including other evidence than the child's statements), which places great demands on his or her information-processing during categorisation of the child's answers in terms of novel or already stated information.

To make investigative interviews with children more effective, good examples and best practice in interviews should be used in training wherein investigators have to evaluate the question types used, or they might evaluate the question types in their own interviews. The interviewer may even know that he or she is using an option-posing or a leading question during the interview but not necessarily possess the knowledge needed for responding accordingly and changing the style in view of different question types. Therefore, there is a strong need for a unified training programme for Estonian investigators in interviewing child or adult victims and witnesses (similarly to the PEACE model in England and Wales; see the work of Dando *et al.*⁴⁷). Investigators would benefit greatly from context-specific learning videos in Estonian (and in Russian). Also, constant feedback to the investigators on their own interviewing would help to maintain the newly acquired structured interviewing techniques' application in practice.

⁴⁷ Dando *et al.* (see Note 2).