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# The reliability of the Sexual Knowledge Picture Instrument, a potential diagnostic instrument for sexual abuse in young children

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**ABSTRACT**

**Objectives:** To determine the intra- and inter-rater reliability of the Sexual Knowledge Picture Instrument (SKPI), a potential diagnostic instrument for young suspected victims of sexual abuse, containing three scoring forms, i.e., verbal responses, non-verbal reactions and red flags.

**Design:** Video-recorded SKPI interviews with children with and without suspicion of Child Sexual Abuse (CSA) were observed and scored by two trained, independent raters.

**Subjects:** A group of 78 children aged three to nine years, of whom 39 with and 39 without suspicion of a history of sexual abuse.

**Main Outcome Measures:** Intra- and inter-rater reliability of the scores per study group and in the total sample were assessed by Cohen's kappa and percentage of agreement (POA).

**Results** Median intra-rater Cohen's kappa exceeded 0.90 and POA exceeded 95 for all three forms in both study groups, except for the red flag form (median Cohen's kappa 0.54 and POA 87 in the suspected group, and 0.84 and 92, respectively, in the total sample). Median inter-rater Cohen's kappa and POA for the verbal scoring form were 1.00 and 100, respectively, in both groups for the non-verbal form, 0.37 and 97, respectively, in the suspected group, and 0.47 and 100, respectively, in the control group; for the red flag form, they were 0.37 and 76, respectively, in the suspected group and 0.42 and 77, respectively, in the control group.

**Conclusion:** The reliability of the SKPI verbal form was sufficient, but there is room for improvement in the non-verbal and red flag scoring forms. These forms may be improved by adjusting the manual and improving rater training.

**Keywords:** Child sexual abuse, diagnostic instrument, validation, interviewing children, reliability, clinimetrics

**What is known:**

- Despite its major consequences, sexual abuse in young children often remains unrecognized by medical and psychological professionals.
- PICAS is the first clinical study aiming to develop and validate a practical diagnostic tool for CSA, the Sexual Knowledge Picture Instrument (SKPI).

**What this study adds:**

- The inter- and intra-rater reliability of the SKPI will be quantified.
- Based on the results recommendations for research and potential use of the tool in practice are formulated.

## INTRODUCTION

Child sexual abuse (CSA) is a worldwide problem with potentially detrimental consequences for victims.(1-4) Short- and long-term health effects that may arise as a result include depression, anxiety, post-traumatic stress disorder, eating disorders, substance abuse, and somatic syndromes such as sleeping disorders and heart and lung diseases.(4-7) Early detection of signs of CSA by medical or psychological professionals is crucial, to minimize the harm to victims, and to protect possible future victims. However, as reported by adults who were victims of CSA, and supported by the gap between prevalence numbers reported by authorities and self-report studies, we know that the timely diagnosis of CSA is uncommon.(8-14)

Professionals who seek to establish whether CSA has taken place are challenged for several reasons. When a child is presented for health care because of suspected CSA, the chance of finding physical evidence is very small.(15, 16) Due to the nature of the abuse, there are usually no witnesses, although recording the abuse, either for personal use or to share on the dark web, does occur.(17) Victims may struggle with feelings of dependency on, and loyalty to, the perpetrator, as well as feelings of shame and guilt or fear of being blamed if they disclose about sexual abuse. The limited verbal capacity of young children may hamper their ability to express their experiences, thoughts and feelings even more.(11, 14). Unfortunately, lessons from the past make us aware that the use of developed tools to facilitate disclosure, such as dolls and diagrams, even by professionals, can lead to false positive results.(18-21) This can have major consequences, especially if such findings are used during the legal process, and lead to the detection and conviction of a possible perpetrator.(22-27) The current lack of scientific substantiation and the risk of improper tool use emphasize the importance of developing reliable, structured, evidence based and uniform methods to support the diagnosis of CSA in clinical practice.

A potential diagnostic instrument for medical and psychological professionals in cases of suspected CSA in young children (aged 3–9 years) is the Sexual Knowledge Picture Instrument (SKPI), based on previous work by Brilleslijper-Kater et al.(28) This instrument consists of a child-friendly picture book with 15 illustrations about family routines, gender differences and identity, genitals and their functions, reproduction, intimate and sexual behaviour in adults and normal physical intimacy in children. A semi-structured interview technique from a manual allows a trained interviewer to conduct an open conversation with the child about the topics in the pictures, and to potentially overcome the burdens of disclosure. Afterwards, video recordings of each interview can be scored according to three standardized scoring lists from the manual: one on the child's verbal responses,

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3 one on non-verbal behavioural reactions, and one on overall impression and/or alarm signs (so called  
4 'red flags'). The SKPI pictures and manual are presented in online appendices 1 and 2.  
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8 The aim of this study is to determine the intra- and inter-rater reliability of the SKPI. This is the first of  
9 two studies planned to validate the SKPI as a diagnostic instrument for CSA in children aged 3–9  
10 years.<sup>(29)</sup>  
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## 14 **METHODS**

### 15 **Subject selection**

16 In 2016, the Picture Instrument for Child Sexual Abuse Screening (PICAS) study started at Amsterdam  
17 UMC. It included children aged 3–9 years with and without suspicion of CSA. The PICAS study was  
18 approved by the Institutional Review Board (METC 2015\_173). During the study, trained interviewers  
19 used the SKPI with a sample of children, from two different sources:  
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- 25 • First, a group consisting of suspected victims of CSA, who had either been referred to the  
26 Department of Social Paediatrics in one of three participating Dutch university medical centres, or  
27 who were investigated by a vice squad of the Dutch national police.  
28
- 29 • Second, a control group, consisting of children considered not to be victims of CSA.  
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31 For more details on the study procedures we refer to the article on the protocol.<sup>(29)</sup>  
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33 As recommended by De Vet et al., a minimum sample size of 50 subjects is required in validation  
34 studies of measurement instruments.<sup>(30)</sup> To reach this number, all 39 children with suspicion of CSA  
35 who had been interviewed with the latest version of the scoring forms were included, as well as a  
36 selected sample of 39 children from the control group with equal age and gender distribution.  
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### 41 **Data collection**

42 Video-recorded interviews with the 78 children were scored three times: immediately by a first rater  
43 (who was one of eight interviewers), a second time by the second rater (one Forensic Science  
44 master's student), and a third time by the same second rater after a minimum interval of six weeks,  
45 to preclude recollection. All raters were either physicians or master's students with medical or  
46 forensic backgrounds. They were individually trained by a specialised child psychologist (SBK) and/or  
47 the main researcher (KH) on how to conduct the semi-structured interviews and how to work with  
48 the manual. All raters were blind to the participants' medical and psychological background  
49 information, and only the first rater was aware of the study group to which each child belonged.  
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58 The verbal scoring form contained all 52 interview questions from the manual. By checking one of  
59 four (n=45) or five (n=7) answer options, each rater scored the answer given by the child. The non-  
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3 verbal scoring form contained a table listing a total of 24 behavioural reactions. Each reaction could  
4 be checked for presence while observing each of the 15 pictures. The red-flag scoring form consisted  
5 of three overarching questions with binary answer options to assess the interviewer's overall  
6 impression of the child's verbal and non-verbal behaviour during the interview.  
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### 10 11 **Statistical analysis**

12 The SKPI's intra-rater reliability was assessed by comparing the two scorings of the second rater at  
13 different time points. Inter-rater reliability was assessed by comparing the rater scores for each child  
14 between the first rater and the primary scoring of the second rater. Data-analysis was performed  
15 using the IBM SPSS software package (IBM SPSS Statistics for Windows, Version 26.0. Armonk, NY:  
16 IBM Corp.).  
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23 Descriptive statistics (percentages, medians and interquartile ranges (IQR)) were used to describe the  
24 demographic characteristics of the study population. For the verbal scoring, no, multiple answer  
25 options, or 'other...' were considered a missing value. We calculated both Cohen's kappa and  
26 Percentage of Agreement (POA) to assess intra- and inter-rater reliability. By definition, POA is higher  
27 than Cohen's kappa, since kappa is adjusted for agreement by coincidence. For this reason, kappa is  
28 generally preferred over POA. However, in contrast to kappa, POA can always be calculated, even  
29 when some options have not been scored by one of the raters, as was the case for many items, in  
30 particular on the non-verbal scoring form.(31)  
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38 For the interpretation of Cohen's kappa, Landis and Koch's (arbitrary) grading system was applied on  
39 median kappas per form, with a Cohen's kappa of < 0 signifying poor agreement, 0.00–0.20 as slight  
40 agreement, 0.21–0.40 as fair agreement, 0.41–0.60 as moderate agreement, 0.61–0.80 as substantial  
41 agreement, and 0.81–1.00 as almost perfect agreement.(32) For the interpretation of POA, a median  
42  $\geq 80\%$  agreement between raters was considered acceptable.(31)  
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48 For each of the three separate scoring forms, Cohen's kappa and POA of all items, and the median  
49 (IQR) per form were calculated in both study groups and in the total study sample.  
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### 53 **Patients and public involvement**

54 During the course of PICAS we received input from several adult CSA survivors who lived with the  
55 burdens of the abuse throughout their childhood. The aim was to carefully assess and evaluate each  
56 step of the study with them. We intend to disseminate the main results to all parents and caregivers  
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from the included subjects, as well as these CSA survivors, and will continue seeking their involvement in the development of a tool and appropriate methods of dissemination.

## RESULTS

### Baseline Characteristics

The baseline characteristics of the study population are shown in Table 1. The median age was 5 years (IQR: 4–7). Slightly more girls than boys were included (55 vs 45%) in the total sample and, in particular, in the suspected group (61 vs 39%).

**Table 1: Baseline characteristics of the study population**

Variables	Suspected CSA group (n=39)	Control group (n=39)	Total sample (n=78)
Male, n (%)	15 (39)	20 (51)	35 (45)
Age (years), median (IQR)	5 (3-7)	5 (4-7)	5 (4-7)
Age groups, n (%)			
3 years	10 (26)	7 (18)	17 (22)
4 years	8 (20)	7 (18)	15 (19)
5 years	5 (13)	7 (18)	12 (15)
6 years	6 (15)	6 (15)	12 (15)
7 years	1 (3)	6 (15)	7 (9)
8 years	9 (23)	6 (16)	15 (20)

### Intra- and inter-rater reliability per group

Tables 2 and 3 present aggregated intra- and inter-rater reliability, respectively, on all items of the verbal, non-verbal and red flag scoring forms in the suspected CSA group, the control group and the total sample, represented by Cohen's kappa and POA.

**Table 2: Intra-rater reliability per scoring form, divided per study group and in the total sample**

Outcome measure	Suspected CSA group	Control group	Total sample
<i>Verbal scoring form (52 items)</i>			
Cohen's kappa, median (IQR)	1.00 (1.00-1.00) <sup>1</sup>	1.00 (1.00-1.00) <sup>2</sup>	1.00 (0.96-1.00)
POA, median (IQR)	100 (100-100)	100 (98-100)	100 (98-100)

*Non-verbal scoring form**(360 items)*

Cohen's kappa, median (IQR)	0.91 (0.79-1.00) <sup>3</sup>	0.92 (0.84-1.00) <sup>4</sup>	0.90 (0.79-1.00) <sup>5</sup>
POA, median (IQR)	100 (97-100)	100 (100-100)	100 (99-100)

*Red flag scoring form (3**items)*

Cohen's kappa, median (min-max)	0.54 (0.52- 0.55)	0.95 (0.89-1.00)	0.84 (0.64-0.86)
POA, median (min-max)	87 (77-92)	97 (95-100)	92 (89-94)

Abbreviations: IQR = interquartile range, min-max = lowest and highest value, POA = percentage of agreement

<sup>1</sup>kappa could be calculated for 49 out of 52 questions

<sup>2</sup>kappa could be calculated for 44 out of 52 questions

<sup>3</sup>kappa could be calculated for 204 out of 360 reactions

<sup>4</sup>kappa could be calculated for 148 out of 360 reactions

<sup>5</sup>kappa could be calculated for 233 out of 360 reactions

**Table 3: Inter-rater reliability per scoring form, divided per study group and in the total sample**

Outcome measure	Suspected CSA group	Control group	Total sample
<i>Verbal scoring form (52 items)</i>			
Cohen's kappa, median (IQR)	1.00 (0.69-1.00) <sup>1</sup>	1.00 (0.76-1.00) <sup>2</sup>	0.91 (0.66-1.00) <sup>3</sup>
POA, median (IQR)	100 (94-100)	100 (94-100)	98 (95-100)
<i>Non-verbal scoring form (360 items)</i>			
Cohen's kappa, median (IQR)	0.37 (-.03-0.55) <sup>4</sup>	0.47 (0.22-0.79) <sup>5</sup>	0.36 (-0.01-0.53) <sup>6</sup>

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POA, median (IQR)	97 (92-100)	100 (97-100)	97 (94-100)
<i>Red flag scoring form (3 items)</i>			
Cohen's kappa, median (min-max)	0.42 (0.27-0.47)	(0.38-0.52) <sup>7</sup>	0.51 (0.45-0.61)
POA, median (min-max)	74 (73-87)	77 (72-97)	82 (73-83)

Abbreviations: IQR = interquartile range, min-max = lowest and highest value

<sup>1</sup>kappa could be calculated for 45 out of 52 questions

<sup>2</sup>kappa could be calculated for 41 out of 52 questions

<sup>3</sup>kappa could be calculated for 48 out of 52 questions

<sup>4</sup>kappa could be calculated for 183 out of 360 reactions

<sup>5</sup>kappa could be calculated for 87 out of 360 reactions

<sup>6</sup>kappa could be calculated for 206 out of 360 reactions

<sup>7</sup>Kappa could be calculated for 2 out of 3 questions; therefore, only minimum and maximum values given

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### Verbal scoring form

Intra- and inter-rater agreement on the verbal scoring form are almost perfect in both the suspected and control groups (both median Cohen's kappa 1.00, POA 100). For intra- and inter-rater agreement on each of the 52 questions on the verbal scoring form, divided per study group and for the total sample, we refer to online appendix 3.

### Non-verbal scoring form

For the non-verbal form, the median intra-rater Cohen's kappa and POA were 0.91 and 100, respectively, in the suspected group and 0.92 and 100, respectively, in the control group. The median inter-rater Cohen's kappa and POA were 0.37 and 97, respectively, in the suspected group and 0.47 and 100, respectively, in the control group. Intra- and inter-rater agreement of the non-verbal scoring form on each possible reaction and for each of the 15 pictures per each study group and in the total sample are presented in online appendix 4.

### Red flag scoring form

For the red flag form, the median intra-rater Cohen's kappa and POA were 0.54 and 87, respectively, in the suspected group and 0.95 and 97, respectively, in the control group. The median inter-rater Cohen's kappa and POA were 0.37 and 74, respectively, in the suspected group and 0.42 and 77, respectively, in the control group. For results per question divided per study group and in the total sample we refer to online appendix 5.

### DISCUSSION

The aim of this study was to evaluate the inter and intra-rater reliability of the scoring method of the SKPI, consisting of a verbal, non-verbal and red flag scoring form, in a group of suspected CSA victims and a healthy control group. The intra-rater reliability of the verbal, non-verbal and red flag scoring forms is substantial to almost perfect, except for the red flag form in the suspected group, which is moderate. All median intra-rater POAs showed acceptable agreement for each of the three forms. The inter-rater reliability of the verbal scoring form is substantial to almost perfect, but the non-verbal and red flag form show only fair to moderate reliability in both study groups. Inter-rater agreement is acceptable for the verbal and non-verbal forms, but the median POAs were under the 80% threshold for the red flag form. The interpretation of Cohen's kappa is arbitrary, as stated in Landis and Koch's often-cited paper.<sup>(32)</sup> Moreover, Cohen's kappa depends on the distribution of the item scores, leading to lower kappa values with more skewed distributions, as is the case in many of the SKPI items. Therefore, the POA values may be preferable for determining SKPI reliability. Focusing on the results per item (appendices 4 and 5), we notice that agreement varies widely between individual items in both the non-verbal and the red flag scoring forms.<sup>(33)</sup> Therefore, opportunities to improve the scoring method may be found at the level of individual items. For now, simply removing those items that lacked reliability does not seem the best solution, as it may decrease the face validity of the instrument. However, once the diagnostic accuracy of the instrument has been established, it is worth reconsidering this option. Another way to improve the reliability of non-verbal and red flag scoring may be to intensify rater training and to improve manual instructions, in particular with regard to less reliable scoring items.

On the verbal scoring form, raters were instructed to tick the box 'other...' if there was cause for doubt or, which was most often the case, if, despite the manual instructions, the interviewer was unable to ask the question during the interview. This led to a considerable amount of missing data during the analysis, as can be seen in online appendix 3.

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3 Although the reliability in the CSA suspected group is slightly lower than in the control group for most  
4 verbal and non-verbal items, intra- and inter-rater agreement for both forms are generally adequate.  
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6 On the red flag form, however, a difference was observed between intra-rater reliability in the  
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8 suspected and control group. This may have been due to the fact that all scoring for this intra-rater  
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10 analysis were performed by a single rater who was trained once, before she first rated the video  
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12 recordings. To improve both intra and inter-rater agreement, in addition to one individual training,  
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14 refresher courses and group-training on how to work with the manual should be considered for all  
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16 raters, to ensure consistency in manual use and form scoring. During training at present, an example  
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18 interview with a child from the control group is shown, and a practice interview is conducted with a  
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20 non-abused child. A video interview with a child from the suspected group should, therefore, also be  
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22 included in training to improve interviewer and rater skills.

### 23 **Strengths and limitations**

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25 A strength of the present study is its large sample size involving young children with suspected CSA.  
26  
27 The study population consisted of a broad spectrum of children, including confirmed cases of CSA,  
28  
29 children with high, moderate or low CSA-suspicion in the suspected CSA group, and children with no  
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31 suspicion in the control group. The study groups were analysed separately to evaluate the SKPI  
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33 reliability in a group that is largely representative of the target population (suspected CSA group).

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35 Another strength of this study is the blinding of the second rater. The first rater, who was also the  
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37 interviewer, had some knowledge of the child's background, and whether or not CSA was suspected.  
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39 A study design with one sub-optimally blinded rater (as will be the case when the instrument is used  
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41 in practice) and one fully blinded rater enhances the validity of the results.

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43 A limitation is that a single rater performed the repeated assessments, thus limiting the  
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45 generalisability of intra-rater reliability. A further limitation is that all interviewers and raters were  
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47 female. This was not by design. Despite the use of a structured interview technique, children might  
48  
49 have responded differently in interviews conducted by male interviewers.(34)

### 50 **Recommendations for practice**

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53 When applied by trained professionals, the SKPI can be used to lower the threshold to start a  
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55 conversation with a young child on sexually-related topics. However, it is very important that video  
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57 images of the interviews are analysed afterwards and, if necessary, that remarkable verbal and non-  
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59 verbal reactions are discussed with another (independent) professional. Creating a balance between  
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the preservation of privacy while enabling objective assessment remains a challenge. Taking into

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3 account the European General Data Protection Regulation (GDPR), clear protocols must be  
4 developed and adhered to within each medical or psychological institution on how to deal with  
5 storage and/or the sharing of data.(35)  
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### 10 **Recommendations for research**

11 The diagnostic accuracy of the SKPI will be investigated as a next step in our validation study. In  
12 addition, we recommend improving the manual and improving interviewer training.  
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### 15 **CONCLUSION**

16 The verbal scoring form of the SKPI has adequate intra- and inter-rater reliability. The reliability of  
17 the nonverbal and red flag scoring forms is suboptimal, requiring improvement of the manual and  
18 interviewer training for these forms. In its current form, the instrument can be used to open a  
19 conversation with a child suspected of being sexually abused. Due to its clear structure, the SKPI is a  
20 relevant additional tool for use in the forensic field.  
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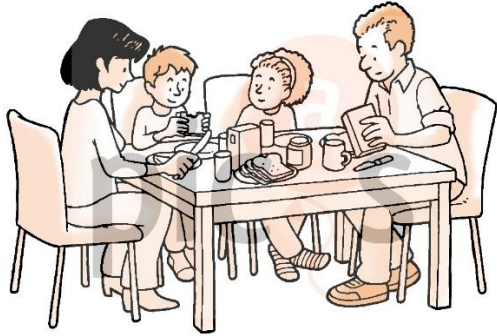
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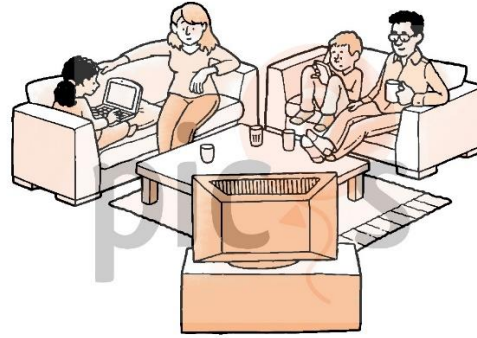


**Appendix I – Pictures in the Sexual Knowledge Picture Instrument (SKPI)**

Displayed below are watermarked versions of the fifteen pictures of the SKPI as shown during interviews. The pictures in the SKPI are on paper size A4. Picture 1 and 2 are included for introductory purposes and to be able to register the baseline behaviour of the child. Picture 3 to 8 address gender differences and knowledge of body parts. Picture 9 to 15 display intimate situations between children, adults, and adults with children.



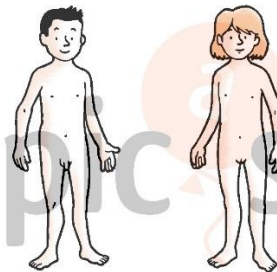
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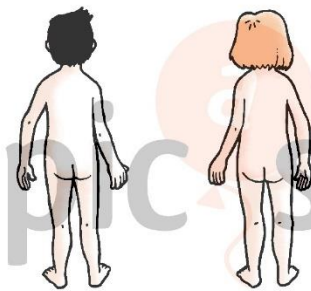
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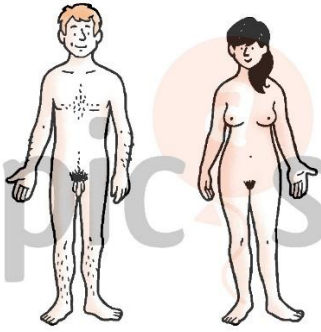
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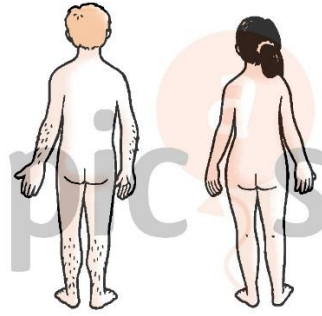
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Picture 6



Picture 7



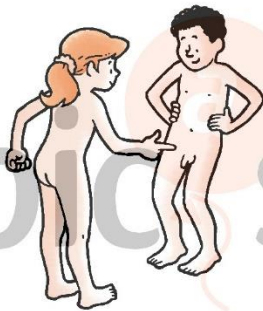
Picture 8



Picture 9



Picture 10



Picture 11



Picture 12

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Picture 13



Picture 14



Picture 15

For Review Only

## Appendix II – SKPI Manual (English version)

### 1. Introduction

This semi-structured manual contains the instructions for the use of the Sexual Knowledge Picture Instrument (SKPI).

General aim is to look at each drawing in the picture book with the child, and ask the accompanying questions. Each interview should be video recorded, and given a scoring afterwards by the interviewer. The scoring pays attention to the general impressions, the verbal reactions and knowledge, and the non-verbal reactions of the child.

Children are normally open-minded and see almost everything on the drawings as normal. They will respond openly to the questions asked by the interviewer. If the child does not seem to want to tell something, this is remarkable.

It is therefore important to pay attention to:

- WHAT the child tells.
- HOW the child tells.
- IN WHAT CONTEXT the child tells it.
- What the child DOES NOT tell.

Before each interview, we recommend to read this manual and the picture book carefully, and to be aware of the instructions, notes and questions to ask with each picture.

#### 1.1 General instructions to the child

At the start of the interview it is important to explain to the child what will happen, and what you expect from the child.

First give a short, neutral introduction:

*"I have a booklet with drawings here."*

*"I'm going to show you all the drawings and then you can tell about it."*

*"I'm going to ask you some questions too."*

*"I'm going to record us on this small camera, so I can see what you told me once more."*

Subsequently, make a number of things clear to the child:

## 1. Emphasize that as the interviewer you are "ignorant".

Therefore, please state that the child can NOT do it wrong, so there is no right or wrong answer to your questions (This is in contrast to for example situations at school, when the teacher asks a question).

Do this as follows:

*"It's about what YOU know and what YOU want to tell me."*

*"Everything you say is always good. So you can't give wrong answers (like at school, if the teacher or teacher asks you something.)"*

## 2. Don't know - instruction

*"If you don't know the answer to the question, please say so."*

Check whether the child has understood this, for example by asking the following question:

*"So if I ask you, What's my dog's name? What do you say?"* Possibly followed by: *"You can't know that, right, because I didn't tell you?"*

## 3. Don't understand - instruction

*"If you don't get the question, you can just say that."*

Check whether the child has understood this by asking the following questions:

*"So if I ask you: What is your 'gender'? What do you say then?"* (the child probably responds something like: *"I don't know/understand"*)

*"That's because gender is a difficult word. Then I will ask in another way, for example: are you a boy or a girl?"*

Note: Recommended is to have a 2nd example ready in case the child guesses an answer.

## 1.2 General instructions for the interviewer

During the course of the SKPI-interview, follow the next instructions:

### 1. Ask open-ended questions (These questions are usually beginning with 'what', 'where', 'who', etc)

1  
2  
3 For example, *"What do you see here?"*  
4  
5  
6

## 7 **2. Do NOT ask suggestive questions**

8  
9  
10 Those questions that lead or force the child to a certain 'expected' answer, such as: *"Did you do this*  
11 *with mummy too?"*  
12

## 13 **3. Avoid closed questions (that can only be answered with "yes" or "no")**

14  
15  
16 Note 1: closed questions are not always suggestive. Sometimes even less than an open question, for  
17 example compare: *"Who did you discuss this with?"* / *"Did you discuss this?"*  
18

19  
20  
21 Note 2: In case you feel it is necessary to help the child by giving multiple answer options, most  
22 young children tend to choose the last answer option. Take this into account.  
23  
24  
25

## 26 **4. Don't know, or don't want to tell?**

27  
28  
29 If the child says nothing, or says he does not know, however, it seems to the researcher that the child  
30 does not WANT to tell it (for example, you notice this because the child says 'don't know' and looks  
31 away, clearly trying to distract the interviewer), then ask:  
32

33  
34 *"Don't you know that, or don't you want to tell that?"*  
35

36  
37 If the child answers "I don't want to tell you that", once ask why e.g.: *"Can you tell me why you don't*  
38 *want to tell this?"* Then respect the answer, and say *"okay"* and do not repeat the question.  
39  
40

## 41 **5. Use the child's own words**

42  
43  
44 During the conversation with the child, copy as much as possible from his / her words. For example,  
45 if the child will call the adults "mom and dad" in the drawings, or names the male genital "pee pee",  
46 continue using these same words throughout the rest of the interview.  
47  
48  
49

## 50 **6. Tell me more**

51  
52  
53 Most young children still have a limited vocabulary, meaning they do not have the ability to express  
54 everything properly. They will therefore sometimes use their own, or different words for something.  
55 Therefore, at your own insight, ask more questions based on those given answers that might have a  
56 different meaning for the child.  
57

58  
59 E.g. at picture 14, when the child answers "That mother is washing the boy", ask *"Tell me, what's*  
60 *that, washing?"* and then *"Does your mother do that to you too?"*

## 7. Encourage

It is important to encourage the child every now and then, by saying things like *"You can really tell a lot / You do tell very clearly / You participate very well"*, etc.

Note: do not encourage the child by just saying something like *"That's right"* (as there is no right or wrong in the child's answers).

## 8. React neutrally, even to remarkable statements

If the child gives a reaction that is striking to the interviewer, it is first of all important **to respond as normal / neutral as possible**. In addition, always respond briefly and by means of an open question, for example by asking (one or maximally two times):

*"Tell me more ...?"* Or, *"Can you tell me more about that?"*

After this, the child is free to tell more about this.

If the child tells more, ask open follow-up questions:

*"And what happened then?"* *"And further?"* Etc.

Only in case the child makes a fairly clear statement, ask more closed questions, such as:

*"Who was that with?"* and / or *"where was that exactly?"*

Then, be careful to **always resume the interview in a normal manner**.

## 9. Ending the interview

After having looked at all the drawings, finish the interview by complimenting the child, and thank them for their efforts.

Then ask if he / she wants to say something else (which you have not asked or what has not been discussed). And finally ask if the child has any questions for you.

## 1.3 Video recording instructions

Ensure an easy set-up for the interview, preferable at a table, sitting next to the child. Use a small secured camera, preferably on a tripod.

Before starting the recording, make sure the child is clearly visible.



1  
2  
3 After finishing the interview do not forget to directly turn off the camera, and immediately store the  
4 recordings on a developed, secured database or at a secured server. Then, remove the recording  
5 from the camera.  
6

7  
8 **Important note: remember to never leave this camera unattended, and always store it in a locker**  
9 **or other safe place after the interview.**  
10

## 11 12 13 14 15 16 **2. The SKPI-interview** 17

18 Read the following questions and notes carefully before each interview.  
19

20 Look at each drawing with the child, and ask the questions from the scoring list below. Any relevant  
21 or striking statements made by the child should be noted directly. A complete scoring of the child's  
22 answers for each question can be given afterwards, based on the observation of the video recordings  
23 (chapter 4).  
24  
25  
26  
27

### 28 **2.1 Picture 1: Introduction picture I (Family sitting at the table)** 29

30 Aim: The child loosens up.

31 Questions (if necessary, so if the child does not tell spontaneously):  
32

33 -What do you see here?  
34

35 -Who are they?  
36

37 -Wat are they doing?  
38

39 Continue to ask until a short "story" was formulated by the child, e.g.: "A father and mother and  
40 child, they are eating."  
41

42 Then encourage: "Do you know what you told me?" (Repeat what the child has said) "Well told!" or  
43 "Clearly told!"  
44

### 45 **2.2 Picture 2: Introduction picture II (Family with digital media / television)** 46

47 Aim: The child loosens up.  
48

49 Ask the following questions:  
50

51 - What do you see here?  
52

53 - Who are they?  
54  
55  
56  
57  
58  
59  
60



1  
2  
3 - *Wat are they doing?*

4  
5 Again, ask until a short story is told by the child, e.g. "Two children and their mom and dad sit on the  
6 couch watching television and playing games on the phone / laptop."

7  
8 - Ask further about the TV / smartphone / laptop: "*Do you also have one at home? What do you see*  
9 *on it? / What can you do with that?*"

10  
11  
12 Eventually encourage the child again.

13  
14 **Note:** In some (sexual) abuse of children imaging with smartphones takes place. Also, some children  
15 have been confronted with inappropriate sexual/pornographic or violent material. In those cases this  
16 picture may bring up other stories, and emotions in the child.

17  
18 If the child's answer may be related to involuntary sexual or violent behavior (e.g. "I always see  
19 'grown-up' television programs at grandpa's home.") ask: "*Tell me more*", or "*Can you tell me tell you*  
20 *more about that?*" and eventually ask more follow-up questions "*where/how/when did you see this?*  
21 *Did it happen to you?*"

22  
23  
24 Then resume the interview in a normal manner.

### 25 26 27 28 29 **2.3 Picture 3: Dressed children**

30  
31 Aim: Testing knowledge of gender differences, naming body parts

32  
33 Ask the following questions:

34  
35 - *What do you see?*

36  
37 - *How do you know that's a boy and a girl?*

38  
39 - *How do you see that?*

40  
41 - *Tell me, why is someone is a boy or a girl?*

42  
43 - *What are you, a boy or a girl?*

44  
45 - *How do you know you're a boy / girl?*

### 46 47 48 49 50 **2.4 Picture 4: Undressed children (front)**

51  
52 Aim: Testing knowledge of gender identity and naming genitals.

53  
54 Ask the following questions:

55  
56 -*What do you see?*

57  
58 -*How do you know that's a boy and a girl?*

1  
2  
3 -By what can you tell that?  
4

5 -Can you see it somewhere else?  
6

7 **Note:** if the child does not spontaneously name the genitals, use a pencil to point out the genitals  
8 from both children, and ask: 'What's that?' or 'How do you call that?' Then resume the interview in a  
9 normal manner.  
10

## 11 12 13 14 15 16 **2.5 Picture 5: Undressed children (back)**

17 Aim: Testing knowledge of body parts

18 Ask the following questions:  
19

20 -What / who do you see?  
21

22 Then use a pen to point out the buttocks from one of the children.  
23

24 -What are those? And what can you do with it?  
25  
26

## 27 28 29 30 31 **2.6 Picture 6: Dressed man and woman**

32 Aim: Testing knowledge of body parts and their (different) functions.

33 Use a pen to point out the following body parts on the drawing: **eye, ear, mouth, hand, foot / leg.**

34 Meanwhile, ask the following questions:  
35

36 -What is / are that?  
37

38 -What can you do with that?  
39

40 -Can you do anything else with it?  
41

42 **Note:** Repeat the last question until the child does no longer name a function. Ask further if the  
43 child's answer can also be related to sexual behavior (e.g. is the child tells the function of the mouth  
44 is licking, or taking a bite; ask: "Licking... of what? Can you tell me more about that" Then resume  
45 the interview in a normal manner.  
46  
47

## 48 49 50 51 52 53 54 **2.7 Picture 7: Undressed man and woman (front)**

55 Aim: Testing knowledge of sexual body parts and their functions.

56 Again, use a pen to point out the following body parts : **female breasts, female genital, male genital.**  
57  
58  
59  
60

1  
2  
3 For each body part ask the following questions:  
4

5 -What is / are that?  
6

7 -What can you do with that?  
8

9 -Can you do anything else with it?  
10

11 **Note:** Ask further if the child's answers can also be related to sexual abusive behavior (e.g. if the child  
12 answers you can put a pencil into the female genital) ask: "Can you tell me more about that?" And:  
13 "How do you know that, have you ever seen that?". If the child refers to urine, or urinating is  
14 mentioned in relation to the genital, ask what color this urine is, and if it can be a different color. If  
15 the answer to this is white, ask further: "White transparent, like lemonade, or white like milk? Or  
16 more like yoghurt or like glue?" And eventually ask: "why do you think that/how do you know that,  
17 have you ever seen that?" Then resume the interview in a normal manner.  
18  
19  
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## 26 **2.8 Picture 8: Undressed man and woman (back)**

27 Aim: Testing knowledge of body parts

28 Ask the following questions:  
29

30 -What / who do you see?  
31

32 -What are those?  
33

34 -What can you do with that? And can you do other things with it? Etc.  
35  
36  
37  
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39

## 40 **2.9 Picture 9: Kissing man and woman**

41 Aim: Testing knowledge of normal (fun) intimacy and voluntary (or eventually involuntary) sexual  
42 activities.  
43

44 Ask the following questions:  
45

46 - What do you see here?  
47

48 - Who are they?  
49

50 - Wat are they doing?  
51

52 - Can you tell me more?  
53

54 - How do you think that mummy / woman feels about it? Why do you think so?  
55

56 - How you think the daddy / father feels about it in the picture? Why do you think?  
57  
58  
59  
60

1  
2  
3 - Do you ever do that yourself? (if so: With who? / How do you like that?)  
4  
5  
6

7 Note: If the child's answer may be related to involuntary sexual behavior (e. g. "Daddy is going to  
8 undress Mommy, he wants to make love to her but she doesn't want to.") ask: "Tell me more", or  
9 "Can you tell me tell you more about that?" and eventually ask more follow-up questions  
10 "where/how/when did you see this? Did it happen to you?" Then resume the interview in a normal  
11 manner.  
12  
13  
14

### 15 16 17 18 19 **2.10 Picture 10: Man and woman being intimate**

20  
21 Aim: Testing knowledge of normal (fun) intimacy and voluntary (or eventually involuntary) sexual  
22 behavior.  
23

24 Ask the following questions:

25  
26 - What do you see here?

27  
28 - Who are they?

29  
30 - What are they doing?

31  
32 - Can you tell me more?

33  
34 - How do you think the lady / mama feels about it? Why do you think so / how do you know that?

35  
36 - How does the mister / dad feels about it? How do you know that?  
37  
38

39 Note: If the child's answer may be related to non-voluntary sexual behavior (e.g. "Daddy is peeing on  
40 me.") ask further: "Tell me more about that...". Eventually, ask follow-up questions, such as: "Did this  
41 happen to you, or have you seen it with someone?" and/ or "What happened exactly?" "Can you tell  
42 me more about that?" Then resume the interview in a normal manner.  
43  
44  
45  
46  
47  
48

### 49 **2.11 Picture 11: Undressed children's play**

50  
51 Aim: Testing knowledge of normal (fun) intimacy and voluntary sexual behavior.  
52

53 Ask the following questions:

54  
55 - What do you see here?

56  
57 - Who are they?

58  
59 - What are they doing?  
60

1  
2  
3 - Can you tell me more?  
4

5 - How do you think the girl feels about it? Why do you think? Or: How do you know she likes it/ feels  
6 happy about it?  
7

8 - How do you think that boy feels about it? Why do you think?  
9

10 - Do you ever do this yourself? If so: How do you feel about that?  
11

12  
13 Beware: If the child's answer may refer to with sexual and/or abusive behavior (e.g. "Ally should not  
14 do that, no one should touch my pee pee.") ask further: "Tell me about that" or "Can you tell me  
15 more about that?" and eventually ask further: "Have you ever experienced that? Yourself or have you  
16 seen it with someone? What happened?" Then resume the interview in a normal manner.  
17  
18  
19  
20  
21  
22

### 23 **2.12. Picture 12: Child with a doctor figure**

24  
25 Aim: Testing knowledge of normal intimacy and voluntary sexual behavior.

26  
27 Ask the following questions:

28  
29 - What do you see here?

30  
31 - Who are they?

32  
33 - Wat are they doing?

34  
35 - Can you tell me more?

36  
37 - What could be going on? / What happened?

38  
39 - How do you think that daddy / doctor feels about it? Why do you think so?

40  
41 - How you think the baby feels about it in the picture? Why do you think so?  
42  
43

44 **Note:** If the child's answer may refer to sexual and/or abusive behavior (e.g. "That doctor should not  
45 do that, no one should touch my pee pee.") ask: "Tell me about that" or "Can you tell me more about  
46 that?" and eventually ask further: "Have you ever experienced that? Yourself or have you seen it with  
47 someone? What happened?" Then resume the interview in a normal manner.  
48  
49  
50  
51  
52  
53

### 54 **2.13 Picture 13: Father figure bent over girl in bed**

55  
56 Aim: Testing knowledge of normal intimacy and voluntary sexual behavior.

57  
58 Ask the following questions:  
59  
60

1  
2  
3 - *What do you see here?*

4  
5 - *Who are they?*

6  
7 - *Wat are they doing?*

8  
9 - *Can you tell me more?*

10  
11 - *How do you think the girl / child feels about it? Why do you think so?*

12  
13 - *How do you think the father / grandpa / man feels about it? Why do you think so?*

14  
15 - *Do you ever do this yourself? How do you feel about it?*

16  
17  
18 **Note:** If the child's answer may refer to sexual and/or abusive behavior (e.g. "Grandpa always does  
19 that in the middle of the night.") ask further: "Tell me about that" or "Can you tell me more about  
20 that?" and eventually ask further: "Have you ever experienced that? Yourself, or have you seen it with  
21 someone? What happened?" Then resume the interview in a normal manner.  
22  
23  
24  
25  
26  
27

## 28 **2.14 Picture 14: Naked boy in the shower with mother figure**

29  
30 Aim: Testing knowledge of normal intimacy and (in)voluntary sexual behavior.

31  
32 Ask the following questions:

33  
34 - *What do you see here?*

35  
36 - *Who are they?*

37  
38 - *Wat are they doing?*

39  
40 - *Can you tell me more?*

41  
42 - *How do you think the boy / child feels about it? Why do you think so?*

43  
44 - *How do you think the mother / woman feels about it? Why do you think so?*

45  
46 - *Do you ever do this? How do you feel about it?*

47  
48  
49 **Note:** If the child's answer may refer to with sexual and/or abusive behavior (e.g. "That washing  
50 hurts!") ask: "Tell me about that" or "Can you tell me more about that?" and eventually ask further:  
51 "Have you ever experienced that? Yourself, or have you seen it with someone? What happened?"  
52 Then resume the interview in a normal manner.  
53  
54  
55  
56  
57  
58  
59  
60

## **2.15 Picture 15: Mother figure with crying child in bed**

1  
2  
3 Aim: Testing knowledge of normal intimacy and (in)voluntary sexual behavior.  
4

5 Ask the following questions:  
6

7 - *What do you see here?*  
8

9 - *Who are they?*  
10

11 - *Wat are they doing?*  
12

13 - *Can you tell me more?*  
14

15 - *How do you think the boy / child feels about it? Why do you think so?*  
16

17 - *How do you think the mother / woman feels about it? Why do you think so?*  
18

19 - *Do you ever do this? How do you feel about it?*  
20  
21

22 Notes: If the child refers to having a nightmare / bad dream, or being hurt ask further: "Tell me about  
23 that" or "Can you tell me more about that?" and eventually ask further: "Do you have nightmares  
24 yourself? Can you tell me more about what happens?"  
25

26 If the answer may refer to with sexual and/or abusive behavior (e.g. child tells about a related  
27 dream, or that the mother figure touches the child in a way he / she does not want) ask: "*Tell me*  
28 *about that*" or "*Can you tell me more about that?*" and eventually ask further: "*Have you ever*  
29 *experienced that? Yourself, or have you seen it with someone? What happened?*" Then resume the  
30 interview in a normal manner.  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40

### 41 **3. General impressions and remarks** 42 43 44

45 During the interview the child was:  
46

47  open / open-minded  
48

49  loaded / fraught  
50  
51

52  
53  
54 Verbal remarks (including wonderful associations):  
55  
56  
57  
58  
59  
60

1  
2  
3 Non-verbal remarks (including noticeable behavioral changes):  
4  
5  
6  
7  
8

9 Other notable impressions of the child / situations during the interview:  
10  
11  
12  
13  
14  
15  
16  
17

## 18 **4. Verbal knowledge scoring**

### 23 **Scoring instructions:**

24  
25 If a child answers

26  
27 If a child answers "I don't know" or "Just because",

28  
29 - In case of questions testing the knowledge score as NO / NOT GOOD.

30  
31 - When the child is asked to judge the situation on the picture, or feeling of the character,  
32 score as OTHERWISE, NAMELY... and write "I don't know".

33  
34 If a question from the manual was not asked, then score as OTHERWISE, NAMELY..., and then fill in  
35 "not asked". - For repeated questions such as gender identity / genitalia functions, score again and  
36 again, do not include the score from previous questions.

37  
38 If two answers are given, of which one is right and one is wrong (for example with the male genital  
39 function: pooping and peeing), count this as GOOD.

40  
41 Always tick only 1 answer (which is closest). Multiple answers cannot be processed.

42  
43 If the answer is not said, but is clearly portrayed by the child (for example, if function of hands is  
44 asked, and the child claps), count this as GOOD.  
45  
46  
47  
48  
49  
50

### 51 **Verbal scoring list:**

#### 52 **Picture 3: Dressed children**

53  
54 Difference between boy and girl

55  
56  no

57  
58  yes  
59  
60



1  
2  
3  doesn't want to tell

4  
5  otherwise, namely....  
6  
7  
8

9 Motivation

10  
11  none (child gives no motivation)

12  
13  yes, cultural differences (e.g. clothing, long hair)

14  
15  yes, genital differences

16  
17  doesn't want to tell

18  
19  otherwise, namely....  
20  
21  
22

23  
24 Own gender

25  
26  no

27  
28  yes

29  
30  doesn't want to tell

31  
32  otherwise, namely....  
33  
34  
35

36  
37 Motivation

38  
39  none (child gives no motivation)

40  
41  yes, cultural differences (e.g. I'm playing football, I have a ponytail)

42  
43  yes, genital differences

44  
45  doesn't want to tell

46  
47  otherwise, namely....  
48  
49  
50

51 **Picture 4: Undressed children (front)**

52 Difference between boy and girl

53  
54  
55  no

56  
57  yes  
58  
59  
60

1  
2  
3  doesn't want to tell

4  
5  otherwise, namely....  
6  
7  
8

9 Motivation

10  
11  none (child gives no motivation)

12  
13  yes, cultural differences (e.g. clothing, long hair)

14  
15  yes, genital differences

16  
17  doesn't want to tell

18  
19  otherwise, namely....  
20  
21  
22

23  
24 Knowledge female genital

25  
26  no

27  
28  yes (count all terms correct: from pee or pussy to butterfly)

29  
30  doesn't want to tell

31  
32  otherwise, namely....  
33  
34  
35

36  
37 Function female genital

38  
39  not good (says nothing relevant)

40  
41  good (only functional : usually peeing)

42  
43  good (incl sexual function), namely....

44  
45  doesn't want to tell

46  
47  otherwise, namely....  
48  
49  
50

51 Knowledge male genital

52  
53  no

54  
55  yes (all words correct: penis, wee wee, willy etc.)

56  
57  doesn't want to tell  
58  
59  
60

- 1  
2  
3  otherwise, namely....  
4  
5  
6

7 **Male genital function**  
8

- 9  no good answer  
10  
11  good (only functional: usually urinating)  
12  
13  good (incl sexual function), namely....  
14  
15  doesn't want to tell  
16  
17  otherwise, namely....  
18  
19  
20

21  
22 **Picture 5: Undressed children (back)**  
23

24 **Knowledge buttocks**  
25

- 26  no  
27  
28  yes (all words correct: bibs, butt, etc)  
29  
30  doesn't want to tell  
31  
32  otherwise, namely....  
33  
34  
35

36 **Buttocks function**  
37

- 38  not good  
39  
40  good (if at least one function, usually sitting or pooping)  
41  
42  doesn't want to tell  
43  
44  otherwise, namely....  
45  
46  
47  
48  
49

50 **Picture 6: Dressed man and woman**  
51

52  
53 **Knowledge eyes**  
54

- 55  no  
56  
57  yes  
58  
59  
60

1  
2  
3  doesn't want to tell

4  
5  otherwise, namely....

6  
7  
8  
9 Eyes function

10  
11  no good answer

12  
13  good (as one good function: seeing, looking, blinking, staring, etc)

14  
15  will not tell

16  
17  otherwise, namely....

18  
19  
20  
21  
22 Knowledge ears

23  
24  no

25  
26  yes

27  
28  doesn't want to tell

29  
30  otherwise, namely....

31  
32  
33  
34 Ears function

35  
36  no good answer

37  
38  good (as one good function: hearing, listening, etc)

39  
40  doesn't want to tell

41  
42  otherwise, namely....

43  
44  
45  
46  
47 Knowledge lips / mouth

48  
49  no (says no lips and no mouth)

50  
51  yes (says lips and / or mouth)

52  
53  doesn't want to tell

54  
55  otherwise, namely....

## Function lips / mouth

- not good (does not say anything relevant)
- good (as one good function: talking, eating, yawning, putting on lipstick, licking, eating, etc)
- doesn't want to tell
- otherwise, namely....

## Knowledge hands

- no
- yes
- doesn't want to tell
- otherwise, namely....

## Hands function

- not good
- good (as soon as one good function: grab, clap, tickle, etc)
- doesn't want to tell
- otherwise, namely....

## Knowledge legs / feet

- no
- yes
- doesn't want to tell
- otherwise, namely....

## Leg / feet function

- not good
- good (as soon as one good function: running, running, etc)

1  
2  
3  doesn't want to tell

4  
5  otherwise, namely....

6  
7  
8  
9 **Picture 7: Undressed man and woman (front)**

10  
11 Knowledge breasts

12  
13  no

14  
15  yes (all words right: breasts, tits, boobies, etc)

16  
17  doesn't want to tell

18  
19  otherwise, namely....

20  
21  
22  
23  
24 Breast function

25  
26  not good (says nothing relevant)

27  
28  good (as one good function: for the baby to drink milk, eat for the baby, etc)

29  
30  doesn't want to tell

31  
32  otherwise, namely....

33  
34  
35  
36  
37 Female genital knowledge

38  
39  no

40  
41  yes (all words correct: pussy, poeni, pee-hole, etc)

42  
43  doesn't want to tell

44  
45  otherwise, namely....

46  
47  
48  
49 Female genital function

50  
51  not good (does not say anything relevant)

52  
53  good (only functional :: usually urinate)

54  
55  good (incl sexual function), namely....

56  
57  doesn't want to tell

1  
2  
3  otherwise, namely....  
4  
5  
6

7 Knowledge male genital  
8

9  no  
10

11  yes (all words correct: wee wee, pee pee, etc)  
12

13  doesn't want to tell  
14

15  otherwise, namely....  
16  
17  
18  
19

20 Male genital function  
21

22  not good  
23

24  good (function only: usually peeing)  
25

26  good (incl sexual function), namely...  
27

28  doesn't want to tell  
29

30  otherwise, namely....  
31  
32  
33  
34

35 Questioning the color of the puddle:  
36

37  yellow / white (transparent), or other logical answer  
38

39  white (as in milk / glue / yogurt, etc)  
40

41  doesn't want to tell  
42

43  otherwise, namely...  
44  
45  
46  
47

48 **Picture 8: Undressed man and woman (back)**  
49

50 Knowledge buttocks  
51

52  no  
53

54  yes (all words correct: ass, butt, etc)  
55

56  doesn't want to tell  
57

58  otherwise, namely....  
59  
60

1  
2  
3  
4  
5 Buttocks function  
6

- 7  not good  
8  
9  good (as soon as one good function: usually sitting or defecating)  
10  
11  doesn't want to tell  
12  
13  otherwise, namely....  
14  
15

16  
17  
18 **Picture 9: Kissing man and woman**  
19

20 Knowledge (child shows basic insight in situation)

- 21  
22  no  
23  
24  yes (as soon as something like kissing / hugging, hugging is in the answer)  
25  
26  doesn't want to tell  
27  
28  otherwise, namely....  
29  
30

31  
32  
33 Estimated feeling female figure

- 34  
35  not nice  
36  
37  nice  
38  
39  doesn't want to tell  
40  
41  otherwise, namely....  
42  
43

44  
45 Estimated feeling male figure

- 46  
47  not nice  
48  
49  nice  
50  
51  doesn't want to tell  
52  
53  otherwise, namely....  
54  
55

56  
57  
58 **Picture 10: Man and woman being intimate**  
59  
60



1  
2  
3 Knowledge (child shows basic insight in situation)  
4

5  no (child describes what he / she sees, without insight, for example they lie (naked) on / look at  
6 each other)  
7

8  yes (as soon as something like kissing / hugging, hugging, sex is in the answer)  
9

10  doesn't want to tell  
11

12  otherwise, namely....  
13  
14  
15  
16

17 Estimated feeling female figure  
18

19  not nice  
20

21  nice  
22

23  doesn't want to tell  
24

25  otherwise, namely....  
26  
27  
28  
29

30 Estimated feeling male figure  
31

32  not nice  
33

34  nice  
35

36  doesn't want to tell  
37

38  otherwise, namely....  
39  
40  
41  
42

43 **Picture 11: Undressed children's play**

44 Knowledge (child shows basic insight in situation)  
45

46  no  
47

48  yes (if something like touching / looking / pointing / playing, or normal curiosity about the other is  
49 in the answer.  
50

51  doesn't want to tell  
52

53  otherwise, namely....  
54  
55  
56  
57

58 Estimated feeling girl figure  
59  
60

- 1  
2  
3  not nice  
4  
5  nice  
6  
7  doesn't want to tell  
8  
9  otherwise, namely....  
10

11  
12  
13  
14 **Estimated feeling boy figure**

- 15  not nice  
16  
17  nice  
18  
19  doesn't want to tell  
20  
21  otherwise, namely....  
22  
23  
24  
25

26 **Picture 12: Child with a doctor figure**

27  
28 Knowledge (child shows basic insight in the situation)

- 29  
30  no (child describes what he / she sees, without insight, for example no doctor or father, but  
31 someone who has hands there)  
32  
33  yes (as soon as the doctor answers the question, father changing or changing a child)  
34  
35  doesn't want to tell  
36  
37  otherwise, namely....  
38  
39  
40  
41

42 **Estimated feeling doctor figure**

- 43  nice  
44  
45  nice  
46  
47  doesn't want to tell  
48  
49  otherwise, namely....  
50  
51  
52  
53  
54

55 **Estimated feeling child figure**

- 56  not nice  
57  
58  nice  
59  
60

- 1  
2  
3  doesn't want to tell  
4  
5  otherwise, namely....  
6  
7  
8

9  
10 **Picture 13: Father figure bent over girl in bed**

11 Knowledge (child shows basic insight in the situation)

- 12  
13  no (child describes what he / she sees, without insight, e.g. goes to sleep, or lies in bed, but does  
14 not tell what father does, even when asked)  
15  
16  yes ( e.g. if saying good night before bed, waking up to go to school is in the answer)  
17  
18  doesn't want to tell  
19  
20  otherwise, namely... (e.g. also if child says sleeping, but no further question is asked about what  
21 father does)  
22  
23  
24  
25

26  
27 Estimated feeling male figure

- 28  not nice  
29  
30  nice  
31  
32  doesn't want to tell  
33  
34  otherwise, namely....  
35  
36  
37  
38

39 Estimated feeling child figure

- 40  not nice  
41  
42  nice  
43  
44  doesn't want to tell  
45  
46  otherwise, namely....  
47  
48  
49  
50  
51

52 **Picture 14: Naked boy in the shower with mother figure**

53 Knowledge (child shows basic insight in the situation)

- 54  no (child describes what he / she sees, without insight, eg child in the shower, but does not know  
55 what the mother does when asked)  
56  
57  yes (if something is washed from child by mother is in the answer))  
58  
59  
60

- 1  
2  
3  doesn't want to tell  
4  
5  otherwise, namely.... (eg child says shower, but is not asked what mother does)  
6  
7  
8

9  
10 Estimated feeling female figure

- 11  not nice  
12  
13  nice  
14  
15  doesn't want to tell  
16  
17  otherwise, namely....  
18  
19

20  
21  
22 Estimated feeling child figure

- 23  
24  not nice  
25  
26  nice  
27  
28  doesn't want to tell  
29  
30  otherwise, namely....  
31  
32

33  
34  
35 **Picture 15: Mother figure with crying child in bed**

36  
37 Knowledge (child shows basic insight in the situation)

- 38  
39  no (child describes what he / she sees, without insight, eg child cries, but does not know (when  
40 inquiring) why)  
41  
42  yes (as soon as something has been dreamed of, not being able to sleep, being in pain)  
43  
44  doesn't want to tell  
45  
46  otherwise, namely.... (eg, child says the baby is crying, but it is not asked why it is crying)  
47  
48  
49

50  
51 Estimated feeling female figure

- 52  
53  not nice  
54  
55  nice  
56  
57  doesn't want to tell  
58  
59  otherwise, namely....  
60

Estimated feeling child figure

not nice

nice

doesn't want to tell

otherwise, namely....

## 5. Scoring nonverbal responses

The following table can be used to score the child's nonverbal responses for each picture. If other non-verbal responses are noticed during the interview, these can be written down (and eventually explained) at the bottom of the table.

	Nr	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Being silent / not want to say anything	1															
Speak with a soft(er) voice	2															
Speak with a different (weird or louder) voice	3															
Giggling	4															
Looking at the picture with disgust	5															
Looking at the picture with a fearful or frozen watch	6															

Turning the page / trying to continue to the next picture	7																		
Trying to close the book	8																		
Walking away (to parents / other room)	9																		
Going to the toilet	10																		
Looking away from the picture / not willing to look at the picture	11																		
Avoiding eye contact with the interviewer	12																		
Extracting the interviewer (telling irrelevant story, playing, etc)	13																		
Showing weird faces	14																		
Looking sad / depressed	15																		
Crying	16																		
Looking angry	17																		
Sitting with hunched shoulders / crouched down	18																		

Putting hands in front of the mouth (e.g. as an expression of surprise or disbelief)	19																		
Putting your hands over the eyes	20																		
Hiding head / face in clothes	21																		
Putting head on arms or on table	22																		
Not being able to sit still / wobble constantly	23																		
No scoring (because of not wanting to participate in the study at all anymore.)	24																		
Otherwise, namely...	25																		
Otherwise, namely	26																		

**Appendix III – Verbal scoring form results**

**Table 1.** Intra-rater agreement in Cohen’s kappa and POA - medians per question – per study group and in the total sample. In case of missing subjects the number of valid subjects is reported (n=...).

Questions verbal scoring form	Suspected group (n=39)			Control group (n=39)			Total sample (n=78)		
	Kappa over all answer options (median)	POA over all answer options (median)	Valid subjects (n=...)	Kappa over all answer options (median)	POA over all answer options (median)	Valid subjects (n=...)	Kappa over all answer options (median)	POA over all answer options (median)	Valid subjects (n=...)
3: difference boy/girl	1	100		1	100		1	100	
3: motivation behind difference boy/girl	.94	97.0	(n=33)	1	100		.96	98.6	(n=72)
3: own gender	.91	97.4	(n=38)	.91	97.4	(n=38)	.91	97.4	(n=76)
3: motivation behind own gender	1	100	(n=28)	1	100	(n=30)	1	100	(n=58)
4: difference boy/girl	1	100	(n=38)		100		1	100	(n=77)
4: motivation behind difference boy/girl	1	100	(n=31)	.85	94.7	(n=38)	.93	97.1	(n=69)
4: knowledge girl genital	1	100	(n=31)	1	100	(n=37)	1	100	(n=68)
4: function girl genital	1	100	(n=27)	.78	94.4	(n=36)	.862	96.8	(n=63)
4: knowledge boy genital	1	100	(n=34)		100	(n=38)	1	100	(n=72)
4: function boy genital	1	100	(n=27)	.48	94.1	(n=34)	.79	96.1	(n=61)
5: knowledge buttocks	1	100	(n=37)	1	100		1	100	(n=76)
5: function buttocks	1	100	(n=30)	1	100	(n=36)	1	100	(n=66)
6: knowledge eyes	1	100	(n=37)	1	100		1	100	(n=76)
6: function eyes		100	(n=36)	1	100	(n=38)	1	100	(n=74)
6: knowledge ears	1	100	(n=28)	1	100		1	100	(n=67)
6: function ears	1	100	(n=28)	1	100	(n=38)	1	100	(n=66)
6: knowledge lips/mouth	1	100	(n=37)	1	100	(n=36)	1	100	(n=73)
6: function lips/mouth	1	100	(n=37)	1	100	(n=37)	1	100	(n=74)
6: knowledge hands		97.4	(n=38)		97.4	(n=38)	-.01	97.4	(n=76)
6: function hands	1	100		1	100		1	100	
6: knowledge legs	1	100	(n=35)		100	(n=35)	1	100	(n=70)
6: function legs	1	100	(n=35)		100	(n=37)	1	100	(n=72)
7: knowledge breasts	.88	93.8	(n=32)	1	100	(n=37)	.92	97.1	(n=69)
7: function breasts	.93	96.2	(n=25)	1	100	(n=35)	.97	98.3	(n=60)
7: knowledge female genital	1	100	(n=31)	1	100	(n=35)	1	100	(n=66)
7: function female genital	1	100	(n=24)	.90	100	(n=37)	.93	98.4	(n=61)
7: knowledge male genital	1	100	(n=33)	1	97.3	(n=38)	1	100	(n=71)
7: function male genital	1	100	(n=28)	1	100	(n=38)	1	100	(n=66)
7: colour of pee	1	100	(n=23)		100	(n=29)	.66	98.1	(n=52)
8: knowledge buttocks	1	100	(n=35)	1	96.6	(n=37)	1	100	(n=72)
8: function buttocks	1	100	(n=30)	1	100		1	100	(n=69)
9: basic insight		100	(n=36)	1	100		1	100	(n=75)
9: estimation female’s feelings	1	100	(n=32)	1	100	(n=37)	1	100	(n=69)
9: estimation male’s feelings	1	100	(n=32)		100	(n=37)	1	100	(n=69)
10: basic insight	.81	89.3	(n=28)	.96	100	(n=38)	.90	93.9	(n=66)
10: estimation female’s feelings	1	100	(n=29)	1	97.4	(n=38)	1	100	(n=67)



10: estimation male's feelings	1	100	(n=28)		100	(n=38)	1	100	(n=66)
11: basic insight	.89	96.9	(n=32)	1	100	(n=37)	.96	98.6	(n=69)
11: estimation boy's feelings	1	100	(n=29)	1	100	(n=36)	1	100	(n=65)
11: estimation girl's feelings	1	100	(n=29)	1	100	(n=37)	1	100	(n=66)
12: basic insight	1	100	(n=30)	.95	100	(n=37)	.97	98.5	(n=67)
12: estimation doctor's feelings	1	100	(n=26)	1	97.3	(n=30)	1	100	(n=56)
12: estimation child's feelings	.85	92.3	(n=26)	1	100	(n=32)	.93	96.6	(n=58)
13: basic insight	.94	97.2	(n=36)	.94	100	(n=38)	.94	97.3	(n=75)
13: estimation father's feelings	1	100	(n=25)	1	97.4	(n=32)	1	100	(n=57)
13: estimation child's feelings	1	100	(n=26)	1	100	(n=36)	1	100	(n=62)
14: basic insight	1	100	(n=36)	1	100		1	100	(n=75)
14: estimation mother's feelings	1	100	(n=26)	1	100	(n=33)	1	100	(n=59)
14: estimation child's feelings	1	100	(n=30)	1	100	(n=37)	1	100	(n=67)
15: basic insight	1 (n=35)	100		1 (n=37)	100	(n=37)	1	97.4	(n=76)
15: estimation mother's feelings	1 (n=20)	97.4		.94 (n=31)	94.9	(n=37)	.96	96.2	(n=75)
15: estimation child's feelings	1 (n=25)	97.4		1 (n=34)	94.9	(n=37)	1	96.2	(n=75)
Abbreviations: POA = percentage of agreement; n.a. = not applicable / not available									

**Table 2.** Inter-rater agreement in Cohen's kappa and POA - medians per question – per study group and in the total sample. In case of missing subjects the number of valid subjects is reported (n=...).

Questions verbal scoring form	Suspected group (n=39)			Control group (n=39)			Total sample (n=78)		
	Kappa over all answer options (median)	POA over all answer options (median)	Valid subjects (n=...)	Kappa over all answer options (median)	POA over all answer options (median)	Valid subjects (n=...)	Kappa over all answer options (median)	POA over all answer options (median)	Valid subjects (n=...)
3: difference boy/girl	1	100		1	100		1	100	
3: motivation behind difference boy/girl*	.93	96.8	(n=31)	.88	97.4		0.91	97.1	(n=70)
3: own gender	.59	89.7		.82	94.9		0.72	92.3	
3: motivation behind own gender*	1	100	(n=20)	.85	100	(n=26)	0.91	95.7	(n=46)
4: difference boy/girl	1	100	(n=36)		90.6		1	100	(n=75)
4: motivation behind	1	100	(n=23)	.75	100	(n=32)	0.88	94.5	(n=55)

1	difference									
2	boy/girl*									
3	4: knowledge	.90	96.7	(n=30)	1	88.9	(n=36)	0.95	98.5	(n=66)
4	girl genital									
5	4: function girl	1	100	(n=25)	.46	100	(n=36)	0.64	93.4	(n=61)
6	genital*									
7	4: knowledge	1	100	(n=31)		91.2		1	100	(n=69)
8	boy genital									
9	4: function boy	1	100	(n=24)	-.03	100	(n=34)	0.55	94.8	(n=58)
10	genital*									
11	5: knowledge	.64	89.2	(n=37)	1	100		0.71	94.7	(n=76)
12	buttocks									
13	5: function	1	100	(n=28)	1	100	(n=36)	1	100	(n=64)
14	buttocks									
15	6: knowledge	.65	97.3	(n=37)	1	100		0.88	98.7	(n=76)
16	eyes									
17	6: function eyes		100			100			100	(n=71)
18	6: knowledge	1	100	(n=28)	1	100		1	100	(n=67)
19	ears									
20	6: function ears	.71	92.9	(n=28)		100		0.64	95.4	(n=65)
21	6: knowledge		97.2		1	100	(n=36)	0.66	98.6	(n=72)
22	lips/mouth									
23	6: function	.65	97.3	(n=37)		100		0.66	98.6	(n=73)
24	lips/mouth									
25	6: knowledge		97.4						98.7	(n=77)
26	hands									
27	6: function	1	100	(n=38)	1	100		1	100	(n=77)
28	hands									
29	6: knowledge		100		1	100			100	(n=69)
30	legs									
31	6: function legs		100			100			100	(n=71)
32	7: knowledge	.81	90.6	(n=32)	1	100	(n=37)	0.88	95.7	(n=69)
33	breasts									
34	7: function	.83	90.9	(n=22)	1	100	(n=33)	0.93	96.4	(n=55)
35	breasts									
36	7: knowledge	1	100	(n=27)	.85	94.9	(n=36)	0.93	96.8	(n=63)
37	female genital									
38	7: function		100		.25	86.5	(n=37)	0.26	91.5	(n=59)
39	female genital*									
40	7: knowledge	1	100	(n=31)	.79	97.4	(n=38)	0.94	98.6	(n=69)
41	male genital									
42	7: function male	1	100	(n=27)	.48	97.7	(n=38)	0.66	96.9	(n=65)
43	genital*									
44	7: colour of pee	1	100	(n=20)		96.6		0.66	98.0	(n=49)
45	8: knowledge	.54	90.9	(n=33)	1	100	(n=37)	0.65	95.7	(n=70)
46	buttocks									
47	8: function	1	100	(n=29)	1	100	(n=37)	1	100	(n=66)
48	buttocks									
49	9: basic insight		100		1	100		1	100	(n=74)
50	9: estimation	.65	96.7	(n=30)	1	100	(n=37)	0.79	98.5	(n=67)
51	female's feelings									
52	9: estimation	1	100	(n=29)		100		1	100	(n=66)
53	male's feelings									
54	10: basic insight	.36	66.7	(n=24)	.77	86.5	(n=37)	0.62	78.7	(n=61)
55	10: estimation	1	100	(n=28)	1	100	(n=38)	1	100	(n=66)
56	female's feelings									
57	10: estimation	1	100	(n=27)		100		1	100	(n=65)
58	male's feelings									
59	11: basic insight	.37	82.8	(n=29)	.53	85.7	(n=35)	0.46	84.4	(n=64)
60	11: estimation	.90	96.4	(n=28)	1	100	(n=34)	0.94	98.4	(n=62)
	boy's feelings									

11: estimation girl's feelings	1	100	(n=27)	1	1	(n=36)	1	100	(n=63)
12: basic insight	.92	96.0	(n=25)	.68	83.8	(n=37)	0.78	88.7	(n=62)
12: estimation doctor's feelings	.82	90.9	(n=22)	1	100	(n=26)	0.92	95.8	(n=48)
12: estimation child's feelings	.92	95.7	(n=23)	1	100	(n=28)	0.96	98.0	(n=51)
13: basic insight	.67	90.3	(n=31)	.65	86.5	(n=37)	0.66	88.2	(n=68)
13: estimation father's feelings	1	100	(n=24)	1	100	(n=31)	1	100	(n=55)
13: estimation child's feelings	1	100	(n=26)	1	100	(n=36)	1	100	(n=62)
14: basic insight	.10	66.7	(n=36)	.79	97.4		0.27	82.7	(n=75)
14: estimation mother's feelings	1	100	(n=23)	.94	96.8	(n=31)	0.96	98.1	(n=54)
14: estimation child's feelings	.78	91.7	(n=24)	.64	94.6	(n=37)	0.74	93.4	(n=61)
15: basic insight	.52	80.6	(n=31)	.64	88.2	(n=34)	0.58	84.6	(n=65)
15: estimation mother's feelings	1	100	(n=13)	.86	92.9	(n=28)	0.90	95.1	(n=41)
15: estimation child's feelings	1	100	(n=21)	1	100	(n=32)	1	100	(n=53)
*Question with 5 answer options instead of 4.  Abbreviations: POA = percentage of agreement; n.a. = not applicable / not available									

## Appendix IV – Non-verbal reactions scoring form results

**Table 1.** Intra-rater agreement in Cohen's kappa and POA - medians and IQR per reaction on each picture – per study group and in the total sample

Behaviour	Suspected victim group		Control group		Total sample	
	Intra-rater median kappa (IQR)	Intra-rater median POA (IQR)	Intra-rater median kappa (IQR)	Intra-rater median POA (IQR)	Intra-rater median kappa (IQR)	Intra-rater median POA (IQR)
<b>1</b> silent / saying little	.89 (.80-1)	97.4 (97.4-100)	1 (.89-1)	100 (100-100)	.86 (.84–1)	98.7 (97.–100)
<b>2</b> speaking very softly	.79 (.61-1)	100 (94.4-100)	1 (1-1)	100 (100-100)	1 (.84–1)	100 (98.–100)
<b>3</b> speaking with another voice	.84 (0.66-1)	97.4 (97.4-100)	1 (.75-1)	100 (97.4-100)	.79 (.66–.88)	98.7 (97.4–100)
<b>4</b> giggling	1 (0.78-1)	97.4 (97.4-100)	.97 (.84-1)	100 (97.4-100)	.94 (.85–1)	98.7 (97.4 –100)
<b>5</b> abhorred / with disgust	.65 (.52-.66)	100 (97.4-100)	1 (1-1)	100 (100-100)	.66 (.53–.76)	100 (98.7–100)
<b>6</b> staring with anxious look	1 (1-1)	100 (100-100)	.83 (.66-.)	100 (100-100)	1 (.75–1)	100 (98.7–100)
<b>7</b> wanting to go to next picture	1 (.88-1)	100 (97.4-100)	1 (.83-1)	100 (100-100)	.94 (.88–1)	98.7 (98.7–100)
<b>8</b> trying to close SKPI book	1 (1-1)	100 (100-100)	-	100 (100-100)	1 (1–1)	100 (100–100)
<b>9</b> walking away	1 (1-1)	100 (100-100)	1 (1-1)	100 (100-100)	1 (1–1)	100 (100–100)
<b>10</b> wanting to go to the toilet	1 (1-1)	100 (100-100)	1 (1-1)	100 (100-100)	1 (1–1)	100 (100–100)
<b>11</b> looking away from SKPI book	.88 (.66-.88)	97.4 (97.4-100)	1 (.91-1)	100 (100-100)	.88 (.70–.98)	98.7 (98.7–100)
<b>12</b> avoiding eye-contact	1 (.809-1)	100 (97.4-100)	1 (1-1)	100 (100-100)	.91 (.84–1)	98.7 (98.7 – 100)
<b>13</b> distracting the interviewer	.84 (.81-.87)	92.3 (89.7-97.4)	.84 (.73-1)	97.4 (97.4-100)	.84 (.82–.89)	96.2 (94.9 – 97.4)
<b>14</b> showing funny faces	1 (.66-1)	100 (97.4-100)	1 (1-1)	100 (100-100)	1 (.66–1)	100 (98.7–100)
<b>15</b> looking sad / gloomy	.79 (.72-1)	97.4 (94.9-100)	.83 (.66-.)	100 (100-100)	.79 (.66–.89)	98.7 (98.7 – 100)
<b>16</b> crying	-	100 (100-100)	1 (1-1)	100 (100-100)	1 (1–1)	100 (100–100)
<b>17</b> looking angry	-	100 (100-100)	1 (.74-1)	100 (100-100)	1 (0.75–1)	100 (100–100)
<b>18</b> sitting huddled	1 (1-1)	100 (97.4-100)	1 (1-1)	100 (100-100)	1 (.79–1)	100 (98.7–100)
<b>19</b> putting hands over mouth	.79 (.64-.)	100 (97.4-100)	1 (1-1)	100 (100-100)	.85 (.72–1)	100 (98.7–100)

<b>20</b> putting hands over the eyes	1 (.66-1)	100 (100-100)	1 (.66-1)	100 (100-100)	1.00 (.66 – 1.00)	100 (98.7–100)
<b>21</b> hiding head / face	1 (1-1)	100 (100-100)	1 (0.83-1)	100 (100-100)	1.00 (.79–1.00)	100 (100–100)
<b>22</b> laying head on arms or table	.79 (.71-.84)	97.4 (97.4-97.4)	1 (0.98-1)	100 (100-100)	.88 (.85–0.92)	98.7 (97.4–98.7)
<b>23</b> being unable to sit still	.88 (.79-.94)	97.4 (97.4-97.4)	0.84 (0.55-1)	97.4 (97.4-100)	.89 (.75–.93)	98.4 (97.4–98.7)
<b>24</b> participation refusal by child	1 (1-1)	100 (100-100)	-	100 (97.4-100)	.79 (.73–.90)	98.7 (98.7–100.0)
Abbreviations: POA = percentage of agreement; IQR = interquartile range; n.a. = not applicable / not available						

**Table 2.** Inter- rater agreement in Cohen's kappa and POA - medians and IQR per reaction on each picture- divided per study group and in the total sample.

Behaviour	Suspected victim group		Control group		Total sample	
	Median kappa (IQR)	Median POA (IQR)	Median kappa (IQR)	Median POA (IQR)	Median kappa (IQR)	Median POA (IQR)
<b>1</b> silent / saying little	.37 (.09-.51)	92.3 (87.2-94.9)	.12 (-.04-.)	97.4 (92.3-100)	.31 (.07–.39)	93.6 (91.0 – 96.2)
<b>2</b> speaking very softly	.36 (-.04-1)	97.4 (92.3-100)	.38 (.04-.71)	97.4 (94.9-97.4)	.32 (-.02–.66)	97.4 (93.6 – 98.7)
<b>3</b> speaking with another voice	.37 (-.04-.66)	97.4 (92.3-97.4)	-.04 (-.05-.83)	97.4 (94.9-97.4)	.26 (-.02–.59)	94.9 (94.9 – 97.4)
<b>4</b> giggling	.45 (.28-.54)	89.7 (79.5-92.3)	.28 (.22-.54)	89.7 (84.6-94.9)	.41 (.22–.55)	85.9 (82.1 – 93.6)
<b>5</b> abhorred / with disgust	-.03 (-.05-.49)	100 (94.9-100)	-	100 (100-100)	-.01 (-.02–.24)	100 (97.4-100)
<b>6</b> staring with anxious look	1 (1-1)	100 (97.4-100)	-	100 (100-100)	.66 (-.01– .)	98.7 (98.7-100)
<b>7</b> wanting to go to next picture	.54 (.41-.69)	89.7 (87.2-94.9)	.65 (.48-.95)	97.4 (94.9-100)	.59 (.44–.67)	93.6 (92.3–94.9)
<b>8</b> trying to close SKPI book	-	100 (100-100)	-	100 (100-100)	-	100 (100–100)
<b>9</b> walking away	1 (0.66-1)	100 (100-100)	1 (.66-.)	100 (100-100)	.85 (.66 – 1.00)	98.7 (98.7–100)
<b>10</b> wanting to go to the toilet	1 (1-1)	100 (100-100)	1 (1-1)	100 (100-100)	1.00 (1.00–1.00)	100 (100–100)
<b>11</b> looking away from SKPI book	.37 (-.04-.64)	94.9 (87.2-97.4)	-.03 (-.04-.)	100 (100-100)	.40 (-.02–.49)	94.9 (93.–97.4)
<b>12</b> avoiding eye-contact	-.03 (-.04-.40)	92.3 (87.2-94.9)	-	97.4 (94.9-100)	-.02 (-.03–.22)	94.9 (92.3–96.2)

<b>13</b> distracting the interviewer	.37 (.26-.50)	79.5 (76.9-84.6)	.36 (.28-.54)	92.3 (89.7-97.4)	.43 (.30-0.49)	84.6 (84.6-89.7)
<b>14</b> showing funny faces	-.03(-.04-.03)	94.9 (94.9-97.4)	.66 (0.66-.)	97.4 (97.4-100)	-.01 (-.02-.49)	96.2 (94.9-97.4)
<b>15</b> looking sad / gloomy	.37 (-.03-.47)	94.9 (92.3-97.4)	.66 (.66-.66)	100 (100-100)	.38 (-.01-.49)	97.4 (96.2-98.7)
<b>16</b> crying	-	100 (100-100)	-	100 (100-100)	-	100 (100-100)
<b>17</b> looking angry	-	100 (100-100)	-	100 (100-100)	-.01 (-.01-.01)	100 (98.7-100)
<b>18</b> sitting huddled	-.03 (-.03-.03)	97.4 (97.4-100)	-	100 (97.4-100)	-.02 (-.02-.02)	97.4 (97.4-100)
<b>19</b> putting hands over mouth	.22 (-.04-.)	100 (94.9-100)	1 (1-1)	100 (100-100)	.38 (-.01-.)	100 (97.4-100)
<b>20</b> putting hands over the eyes	.66 (.63-.66)	97.4 (97.4-100)	.32 (-.03-.)	100 (97.4-100)	.57 (-.01-.66)	98.7 (97.4-100)
<b>21</b> hiding head / face	.36 (-.03-.83)	97.4 (94.9-100)	-.03 (-.03-.03)	100 (97.4-100)	.31 (-.02-.83)	98.7 (96.2-100)
<b>22</b> laying head on arms or table	.30 (-.04-.36)	92.3 (89.7-92.3)	.37 (.01-.48)	94.9 (92.3-94.9)	.25 (-.02-.36)	92.3 (92.3-93.6)
<b>23</b> being unable to sit still	.31 (.15-.40)	82.1 (76.9-84.6)	.36 (.03-.53)	94.9 (92.3-94.9)	.31 (.22-.37)	87.2 (84.6 – 89.7)
<b>24</b> participation refusal by child	.83 (0.14-1)	97.4 (97.4-100)	1 (.65-1)	100 (100-100)	.79 (.52-1.00)	98.7 (98.7 – 100)
Abbreviations: POA = percentage of agreement; IQR = interquartile range; n.a. = not applicable / not available						

## Appendix V – Red flag scoring form results

**Table 1.** Intra-rater reliability results red flag form scoring - median kappa / POA- per group and in the total sample

Question	Suspected group		Control group		Total sample	
	Intra-rater kappa	Intra-rater POA	Intra-rater kappa	Intra-rater POA	Intra-rater kappa	Intra-rater POA
1: General impression	.52	76.9	1.00	100	0.64	88.5
2: Other remarkable verbal reactions	.54	92.3	.89	94.9	0.86	93.6
3: Other remarkable non-verbal behaviours	.55	87.2	.95	97.4	0.84	92.3
Abbreviation:						
POA =						
percentage of						
agreement						

**Table 2.** Inter-rater reliability results red flag form scoring - median kappa / POA- per group and in the total sample

Question	Suspected group	Control group	Total sample

	Inter-rater kappa	Inter-rater POA	Inter-rater kappa	Inter-rater POA	Inter-rater kappa	Inter-rater POA
1: General impression	.42	73.7	-	97.4	.51	85.7
2: Other remarkable verbal reactions	.47	86.8	.52	76.9	.61	81.8
3: Other remarkable non-verbal behaviours	.27	73.3	.38	71.8	.45	72.7
Abbreviation:  POA = percentage of agreement						



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# The reliability of the Sexual Knowledge Picture Instrument, a potential diagnostic instrument for sexual abuse in young children

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**ABSTRACT**

**Objectives:** To determine the intra- and inter-rater reliability of the Sexual Knowledge Picture Instrument (SKPI), a potential diagnostic instrument for young suspected victims of sexual abuse, containing three scoring forms, i.e., verbal responses, non-verbal reactions and red flags.

**Design:** Video-recorded SKPI interviews with children with and without suspicion of Child Sexual Abuse (CSA) were observed and scored by two trained, independent raters. The second rater repeated the assessment 6 weeks after initial rating to evaluate for intra-rater reliability.

**Subjects:** 78 children aged 3 to 9 years old were included in the study. 39 of those included had known suspicion of sexual abuse and the other 39 had no suspicion..

**Main Outcome Measures:** Intra- and inter-rater reliability of the scores per study group and in the total sample were assessed by Cohen's kappa and percentage of agreement (POA).

**Results** Median intra-rater Cohen's kappa exceeded 0.90 and POA exceeded 95 for all three forms in both study groups, except for the red flag form (median Cohen's kappa 0.54 and POA 87 in the suspected group, and 0.84 and 92, respectively, in the total sample). For the verbal scoring form median inter-rater Cohen's kappa and POA for the verbal scoring form were 1.00 and 100, respectively, in both groups. For the non-verbal form median inter-rater kappa and POA form were 0.37 and 97, respectively, in the suspected group, and 0.47 and 100, respectively, in the control group. For the red flag form, they were 0.37 and 76, respectively, in the suspected group and 0.42 and 77, respectively, in the control group.

**Conclusion:** The reliability of the SKPI verbal form was sufficient, but there is room for improvement in the non-verbal and red flag scoring forms. These forms may be improved by adjusting the manual and improving rater training.

Keywords: Child sexual abuse, diagnostic instrument, validation, interviewing children, reliability, clinimetrics

**What is known:**

- Despite its major consequences, sexual abuse in young children often remains unrecognized by medical and psychological professionals.

**What this study adds:**

- The verbal scoring form of the SKPI has adequate intra- and inter-rater reliability.
- The reliability of the nonverbal and red flag scoring forms is suboptimal, requiring improvement of the manual and interviewer training for these forms.

## INTRODUCTION

Child sexual abuse (CSA) is a worldwide problem with potentially detrimental consequences for victims.(1-4) Short- and long-term health effects that may arise as a result include depression, anxiety, post-traumatic stress disorder, eating disorders, substance abuse, and somatic syndromes such as sleeping disorders and heart and lung diseases.(4-7) Early detection of signs of CSA by medical or psychological professionals is crucial, to provide specialist support to the victims, and to protect possible future victims. However, as reported by adults who were victims of CSA, and supported by the gap between prevalence numbers reported by authorities and self-report studies, we know that the timely diagnosis of CSA is uncommon.(8-14)

Professionals who see young children with a suspicion of CSA are challenged for several reasons. When a child is presented for health care because of suspected CSA, the chance of finding physical evidence is very small.(15, 16) Due to the nature of the abuse, there are usually no witnesses, although recording the abuse, either for personal use or to share on the dark web, does occur.(17) Victims may struggle with feelings of dependency on, and loyalty to, the perpetrator, as well as feelings of shame and guilt or fear of being blamed if they disclose about sexual abuse. The limited verbal capacity of young children may hamper their ability to express their experiences, thoughts and feelings even more.(11, 14). Unfortunately, lessons from the past make us aware that the use of developed tools to facilitate disclosure, such as dolls and diagrams, even by professionals, can lead to false positive results.(18-20) This can have major consequences, especially if such findings are used during the legal process, as was shown in notorious cases of false allegations of CSA.(21-24) The current lack of scientific substantiation and the risk of improper tool use emphasize the importance of developing reliable, structured, evidence based and uniform methods to support the diagnosis of CSA in clinical practice.

A potential diagnostic instrument for medical and psychological professionals in cases of suspected CSA in young children (aged 3–9 years) is the Sexual Knowledge Picture Instrument (SKPI), based on previous work by Brilleslijper-Kater et al.(25) This instrument consists of a child-friendly picture book with 15 illustrations about family routines, gender differences and identity, genitals and their functions, reproduction, intimate and sexual behaviour in adults and normal physical intimacy in children. A semi-structured interview technique from a manual allows a trained interviewer to conduct an open conversation with the child about the topics in the pictures, and to potentially overcome the burdens of disclosure. Afterwards, video recordings of each interview can be scored according to three standardized scoring lists from the manual: one on the child's verbal responses,

one on non-verbal behavioural reactions, and one on overall impression and/or alarm signs (so called 'red flags'). The SKPI pictures and manual are presented in online appendices 1 and 2.

The aim of this study is to determine the intra- and inter-rater reliability of the SKPI. This is the first of two studies planned to validate the SKPI as a diagnostic instrument for CSA in children aged 3–9 years.(26) If the diagnostic accuracy is proven to be adequate, this tool could be a valuable addition to current medical and psychological diagnostic work up in young children with a suspicion of CSA.

## METHODS

### Subject selection

In 2016, the Picture Instrument for Child Sexual Abuse Screening (PICAS) study started at Amsterdam UMC. It included children aged 3–9 years with and without suspicion of CSA. The PICAS study was approved by the Institutional Review Board (METC 2015\_173). During the study, trained interviewers used the SKPI with a sample of children, from two different sources:

- First, a group consisting of suspected victims of CSA, who had either been referred to the Department of Social Paediatrics in one of three participating Dutch university medical centres, or who were investigated by a vice squad of the Dutch national police.
- Second, a control group, consisting of children considered not to be victims of CSA.

For more details on the study procedures we refer to the article on the protocol.(26)

As recommended by De Vet et al., a minimum sample size of 50 subjects is required in validation studies of measurement instruments.(27) To reach this number, all 39 children with suspicion of CSA who had been interviewed with the latest version of the scoring forms were included, as well as a selected sample of 39 children from the control group with equal age and gender distribution.

### Data collection

Video-recorded interviews with the 78 children were scored three times: immediately by a first rater (who was one of eight interviewers), a second time by the second rater (one Forensic Science master's student), and a third time by the same second rater after a minimum interval of six weeks, to preclude recollection. All raters were either physicians or master's students with medical or forensic backgrounds. They were individually trained by a specialised child psychologist (SBK) and/or the main researcher (KH) on how to conduct the semi-structured interviews and how to work with the manual. All raters were blind to the participants' medical and psychological background information, and only the first rater was aware of the study group to which each child belonged.

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3 The verbal scoring form contained all 52 interview questions from the manual. By checking one of  
4 four (n=45) or five (n=7) answer options, each rater scored the answer given by the child. The non-  
5 verbal scoring form contained a table listing a total of 24 behavioural reactions. Each reaction could  
6 be checked for presence while observing each of the 15 pictures. The red-flag scoring form consisted  
7 of three overarching questions with binary answer options to assess the interviewer's overall  
8 impression of the child's verbal and non-verbal behaviour during the interview.  
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### 13 **Statistical analysis**

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15 The SKPI's intra-rater reliability was assessed by comparing the two scorings of the second rater at  
16 different time points. Inter-rater reliability was assessed by comparing the rater scores for each child  
17 between the first rater and the primary scoring of the second rater. Data-analysis was performed  
18 using the IBM SPSS software package (IBM SPSS Statistics for Windows, Version 26.0. Armonk, NY:  
19 IBM Corp.).  
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26 Descriptive statistics (percentages, medians and interquartile ranges (IQR)) were used to describe the  
27 demographic characteristics of the study population. For the verbal scoring, no, multiple answer  
28 options, or 'other...' were considered a missing value. We calculated both Cohen's kappa and  
29 Percentage of Agreement (POA) to assess intra- and inter-rater reliability. By definition, POA is higher  
30 than Cohen's kappa, since kappa is adjusted for agreement by coincidence. For this reason, kappa is  
31 generally preferred over POA. However, in contrast to kappa, POA can always be calculated, even  
32 when some options have not been scored by one of the raters, as was the case for many items, in  
33 particular on the non-verbal scoring form.(28)  
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41 For the interpretation of Cohen's kappa, Landis and Koch's (arbitrary) grading system was applied on  
42 median kappas per form, with a Cohen's kappa of < 0 signifying poor agreement, 0.00–0.20 as slight  
43 agreement, 0.21–0.40 as fair agreement, 0.41–0.60 as moderate agreement, 0.61–0.80 as substantial  
44 agreement, and 0.81–1.00 as almost perfect agreement.(29) For the interpretation of POA, a median  
45 ≥ 80% agreement between raters was considered acceptable.(28)  
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51 For each of the three separate scoring forms, Cohen's kappa and POA of all items, and the median  
52 (IQR) per form were calculated in both study groups and in the total study sample.  
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### 56 **Patients and public involvement**

57 During the course of PICAS we received input from several adult CSA survivors who lived with the  
58 burdens of the abuse throughout their childhood. The aim was to carefully assess and evaluate each  
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3 step of the study with them. We intend to disseminate the main results to all parents and caregivers  
4 from the included subjects, as well as these CSA survivors, and will continue seeking their  
5 involvement in the development of a tool and appropriate methods of dissemination.  
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## 10 RESULTS

### 11 Baseline Characteristics

12 The baseline characteristics of the study population are shown in Table 1. The median age was 5  
13 years (IQR: 4–7). Slightly more girls than boys were included (55 vs 45%) in the total sample and, in  
14 particular, in the suspected group (61 vs 39%).  
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### 22 Intra- and inter-rater reliability per group

23 Tables 2 and 3 present aggregated intra- and inter-rater reliability, respectively, on all items of the  
24 verbal, non-verbal and red flag scoring forms in the suspected CSA group, the control group and the  
25 total sample, represented by Cohen's kappa and POA.  
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### 33 Verbal scoring form

34 Intra- and inter-rater agreement on the verbal scoring form are almost perfect in both the suspected  
35 and control groups (both median Cohen's kappa 1.00, POA 100). For intra- and inter-rater agreement  
36 on each of the 52 questions on the verbal scoring form, divided per study group and for the total  
37 sample, we refer to online appendix 3.  
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### 43 Non-verbal scoring form

44 For the non-verbal form, the median intra-rater Cohen's kappa and POA were 0.91 and 100,  
45 respectively, in the suspected group and 0.92 and 100, respectively, in the control group. The median  
46 inter-rater Cohen's kappa and POA were 0.37 and 97, respectively, in the suspected group and 0.47  
47 and 100, respectively, in the control group. Intra- and inter-rater agreement of the non-verbal  
48 scoring form on each possible reaction and for each of the 15 pictures per each study group and in  
49 the total sample are presented in online appendix 4.  
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### 57 Red flag scoring form

58 For the red flag form, the median intra-rater Cohen's kappa and POA were 0.54 and 87, respectively,  
59 in the suspected group and 0.95 and 97, respectively, in the control group. The median inter-rater  
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3 Cohen's kappa and POA were 0.37 and 74, respectively, in the suspected group and 0.42 and 77,  
4 respectively, in the control group. For results per question divided per study group and in the total  
5 sample we refer to online appendix 5.  
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## 10 DISCUSSION

11 The aim of this study was to evaluate the inter and intra-rater reliability of the scoring method of the  
12 SKPI, consisting of a verbal, non-verbal and red flag scoring form, in a group of suspected CSA victims  
13 and a healthy control group. The intra-rater reliability of the verbal, non-verbal and red flag scoring  
14 forms is substantial to almost perfect, except for the red flag form in the suspected group, which is  
15 moderate. All median intra-rater POAs showed acceptable agreement for each of the three forms.  
16 The inter-rater reliability of the verbal scoring form is substantial to almost perfect, but the non-  
17 verbal and red flag form show only fair to moderate reliability in both study groups. Inter-rater  
18 agreement is acceptable for the verbal and non-verbal forms, but the median POAs were under the  
19 80% threshold for the red flag form. The interpretation of Cohen's kappa is arbitrary, as stated in  
20 Landis and Koch's often-cited paper.(29) Moreover, Cohen's kappa depends on the distribution of  
21 the item scores, leading to lower kappa values with more skewed distributions, as is the case in many  
22 of the SKPI items. Therefore, the POA values may be preferable for determining SKPI reliability.  
23 Focusing on the results per item (appendices 4 and 5), we notice that agreement varies widely  
24 between individual items in both the non-verbal and the red flag scoring forms.(30) Therefore,  
25 opportunities to improve the scoring method may be found at the level of individual items. For now,  
26 simply removing those items that lacked reliability does not seem the best solution, as it may  
27 decrease the face validity of the instrument. However, once the diagnostic accuracy of the  
28 instrument has been established, it is worth reconsidering this option. Another way to improve the  
29 reliability of non-verbal and red flag scoring may be to intensify rater training and to improve manual  
30 instructions, in particular with regard to less reliable scoring items.  
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46 On the verbal scoring form, raters were instructed to tick the box 'other...' if there was cause for  
47 doubt or, which was most often the case, if, despite the manual instructions, the interviewer was  
48 unable to ask the question during the interview. This led to a considerable amount of missing data  
49 during the analysis, as can be seen in online appendix 3.  
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55 Although the reliability in the CSA suspected group is slightly lower than in the control group for most  
56 verbal and non-verbal items, intra- and inter-rater agreement for both forms are generally adequate.  
57 On the red flag form, however, the intra-rater reliability is remarkably lower in the suspected than  
58 the control group. This may have been due to the fact that all scoring for this intra-rater analysis was  
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3 performed by a single rater who was trained once, before she first rated the video recordings. To  
4 improve both intra and inter-rater agreement, in addition to one individual training, refresher  
5 courses and group-training on how to work with the manual should be considered for all raters, to  
6 ensure consistency in manual use and form scoring. During training at present, an example interview  
7 with a child from the control group is shown, and a single practice interview is conducted with a non-  
8 abused child. More extensive experience with use of the SPKI, including a practice interview with a  
9 child from the suspected group should, therefore, also be included in training to improve interviewer  
10 and rater skills.  
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### 18 **Strengths and limitations**

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20 A strength of the present study is its large sample size involving young children with suspected CSA.  
21 The study population consisted of a broad spectrum of children, including confirmed cases of CSA,  
22 children with high, moderate or low CSA-suspicion in the suspected CSA group, and children with no  
23 suspicion in the control group. The study groups were analysed separately to evaluate the SKPI  
24 reliability in a group that is largely representative of the target population (suspected CSA group).  
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30 Another strength of this study is the blinding of the first and second rater. Only the first rater, who  
31 was also the interviewer, had some knowledge of the child's background, and whether or not CSA  
32 was suspected. A study design with one sub-optimally blinded rater and one fully blinded rater (as  
33 will be the case when the instrument is used in practice) enhances the validity of the results.  
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38 A limitation is that a single, and relatively inexperienced second rater performed the repeated  
39 assessments, thus limiting the generalisability of the intra-rater reliability. A further limitation is that  
40 all interviewers and raters were female. This was not by design. Despite the use of a structured  
41 interview technique, children might have responded differently in interviews conducted by male  
42 interviewers.(31)  
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### 48 **Recommendations for practice**

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50 When applied by experienced and trained professionals, the SKPI can be used to lower the threshold  
51 to start a conversation with a young child on sexually-related topics. However, it is very important  
52 that video images of the interviews are analysed afterwards and, if necessary, that remarkable verbal  
53 and non-verbal reactions are discussed with another (independent) professional. Creating a balance  
54 between the preservation of privacy while enabling objective assessment remains a challenge. Taking  
55 into account the European General Data Protection Regulation (GDPR), clear protocols must be  
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3 developed and adhered to within each medical or psychological institution on how to deal with  
4 storage and/or the sharing of data.(32)  
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### 8 **Recommendations for research**

9 The diagnostic accuracy of the SKPI will be investigated as a next step in our validation study. In  
10 addition, we recommend improving the manual and improving interviewer training.  
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### 14 **CONCLUSION**

15 The verbal scoring form of the SKPI has adequate intra- and inter-rater reliability. The reliability of  
16 the nonverbal and red flag scoring forms is suboptimal, requiring improvement of the manual and  
17 interviewer training for these forms. In its current form, the instrument can be used to open a  
18 conversation with a child suspected of being sexually abused. Due to its clear structure, the SKPI is a  
19 relevant additional tool for use in the medical, psychological and forensic field.  
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### 26 **ACKNOWLEDGEMENTS**

27 We would like to thank all participating children and their parents.  
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34 Insurers Innovation Foundation (2.969; 2016/020201) and the Janivo Foundation (2015.444).  
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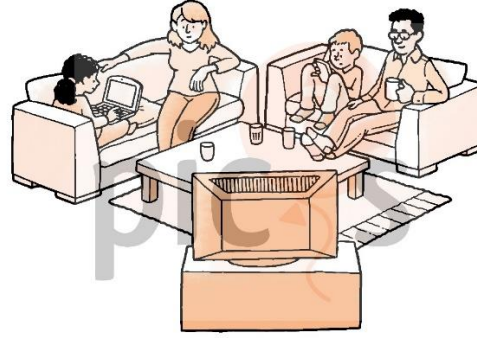
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**Appendix I – Pictures in the Sexual Knowledge Picture Instrument (SKPI)**

Displayed below are watermarked versions of the fifteen pictures of the SKPI as shown during interviews. The pictures in the SKPI are on paper size A4. Picture 1 and 2 are included for introductory purposes and to be able to register the baseline behaviour of the child. Picture 3 to 8 address gender differences and knowledge of body parts. Picture 9 to 15 display intimate situations between children, adults, and adults with children.



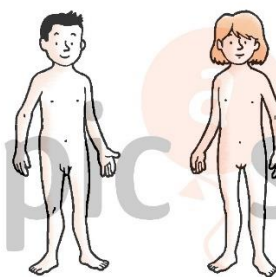
Picture 1



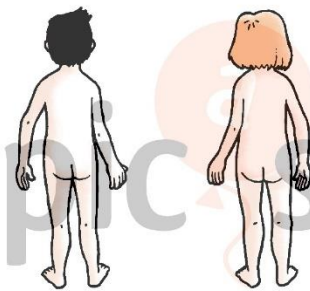
Picture 2



Picture 3



Picture 4



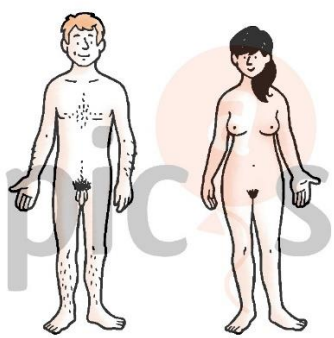
Picture 5



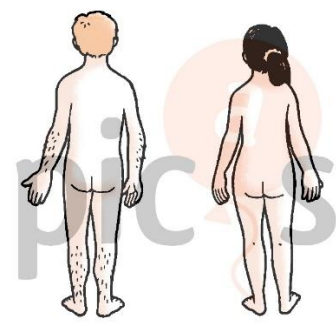
Picture 6



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Picture 7



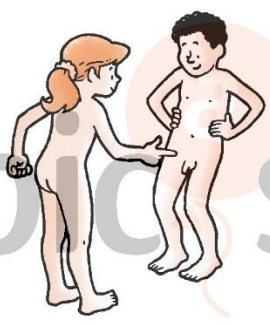
Picture 8



Picture 9



Picture 10



Picture 11



Picture 12



Picture 13



Picture 14



Picture 15

For Review Only

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## Appendix II – SKPI Manual (English version)

### 1. Introduction

This semi-structured manual contains the instructions for the use of the Sexual Knowledge Picture Instrument (SKPI).

General aim is to look at each drawing in the picture book with the child, and ask the accompanying questions. Each interview should be video recorded, and given a scoring afterwards by the interviewer. The scoring pays attention to the general impressions, the verbal reactions and knowledge, and the non-verbal reactions of the child.

Children are normally open-minded and see almost everything on the drawings as normal. They will respond openly to the questions asked by the interviewer. If the child does not seem to want to tell something, this is remarkable.

It is therefore important to pay attention to:

- WHAT the child tells.
- HOW the child tells.
- IN WHAT CONTEXT the child tells it.
- What the child DOES NOT tell.

Before each interview, we recommend to read this manual and the picture book carefully, and to be aware of the instructions, notes and questions to ask with each picture.

#### 1.1 General instructions to the child

At the start of the interview it is important to explain to the child what will happen, and what you expect from the child.

First give a short, neutral introduction:

*"I have a booklet with drawings here."*

*"I'm going to show you all the drawings and then you can tell about it."*

*"I'm going to ask you some questions too."*

*"I'm going to record us on this small camera, so I can see what you told me once more."*

Subsequently, make a number of things clear to the child:



## 1. Emphasize that as the interviewer you are "ignorant".

Therefore, please state that the child can NOT do it wrong, so there is no right or wrong answer to your questions (This is in contrast to for example situations at school, when the teacher asks a question).

Do this as follows:

*"It's about what YOU know and what YOU want to tell me."*

*"Everything you say is always good. So you can't give wrong answers (like at school, if the teacher or teacher asks you something.)"*

## 2. Don't know - instruction

*"If you don't know the answer to the question, please say so."*

Check whether the child has understood this, for example by asking the following question:

*"So if I ask you, What's my dog's name? What do you say?"* Possibly followed by: *"You can't know that, right, because I didn't tell you?"*

## 3. Don't understand - instruction

*"If you don't get the question, you can just say that."*

Check whether the child has understood this by asking the following questions:

*"So if I ask you: What is your 'gender'? What do you say then?"* (the child probably responds something like: *"I don't know/understand"*)

*"That's because gender is a difficult word. Then I will ask in another way, for example: are you a boy or a girl?"*

Note: Recommended is to have a 2nd example ready in case the child guesses an answer.

## 1.2 General instructions for the interviewer

During the course of the SKPI-interview, follow the next instructions:

### 1. Ask open-ended questions (These questions are usually beginning with 'what', 'where', 'who', etc)

1  
2  
3 For example, *"What do you see here?"*  
4  
5  
6

## 7 **2. Do NOT ask suggestive questions**

8  
9  
10 Those questions that lead or force the child to a certain 'expected' answer, such as: *"Did you do this*  
11 *with mummy too?"*  
12

## 13 **3. Avoid closed questions (that can only be answered with "yes" or "no")**

14  
15  
16 Note 1: closed questions are not always suggestive. Sometimes even less than an open question, for  
17 example compare: *"Who did you discuss this with?"* / *"Did you discuss this?"*  
18

19  
20 Note 2: In case you feel it is necessary to help the child by giving multiple answer options, most  
21 young children tend to choose the last answer option. Take this into account.  
22  
23  
24

## 25 **4. Don't know, or don't want to tell?**

26  
27 If the child says nothing, or says he does not know, however, it seems to the researcher that the child  
28 does not WANT to tell it (for example, you notice this because the child says 'don't know' and looks  
29 away, clearly trying to distract the interviewer), then ask:  
30

31 *"Don't you know that, or don't you want to tell that?"*  
32

33 If the child answers "I don't want to tell you that", once ask why e.g.: *"Can you tell me why you don't*  
34 *want to tell this?"* Then respect the answer, and say *"okay"* and do not repeat the question.  
35  
36  
37  
38  
39  
40

## 41 **5. Use the child's own words**

42 During the conversation with the child, copy as much as possible from his / her words. For example,  
43 if the child will call the adults "mom and dad" in the drawings, or names the male genital "pee pee",  
44 continue using these same words throughout the rest of the interview.  
45  
46  
47  
48  
49

## 50 **6. Tell me more**

51 Most young children still have a limited vocabulary, meaning they do not have the ability to express  
52 everything properly. They will therefore sometimes use their own, or different words for something.  
53 Therefore, at your own insight, ask more questions based on those given answers that might have a  
54 different meaning for the child.  
55  
56  
57

58 E.g. at picture 14, when the child answers "That mother is washing the boy", ask *"Tell me, what's*  
59 *that, washing?"* and then *"Does your mother do that to you too?"*  
60

## 7. Encourage

It is important to encourage the child every now and then, by saying things like *"You can really tell a lot / You do tell very clearly / You participate very well"*, etc.

Note: do not encourage the child by just saying something like *"That's right"* (as there is no right or wrong in the child's answers).

## 8. React neutrally, even to remarkable statements

If the child gives a reaction that is striking to the interviewer, it is first of all important **to respond as normal / neutral as possible**. In addition, always respond briefly and by means of an open question, for example by asking (one or maximally two times):

*"Tell me more ...?"* Or, *"Can you tell me more about that?"*

After this, the child is free to tell more about this.

If the child tells more, ask open follow-up questions:

*"And what happened then?"* *"And further?"* Etc.

Only in case the child makes a fairly clear statement, ask more closed questions, such as:

*"Who was that with?"* and / or *"where was that exactly?"*

Then, be careful to **always resume the interview in a normal manner**.

## 9. Ending the interview

After having looked at all the drawings, finish the interview by complimenting the child, and thank them for their efforts.

Then ask if he / she wants to say something else (which you have not asked or what has not been discussed). And finally ask if the child has any questions for you.

## 1.3 Video recording instructions

Ensure an easy set-up for the interview, preferable at a table, sitting next to the child. Use a small secured camera, preferably on a tripod.

Before starting the recording, make sure the child is clearly visible.

1  
2  
3 After finishing the interview do not forget to directly turn off the camera, and immediately store the  
4 recordings on a developed, secured database or at a secured server. Then, remove the recording  
5 from the camera.  
6

7  
8 **Important note: remember to never leave this camera unattended, and always store it in a locker**  
9 **or other safe place after the interview.**  
10

## 11 12 13 14 15 16 **2. The SKPI-interview** 17

18 Read the following questions and notes carefully before each interview.  
19

20 Look at each drawing with the child, and ask the questions from the scoring list below. Any relevant  
21 or striking statements made by the child should be noted directly. A complete scoring of the child's  
22 answers for each question can be given afterwards, based on the observation of the video recordings  
23 (chapter 4).  
24  
25  
26  
27

### 28 **2.1 Picture 1: Introduction picture I (Family sitting at the table)** 29

30 Aim: The child loosens up.  
31

32 Questions (if necessary, so if the child does not tell spontaneously):  
33

34 -What do you see here?  
35

36 -Who are they?  
37

38 -Wat are they doing?  
39

40  
41 Continue to ask until a short "story" was formulated by the child, e.g.: "A father and mother and  
42 child, they are eating."  
43

44 Then encourage: "Do you know what you told me?" (Repeat what the child has said) "Well told!" or  
45 "Clearly told!"  
46  
47  
48  
49

### 50 **2.2 Picture 2: Introduction picture II (Family with digital media / television)** 51

52 Aim: The child loosens up.  
53

54 Ask the following questions:  
55

56 - What do you see here?  
57

58 - Who are they?  
59  
60

1  
2  
3 - *Wat are they doing?*

4  
5 Again, ask until a short story is told by the child, e.g. "Two children and their mom and dad sit on the  
6 couch watching television and playing games on the phone / laptop."

7  
8 - Ask further about the TV / smartphone / laptop: "*Do you also have one at home? What do you see*  
9 *on it? / What can you do with that?*"

10  
11  
12 Eventually encourage the child again.

13  
14 **Note:** In some (sexual) abuse of children imaging with smartphones takes place. Also, some children  
15 have been confronted with inappropriate sexual/pornographic or violent material. In those cases this  
16 picture may bring up other stories, and emotions in the child.

17  
18 If the child's answer may be related to involuntary sexual or violent behavior (e.g. "I always see  
19 'grown-up' television programs at grandpa's home.") ask: "*Tell me more*", or "*Can you tell me tell you*  
20 *more about that?*" and eventually ask more follow-up questions "*where/how/when did you see this?*  
21 *Did it happen to you?*"

22  
23  
24 Then resume the interview in a normal manner.

### 25 26 27 28 29 **2.3 Picture 3: Dressed children**

30  
31 Aim: Testing knowledge of gender differences, naming body parts

32  
33 Ask the following questions:

34  
35 - *What do you see?*

36  
37 - *How do you know that's a boy and a girl?*

38  
39 - *How do you see that?*

40  
41 - *Tell me, why is someone is a boy or a girl?*

42  
43 - *What are you, a boy or a girl?*

44  
45 - *How do you know you're a boy / girl?*

### 46 47 48 49 50 **2.4 Picture 4: Undressed children (front)**

51  
52 Aim: Testing knowledge of gender identity and naming genitals.

53  
54 Ask the following questions:

55  
56 -*What do you see?*

57  
58 -*How do you know that's a boy and a girl?*

1  
2  
3 -By what can you tell that?  
4

5 -Can you see it somewhere else?  
6

7 **Note:** if the child does not spontaneously name the genitals, use a pencil to point out the genitals  
8 from both children, and ask: 'What's that?' or 'How do you call that?' Then resume the interview in a  
9 normal manner.  
10

## 11 12 13 14 15 16 **2.5 Picture 5: Undressed children (back)**

17 Aim: Testing knowledge of body parts

18 Ask the following questions:  
19

20 -What / who do you see?  
21

22 Then use a pen to point out the buttocks from one of the children.  
23

24 -What are those? And what can you do with it?  
25  
26

## 27 28 29 30 31 **2.6 Picture 6: Dressed man and woman**

32 Aim: Testing knowledge of body parts and their (different) functions.

33 Use a pen to point out the following body parts on the drawing: **eye, ear, mouth, hand, foot / leg.**

34 Meanwhile, ask the following questions:  
35

36 -What is / are that?  
37

38 -What can you do with that?  
39

40 -Can you do anything else with it?  
41

42 **Note:** Repeat the last question until the child does no longer name a function. Ask further if the  
43 child's answer can also be related to sexual behavior (e.g. is the child tells the function of the mouth  
44 is licking, or taking a bite; ask: "Licking... of what? Can you tell me more about that" Then resume  
45 the interview in a normal manner.  
46  
47

## 48 49 50 51 52 53 54 **2.7 Picture 7: Undressed man and woman (front)**

55 Aim: Testing knowledge of sexual body parts and their functions.

56 Again, use a pen to point out the following body parts : **female breasts, female genital, male genital.**  
57  
58  
59  
60

1  
2  
3 For each body part ask the following questions:  
4

5 -What is / are that?  
6

7 -What can you do with that?  
8

9 -Can you do anything else with it?  
10

11 **Note:** Ask further if the child's answers can also be related to sexual abusive behavior (e.g. if the child  
12 answers you can put a pencil into the female genital) ask: "Can you tell me more about that?" And:  
13 "How do you know that, have you ever seen that?". If the child refers to urine, or urinating is  
14 mentioned in relation to the genital, ask what color this urine is, and if it can be a different color. If  
15 the answer to this is white, ask further: "White transparent, like lemonade, or white like milk? Or  
16 more like yoghurt or like glue?" And eventually ask: "why do you think that/how do you know that,  
17 have you ever seen that?" Then resume the interview in a normal manner.  
18  
19  
20  
21  
22  
23  
24  
25

## 26 **2.8 Picture 8: Undressed man and woman (back)**

27 Aim: Testing knowledge of body parts

28 Ask the following questions:  
29

30 -What / who do you see?  
31

32 -What are those?  
33

34 -What can you do with that? And can you do other things with it? Etc.  
35  
36  
37  
38  
39

## 40 **2.9 Picture 9: Kissing man and woman**

41 Aim: Testing knowledge of normal (fun) intimacy and voluntary (or eventually involuntary) sexual  
42 activities.  
43

44 Ask the following questions:  
45

46 - What do you see here?  
47

48 - Who are they?  
49

50 - Wat are they doing?  
51

52 - Can you tell me more?  
53

54 - How do you think that mummy / woman feels about it? Why do you think so?  
55

56 - How you think the daddy / father feels about it in the picture? Why do you think?  
57  
58  
59  
60

1  
2  
3 - Do you ever do that yourself? (if so: With who? / How do you like that?)  
4  
5  
6

7 Note: If the child's answer may be related to involuntary sexual behavior (e. g. "Daddy is going to  
8 undress Mommy, he wants to make love to her but she doesn't want to.") ask: "Tell me more", or  
9 "Can you tell me tell you more about that?" and eventually ask more follow-up questions  
10 "where/how/when did you see this? Did it happen to you?" Then resume the interview in a normal  
11 manner.  
12  
13  
14

### 15 16 17 18 19 **2.10 Picture 10: Man and woman being intimate**

20  
21 Aim: Testing knowledge of normal (fun) intimacy and voluntary (or eventually involuntary) sexual  
22 behavior.  
23

24 Ask the following questions:

25  
26 - What do you see here?

27  
28 - Who are they?

29  
30 - Wat are they doing?

31  
32 - Can you tell me more?

33  
34 - How do you think the lady / mama feels about it? Why do you think so / how do you know that?

35  
36 - How does the mister / dad feels about it? How do you know that?  
37  
38

39 Note: If the child's answer may be related to non-voluntary sexual behavior (e.g. "Daddy is peeing on  
40 me.") ask further: "Tell me more about that...". Eventually, ask follow-up questions, such as: "Did this  
41 happen to you, or have you seen it with someone?" and/ or "What happened exactly?" "Can you tell  
42 me more about that?" Then resume the interview in a normal manner.  
43  
44  
45  
46  
47  
48

### 49 **2.11 Picture 11: Undressed children's play**

50  
51 Aim: Testing knowledge of normal (fun) intimacy and voluntary sexual behavior.  
52

53 Ask the following questions:

54  
55 - What do you see here?

56  
57 - Who are they?

58  
59 - Wat are they doing?  
60



1  
2  
3 - Can you tell me more?  
4

5 - How do you think the girl feels about it? Why do you think? Or: How do you know she likes it/ feels  
6 happy about it?  
7

8 - How do you think that boy feels about it? Why do you think?  
9

10 - Do you ever do this yourself? If so: How do you feel about that?  
11

12  
13 Beware: If the child's answer may refer to with sexual and/or abusive behavior (e.g. "Ally should not  
14 do that, no one should touch my pee pee.") ask further: "Tell me about that" or "Can you tell me  
15 more about that?" and eventually ask further: "Have you ever experienced that? Yourself or have you  
16 seen it with someone? What happened?" Then resume the interview in a normal manner.  
17  
18  
19  
20  
21  
22

### 23 2.12. Picture 12: Child with a doctor figure

24  
25 Aim: Testing knowledge of normal intimacy and voluntary sexual behavior.  
26

27 Ask the following questions:  
28

29 - What do you see here?  
30

31 - Who are they?  
32

33 - Wat are they doing?  
34

35 - Can you tell me more?  
36

37 - What could be going on? / What happened?  
38

39 - How do you think that daddy / doctor feels about it? Why do you think so?  
40

41 - How you think the baby feels about it in the picture? Why do you think so?  
42  
43

44 **Note:** If the child's answer may refer to sexual and/or abusive behavior (e.g. "That doctor should not  
45 do that, no one should touch my pee pee.") ask: "Tell me about that" or "Can you tell me more about  
46 that?" and eventually ask further: "Have you ever experienced that? Yourself or have you seen it with  
47 someone? What happened?" Then resume the interview in a normal manner.  
48  
49  
50  
51  
52  
53

### 54 2.13 Picture 13: Father figure bent over girl in bed

55 Aim: Testing knowledge of normal intimacy and voluntary sexual behavior.  
56

57 Ask the following questions:  
58  
59  
60

1  
2  
3 - *What do you see here?*

4  
5 - *Who are they?*

6  
7 - *Wat are they doing?*

8  
9 - *Can you tell me more?*

10  
11 - *How do you think the girl / child feels about it? Why do you think so?*

12  
13 - *How do you think the father / grandpa / man feels about it? Why do you think so?*

14  
15 - *Do you ever do this yourself? How do you feel about it?*

16  
17  
18 **Note:** If the child's answer may refer to sexual and/or abusive behavior (e.g. "Grandpa always does  
19 that in the middle of the night.") ask further: "Tell me about that" or "Can you tell me more about  
20 that?" and eventually ask further: "Have you ever experienced that? Yourself, or have you seen it with  
21 someone? What happened?" Then resume the interview in a normal manner.  
22  
23  
24  
25  
26  
27

## 28 **2.14 Picture 14: Naked boy in the shower with mother figure**

29  
30 Aim: Testing knowledge of normal intimacy and (in)voluntary sexual behavior.

31  
32 Ask the following questions:

33  
34 - *What do you see here?*

35  
36 - *Who are they?*

37  
38 - *Wat are they doing?*

39  
40 - *Can you tell me more?*

41  
42 - *How do you think the boy / child feels about it? Why do you think so?*

43  
44 - *How do you think the mother / woman feels about it? Why do you think so?*

45  
46 - *Do you ever do this? How do you feel about it?*

47  
48  
49 **Note:** If the child's answer may refer to with sexual and/or abusive behavior (e.g. "That washing  
50 hurts!") ask: "Tell me about that" or "Can you tell me more about that?" and eventually ask further:  
51 "Have you ever experienced that? Yourself, or have you seen it with someone? What happened?"  
52  
53 Then resume the interview in a normal manner.  
54  
55  
56  
57  
58  
59  
60

## **2.15 Picture 15: Mother figure with crying child in bed**

1  
2  
3 Aim: Testing knowledge of normal intimacy and (in)voluntary sexual behavior.  
4

5 Ask the following questions:  
6

7 - *What do you see here?*  
8

9 - *Who are they?*  
10

11 - *Wat are they doing?*  
12

13 - *Can you tell me more?*  
14

15 - *How do you think the boy / child feels about it? Why do you think so?*  
16

17 - *How do you think the mother / woman feels about it? Why do you think so?*  
18

19 - *Do you ever do this? How do you feel about it?*  
20  
21

22 Notes: If the child refers to having a nightmare / bad dream, or being hurt ask further: "Tell me about  
23 that" or "Can you tell me more about that?" and eventually ask further: "Do you have nightmares  
24 yourself? Can you tell me more about what happens?"  
25

26 If the answer may refer to with sexual and/or abusive behavior (e.g. child tells about a related  
27 dream, or that the mother figure touches the child in a way he / she does not want) ask: "Tell me  
28 about that" or "Can you tell me more about that?" and eventually ask further: "Have you ever  
29 experienced that? Yourself, or have you seen it with someone? What happened?" Then resume the  
30 interview in a normal manner.  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40

### 41 **3. General impressions and remarks** 42 43 44

45 During the interview the child was:  
46

47  open / open-minded  
48

49  loaded / fraught  
50  
51

52 Verbal remarks (including wonderful associations):  
53  
54  
55  
56  
57  
58  
59  
60

1  
2  
3 Non-verbal remarks (including noticeable behavioral changes):  
4  
5  
6  
7  
8

9 Other notable impressions of the child / situations during the interview:  
10  
11  
12  
13  
14  
15  
16  
17

## 18 **4. Verbal knowledge scoring**

### 23 **Scoring instructions:**

24  
25 If a child answers

26  
27 If a child answers "I don't know" or "Just because",

28  
29 - In case of questions testing the knowledge score as NO / NOT GOOD.

30  
31  
32 - When the child is asked to judge the situation on the picture, or feeling of the character,  
33 score as OTHERWISE, NAMELY... and write "I don't know".

34  
35 If a question from the manual was not asked, then score as OTHERWISE, NAMELY..., and then fill in  
36 "not asked". - For repeated questions such as gender identity / genitalia functions, score again and  
37 again, do not include the score from previous questions.

38  
39 If two answers are given, of which one is right and one is wrong (for example with the male genital  
40 function: pooping and peeing), count this as GOOD.

41  
42 Always tick only 1 answer (which is closest). Multiple answers cannot be processed.

43  
44 If the answer is not said, but is clearly portrayed by the child (for example, if function of hands is  
45 asked, and the child claps), count this as GOOD.  
46  
47  
48  
49  
50

### 51 **Verbal scoring list:**

#### 52 **Picture 3: Dressed children**

53  
54 Difference between boy and girl

55  
56  no

57  
58  yes  
59  
60

1  
2  
3  doesn't want to tell

4  
5  otherwise, namely....

6  
7  
8  
9 Motivation

10  
11  none (child gives no motivation)

12  
13  yes, cultural differences (e.g. clothing, long hair)

14  
15  yes, genital differences

16  
17  doesn't want to tell

18  
19  otherwise, namely....

20  
21  
22  
23  
24 Own gender

25  
26  no

27  
28  yes

29  
30  doesn't want to tell

31  
32  otherwise, namely....

33  
34  
35  
36  
37 Motivation

38  
39  none (child gives no motivation)

40  
41  yes, cultural differences (e.g. I'm playing football, I have a ponytail)

42  
43  yes, genital differences

44  
45  doesn't want to tell

46  
47  otherwise, namely....

48  
49  
50  
51 **Picture 4: Undressed children (front)**

52  
53 Difference between boy and girl

54  
55  no

56  
57  yes

1  
2  
3  doesn't want to tell

4  
5  otherwise, namely....  
6  
7  
8

9 Motivation

10  
11  none (child gives no motivation)

12  
13  yes, cultural differences (e.g. clothing, long hair)

14  
15  yes, genital differences

16  
17  doesn't want to tell

18  
19  otherwise, namely....  
20  
21  
22

23  
24 Knowledge female genital

25  
26  no

27  
28  yes (count all terms correct: from pee or pussy to butterfly)

29  
30  doesn't want to tell

31  
32  otherwise, namely....  
33  
34  
35

36  
37 Function female genital

38  
39  not good (says nothing relevant)

40  
41  good (only functional : usually peeing)

42  
43  good (incl sexual function), namely....

44  
45  doesn't want to tell

46  
47  otherwise, namely....  
48  
49  
50

51 Knowledge male genital

52  
53  no

54  
55  yes (all words correct: penis, wee wee, willy etc.)

56  
57  doesn't want to tell  
58  
59  
60

1  
2  
3  otherwise, namely....  
4  
5  
6

7 **Male genital function**  
8

- 9  no good answer  
10  
11  good (only functional: usually urinating)  
12  
13  good (incl sexual function), namely....  
14  
15  doesn't want to tell  
16  
17  otherwise, namely....  
18  
19

20  
21  
22 **Picture 5: Undressed children (back)**  
23

24 **Knowledge buttocks**  
25

- 26  no  
27  
28  yes (all words correct: bibs, butt, etc)  
29  
30  doesn't want to tell  
31  
32  otherwise, namely....  
33  
34

35  
36  
37 **Buttocks function**  
38

- 39  not good  
40  
41  good (if at least one function, usually sitting or pooping)  
42  
43  doesn't want to tell  
44  
45  otherwise, namely....  
46  
47  
48

49 **Picture 6: Dressed man and woman**  
50  
51

52  
53  
54 **Knowledge eyes**  
55

- 56  no  
57  
58  yes  
59  
60

1  
2  
3  doesn't want to tell

4  
5  otherwise, namely....

6  
7  
8  
9 Eyes function

10  
11  no good answer

12  
13  good (as one good function: seeing, looking, blinking, staring, etc)

14  
15  will not tell

16  
17  otherwise, namely....

18  
19  
20  
21  
22 Knowledge ears

23  
24  no

25  
26  yes

27  
28  doesn't want to tell

29  
30  otherwise, namely....

31  
32  
33  
34 Ears function

35  
36  no good answer

37  
38  good (as one good function: hearing, listening, etc)

39  
40  doesn't want to tell

41  
42  otherwise, namely....

43  
44  
45  
46  
47 Knowledge lips / mouth

48  
49  no (says no lips and no mouth)

50  
51  yes (says lips and / or mouth)

52  
53  doesn't want to tell

54  
55  otherwise, namely....



1  
2  
3 Function lips / mouth  
4

- 5  not good (does not say anything relevant)
- 6
- 7  good (as one good function: talking, eating, yawning, putting on lipstick, licking, eating, etc)
- 8
- 9  doesn't want to tell
- 10
- 11  otherwise, namely....
- 12
- 13
- 14
- 15

16 Knowledge hands  
17

- 18  no
- 19
- 20  yes
- 21
- 22  doesn't want to tell
- 23
- 24  otherwise, namely....
- 25
- 26
- 27

28 Hands function  
29

- 30  not good
- 31
- 32  good (as soon as one good function: grab, clap, tickle, etc)
- 33
- 34  doesn't want to tell
- 35
- 36  otherwise, namely....
- 37
- 38
- 39
- 40

41 Knowledge legs / feet  
42

- 43  no
- 44
- 45  yes
- 46
- 47  doesn't want to tell
- 48
- 49  otherwise, namely....
- 50
- 51
- 52
- 53

54 Leg / feet function  
55

- 56  not good
- 57
- 58  good (as soon as one good function: running, running, etc)
- 59
- 60

1  
2  
3  doesn't want to tell

4  
5  otherwise, namely....  
6  
7  
8

9 **Picture 7: Undressed man and woman (front)**

10  
11 Knowledge breasts

12  
13  no

14  
15  yes (all words right: breasts, tits, boobies, etc)

16  
17  doesn't want to tell

18  
19  otherwise, namely....  
20  
21  
22

23  
24 Breast function

25  
26  not good (says nothing relevant)

27  
28  good (as one good function: for the baby to drink milk, eat for the baby, etc)

29  
30  doesn't want to tell

31  
32  otherwise, namely....  
33  
34  
35

36  
37 Female genital knowledge

38  
39  no

40  
41  yes (all words correct: pussy, poeni, pee-hole, etc)

42  
43  doesn't want to tell

44  
45  otherwise, namely....  
46  
47  
48

49  
50 Female genital function

51  
52  not good (does not say anything relevant)

53  
54  good (only functional :: usually urinate)

55  
56  good (incl sexual function), namely....

57  
58  doesn't want to tell  
59  
60

1  
2  
3  otherwise, namely....  
4  
5  
6

7 Knowledge male genital  
8

- 9  no  
10  
11  yes (all words correct: wee wee, pee pee, etc)  
12  
13  doesn't want to tell  
14  
15  otherwise, namely....  
16  
17  
18  
19

20 Male genital function  
21

- 22  not good  
23  
24  good (function only: usually peeing)  
25  
26  good (incl sexual function), namely...  
27  
28  doesn't want to tell  
29  
30  otherwise, namely....  
31  
32  
33  
34

35 Questioning the color of the puddle:  
36

- 37  yellow / white (transparent), or other logical answer  
38  
39  white (as in milk / glue / yogurt, etc)  
40  
41  doesn't want to tell  
42  
43  otherwise, namely...  
44  
45  
46  
47

48 **Picture 8: Undressed man and woman (back)**  
49

50 Knowledge buttocks  
51

- 52  no  
53  
54  yes (all words correct: ass, butt, etc)  
55  
56  doesn't want to tell  
57  
58  otherwise, namely....  
59  
60

1  
2  
3  
4  
5 Buttocks function

6  
7  not good

8  
9  good (as soon as one good function: usually sitting or defecating)

10  
11  doesn't want to tell

12  
13  otherwise, namely....

14  
15  
16  
17  
18 **Picture 9: Kissing man and woman**

19  
20 Knowledge (child shows basic insight in situation)

21  
22  no

23  
24  yes (as soon as something like kissing / hugging, hugging is in the answer)

25  
26  doesn't want to tell

27  
28  otherwise, namely....

29  
30  
31  
32  
33 Estimated feeling female figure

34  
35  not nice

36  
37  nice

38  
39  doesn't want to tell

40  
41  otherwise, namely....

42  
43  
44  
45 Estimated feeling male figure

46  
47  not nice

48  
49  nice

50  
51  doesn't want to tell

52  
53  otherwise, namely....

54  
55  
56  
57  
58 **Picture 10: Man and woman being intimate**

1  
2  
3 Knowledge (child shows basic insight in situation)  
4

5  no (child describes what he / she sees, without insight, for example they lie (naked) on / look at  
6 each other)  
7

8  yes (as soon as something like kissing / hugging, hugging, sex is in the answer)  
9

10  doesn't want to tell  
11

12  otherwise, namely....  
13  
14  
15  
16

17 Estimated feeling female figure  
18

19  not nice  
20

21  nice  
22

23  doesn't want to tell  
24

25  otherwise, namely....  
26  
27  
28  
29

30 Estimated feeling male figure  
31

32  not nice  
33

34  nice  
35

36  doesn't want to tell  
37

38  otherwise, namely....  
39  
40  
41  
42

43 **Picture 11: Undressed children's play**

44 Knowledge (child shows basic insight in situation)  
45

46  no  
47

48  yes (if something like touching / looking / pointing / playing, or normal curiosity about the other is  
49 in the answer.  
50

51  doesn't want to tell  
52

53  otherwise, namely....  
54  
55  
56  
57

58 Estimated feeling girl figure  
59  
60

- 1  
2  
3  not nice  
4  
5  nice  
6  
7  doesn't want to tell  
8  
9  otherwise, namely....  
10

11  
12  
13  
14 **Estimated feeling boy figure**

- 15  not nice  
16  
17  nice  
18  
19  doesn't want to tell  
20  
21  otherwise, namely....  
22  
23  
24  
25

26 **Picture 12: Child with a doctor figure**

27  
28 Knowledge (child shows basic insight in the situation)

- 29  
30  no (child describes what he / she sees, without insight, for example no doctor or father, but  
31 someone who has hands there)  
32  
33  yes (as soon as the doctor answers the question, father changing or changing a child)  
34  
35  doesn't want to tell  
36  
37  otherwise, namely....  
38  
39  
40  
41

42 **Estimated feeling doctor figure**

- 43  nice  
44  
45  nice  
46  
47  doesn't want to tell  
48  
49  otherwise, namely....  
50  
51  
52  
53

54  
55 **Estimated feeling child figure**

- 56  not nice  
57  
58  nice  
59  
60

- 1  
2  
3  doesn't want to tell  
4  
5  otherwise, namely....  
6  
7  
8

9  
10 **Picture 13: Father figure bent over girl in bed**

11 Knowledge (child shows basic insight in the situation)

- 12  
13  no (child describes what he / she sees, without insight, e.g. goes to sleep, or lies in bed, but does  
14 not tell what father does, even when asked)  
15  
16  yes ( e.g. if saying good night before bed, waking up to go to school is in the answer)  
17  
18  doesn't want to tell  
19  
20  otherwise, namely... (e.g. also if child says sleeping, but no further question is asked about what  
21 father does)  
22  
23  
24  
25

26  
27 Estimated feeling male figure

- 28  
29  not nice  
30  
31  nice  
32  
33  doesn't want to tell  
34  
35  otherwise, namely....  
36  
37  
38

39  
40 Estimated feeling child figure

- 41  
42  not nice  
43  
44  nice  
45  
46  doesn't want to tell  
47  
48  otherwise, namely....  
49  
50  
51

52 **Picture 14: Naked boy in the shower with mother figure**

53 Knowledge (child shows basic insight in the situation)

- 54  
55  no (child describes what he / she sees, without insight, eg child in the shower, but does not know  
56 what the mother does when asked)  
57  
58  yes (if something is washed from child by mother is in the answer))  
59  
60

- 1  
2  
3  doesn't want to tell  
4  
5  otherwise, namely.... (eg child says shower, but is not asked what mother does)  
6  
7  
8

9  
10 Estimated feeling female figure

- 11  not nice  
12  
13  nice  
14  
15  doesn't want to tell  
16  
17  otherwise, namely....  
18  
19

20  
21  
22 Estimated feeling child figure

- 23  not nice  
24  
25  nice  
26  
27  doesn't want to tell  
28  
29  otherwise, namely....  
30  
31  
32  
33  
34

35 **Picture 15: Mother figure with crying child in bed**

36  
37 Knowledge (child shows basic insight in the situation)

- 38  
39  no (child describes what he / she sees, without insight, eg child cries, but does not know (when  
40 inquiring) why)  
41  
42  yes (as soon as something has been dreamed of, not being able to sleep, being in pain)  
43  
44  doesn't want to tell  
45  
46  otherwise, namely.... (eg, child says the baby is crying, but it is not asked why it is crying)  
47  
48  
49

50  
51 Estimated feeling female figure

- 52  not nice  
53  
54  nice  
55  
56  doesn't want to tell  
57  
58  otherwise, namely....  
59  
60



Estimated feeling child figure

- not nice
- nice
- doesn't want to tell
- otherwise, namely....

### 5. Scoring nonverbal responses

The following table can be used to score the child's nonverbal responses for each picture. If other non-verbal responses are noticed during the interview, these can be written down (and eventually explained) at the bottom of the table.

	Nr	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Being silent / not want to say anything	1															
Speak with a soft(er) voice	2															
Speak with a different (weird or louder) voice	3															
Giggling	4															
Looking at the picture with disgust	5															
Looking at the picture with a fearful or frozen watch	6															

Turning the page / trying to continue to the next picture	7																		
Trying to close the book	8																		
Walking away (to parents / other room)	9																		
Going to the toilet	10																		
Looking away from the picture / not willing to look at the picture	11																		
Avoiding eye contact with the interviewer	12																		
Extracting the interviewer (telling irrelevant story, playing, etc)	13																		
Showing weird faces	14																		
Looking sad / depressed	15																		
Crying	16																		
Looking angry	17																		
Sitting with hunched shoulders / crouched down	18																		

Putting hands in front of the mouth (e.g. as an expression of surprise or disbelief)	19																		
Putting your hands over the eyes	20																		
Hiding head / face in clothes	21																		
Putting head on arms or on table	22																		
Not being able to sit still / wobble constantly	23																		
No scoring (because of not wanting to participate in the study at all anymore.)	24																		
Otherwise, namely...	25																		
Otherwise, namely	26																		

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### Appendix III – Verbal scoring form results

**Table 1.** Intra-rater agreement in Cohen's kappa and POA - medians per question – per study group and in the total sample. In case of missing subjects the number of valid subjects is reported (n=...).

Questions verbal scoring form	Suspected group (n=39)			Control group (n=39)			Total sample (n=78)		
	Kappa over all answer options (median)	POA over all answer options (median)	Valid subjects (n=...)	Kappa over all answer options (median)	POA over all answer options (median)	Valid subjects (n=...)	Kappa over all answer options (median)	POA over all answer options (median)	Valid subjects (n=...)
3: difference boy/girl	1	100		1	100		1	100	
3: motivation behind difference boy/girl	.94	97.0	(n=33)	1	100		.96	98.6	(n=72)
3: own gender	.91	97.4	(n=38)	.91	97.4	(n=38)	.91	97.4	(n=76)
3: motivation behind own gender	1	100	(n=28)	1	100	(n=30)	1	100	(n=58)
4: difference boy/girl	1	100	(n=38)		100		1	100	(n=77)
4: motivation behind difference boy/girl	1	100	(n=31)	.85	94.7	(n=38)	.93	97.1	(n=69)
4: knowledge girl genital	1	100	(n=31)	1	100	(n=37)	1	100	(n=68)
4: function girl genital	1	100	(n=27)	.78	94.4	(n=36)	.862	96.8	(n=63)
4: knowledge boy genital	1	100	(n=34)		100	(n=38)	1	100	(n=72)
4: function boy genital	1	100	(n=27)	.48	94.1	(n=34)	.79	96.1	(n=61)
5: knowledge buttocks	1	100	(n=37)	1	100		1	100	(n=76)
5: function buttocks	1	100	(n=30)	1	100	(n=36)	1	100	(n=66)
6: knowledge eyes	1	100	(n=37)	1	100		1	100	(n=76)
6: function eyes		100	(n=36)	1	100	(n=38)	1	100	(n=74)
6: knowledge ears	1	100	(n=28)	1	100		1	100	(n=67)
6: function ears	1	100	(n=28)	1	100	(n=38)	1	100	(n=66)
6: knowledge lips/mouth	1	100	(n=37)	1	100	(n=36)	1	100	(n=73)
6: function lips/mouth	1	100	(n=37)	1	100	(n=37)	1	100	(n=74)
6: knowledge hands		97.4	(n=38)		97.4	(n=38)	-.01	97.4	(n=76)
6: function hands	1	100		1	100		1	100	
6: knowledge legs	1	100	(n=35)		100	(n=35)	1	100	(n=70)
6: function legs	1	100	(n=35)		100	(n=37)	1	100	(n=72)
7: knowledge breasts	.88	93.8	(n=32)	1	100	(n=37)	.92	97.1	(n=69)
7: function breasts	.93	96.2	(n=25)	1	100	(n=35)	.97	98.3	(n=60)
7: knowledge female genital	1	100	(n=31)	1	100	(n=35)	1	100	(n=66)
7: function female genital	1	100	(n=24)	.90	100	(n=37)	.93	98.4	(n=61)
7: knowledge male genital	1	100	(n=33)	1	97.3	(n=38)	1	100	(n=71)
7: function male genital	1	100	(n=28)	1	100	(n=38)	1	100	(n=66)
7: colour of pee	1	100	(n=23)		100	(n=29)	.66	98.1	(n=52)
8: knowledge buttocks	1	100	(n=35)	1	96.6	(n=37)	1	100	(n=72)
8: function buttocks	1	100	(n=30)	1	100		1	100	(n=69)
9: basic insight		100	(n=36)	1	100		1	100	(n=75)
9: estimation female's feelings	1	100	(n=32)	1	100	(n=37)	1	100	(n=69)
9: estimation male's feelings	1	100	(n=32)		100	(n=37)	1	100	(n=69)
10: basic insight	.81	89.3	(n=28)	.96	100	(n=38)	.90	93.9	(n=66)
10: estimation female's feelings	1	100	(n=29)	1	97.4	(n=38)	1	100	(n=67)

10: estimation male's feelings	1	100	(n=28)		100	(n=38)	1	100	(n=66)
11: basic insight	.89	96.9	(n=32)	1	100	(n=37)	.96	98.6	(n=69)
11: estimation boy's feelings	1	100	(n=29)	1	100	(n=36)	1	100	(n=65)
11: estimation girl's feelings	1	100	(n=29)	1	100	(n=37)	1	100	(n=66)
12: basic insight	1	100	(n=30)	.95	100	(n=37)	.97	98.5	(n=67)
12: estimation doctor's feelings	1	100	(n=26)	1	97.3	(n=30)	1	100	(n=56)
12: estimation child's feelings	.85	92.3	(n=26)	1	100	(n=32)	.93	96.6	(n=58)
13: basic insight	.94	97.2	(n=36)	.94	100	(n=38)	.94	97.3	(n=75)
13: estimation father's feelings	1	100	(n=25)	1	97.4	(n=32)	1	100	(n=57)
13: estimation child's feelings	1	100	(n=26)	1	100	(n=36)	1	100	(n=62)
14: basic insight	1	100	(n=36)	1	100		1	100	(n=75)
14: estimation mother's feelings	1	100	(n=26)	1	100	(n=33)	1	100	(n=59)
14: estimation child's feelings	1	100	(n=30)	1	100	(n=37)	1	100	(n=67)
15: basic insight	1 (n=35)	100		1 (n=37)	100	(n=37)	1	97.4	(n=76)
15: estimation mother's feelings	1 (n=20)	97.4		.94 (n=31)	94.9	(n=37)	.96	96.2	(n=75)
15: estimation child's feelings	1 (n=25)	97.4		1 (n=34)	94.9	(n=37)	1	96.2	(n=75)
Abbreviations: POA = percentage of agreement; n.a. = not applicable / not available									

**Table 2.** Inter-rater agreement in Cohen's kappa and POA - medians per question – per study group and in the total sample. In case of missing subjects the number of valid subjects is reported (n=...).

Questions verbal scoring form	Suspected group (n=39)			Control group (n=39)			Total sample (n=78)		
	Kappa over all answer options (median)	POA over all answer options (median)	Valid subjects (n=...)	Kappa over all answer options (median)	POA over all answer options (median)	Valid subjects (n=...)	Kappa over all answer options (median)	POA over all answer options (median)	Valid subjects (n=...)
3: difference boy/girl	1	100		1	100		1	100	
3: motivation behind difference boy/girl*	.93	96.8	(n=31)	.88	97.4		0.91	97.1	(n=70)
3: own gender	.59	89.7		.82	94.9		0.72	92.3	
3: motivation behind own gender*	1	100	(n=20)	.85	100	(n=26)	0.91	95.7	(n=46)
4: difference boy/girl	1	100	(n=36)		90.6		1	100	(n=75)
4: motivation behind	1	100	(n=23)	.75	100	(n=32)	0.88	94.5	(n=55)

1	difference									
2	boy/girl*									
3	4: knowledge	.90	96.7	(n=30)	1	88.9	(n=36)	0.95	98.5	(n=66)
4	girl genital									
5	4: function girl	1	100	(n=25)	.46	100	(n=36)	0.64	93.4	(n=61)
6	genital*									
7	4: knowledge	1	100	(n=31)		91.2		1	100	(n=69)
8	boy genital									
9	4: function boy	1	100	(n=24)	-.03	100	(n=34)	0.55	94.8	(n=58)
10	genital*									
11	5: knowledge	.64	89.2	(n=37)	1	100		0.71	94.7	(n=76)
12	buttocks									
13	5: function	1	100	(n=28)	1	100	(n=36)	1	100	(n=64)
14	buttocks									
15	6: knowledge	.65	97.3	(n=37)	1	100		0.88	98.7	(n=76)
16	eyes									
17	6: function eyes		100			100			100	(n=71)
18	6: knowledge	1	100	(n=28)	1	100		1	100	(n=67)
19	ears									
20	6: function ears	.71	92.9	(n=28)		100		0.64	95.4	(n=65)
21	6: knowledge		97.2		1	100	(n=36)	0.66	98.6	(n=72)
22	lips/mouth									
23	6: function	.65	97.3	(n=37)		100		0.66	98.6	(n=73)
24	lips/mouth									
25	6: knowledge		97.4						98.7	(n=77)
26	hands									
27	6: function	1	100	(n=38)	1	100		1	100	(n=77)
28	hands									
29	6: knowledge		100		1	100			100	(n=69)
30	legs									
31	6: function legs		100			100			100	(n=71)
32	7: knowledge	.81	90.6	(n=32)	1	100	(n=37)	0.88	95.7	(n=69)
33	breasts									
34	7: function	.83	90.9	(n=22)	1	100	(n=33)	0.93	96.4	(n=55)
35	breasts									
36	7: knowledge	1	100	(n=27)	.85	94.9	(n=36)	0.93	96.8	(n=63)
37	female genital									
38	7: function		100		.25	86.5	(n=37)	0.26	91.5	(n=59)
39	female genital*									
40	7: knowledge	1	100	(n=31)	.79	97.4	(n=38)	0.94	98.6	(n=69)
41	male genital									
42	7: function male	1	100	(n=27)	.48	97.7	(n=38)	0.66	96.9	(n=65)
43	genital*									
44	7: colour of pee	1	100	(n=20)		96.6		0.66	98.0	(n=49)
45	8: knowledge	.54	90.9	(n=33)	1	100	(n=37)	0.65	95.7	(n=70)
46	buttocks									
47	8: function	1	100	(n=29)	1	100	(n=37)	1	100	(n=66)
48	buttocks									
49	9: basic insight		100		1	100		1	100	(n=74)
50	9: estimation	.65	96.7	(n=30)	1	100	(n=37)	0.79	98.5	(n=67)
51	female's feelings									
52	9: estimation	1	100	(n=29)		100		1	100	(n=66)
53	male's feelings									
54	10: basic insight	.36	66.7	(n=24)	.77	86.5	(n=37)	0.62	78.7	(n=61)
55	10: estimation	1	100	(n=28)	1	100	(n=38)	1	100	(n=66)
56	female's feelings									
57	10: estimation	1	100	(n=27)		100		1	100	(n=65)
58	male's feelings									
59	11: basic insight	.37	82.8	(n=29)	.53	85.7	(n=35)	0.46	84.4	(n=64)
60	11: estimation	.90	96.4	(n=28)	1	100	(n=34)	0.94	98.4	(n=62)
	boy's feelings									

11: estimation girl's feelings	1	100	(n=27)	1	1	(n=36)	1	100	(n=63)
12: basic insight	.92	96.0	(n=25)	.68	83.8	(n=37)	0.78	88.7	(n=62)
12: estimation doctor's feelings	.82	90.9	(n=22)	1	100	(n=26)	0.92	95.8	(n=48)
12: estimation child's feelings	.92	95.7	(n=23)	1	100	(n=28)	0.96	98.0	(n=51)
13: basic insight	.67	90.3	(n=31)	.65	86.5	(n=37)	0.66	88.2	(n=68)
13: estimation father's feelings	1	100	(n=24)	1	100	(n=31)	1	100	(n=55)
13: estimation child's feelings	1	100	(n=26)	1	100	(n=36)	1	100	(n=62)
14: basic insight	.10	66.7	(n=36)	.79	97.4		0.27	82.7	(n=75)
14: estimation mother's feelings	1	100	(n=23)	.94	96.8	(n=31)	0.96	98.1	(n=54)
14: estimation child's feelings	.78	91.7	(n=24)	.64	94.6	(n=37)	0.74	93.4	(n=61)
15: basic insight	.52	80.6	(n=31)	.64	88.2	(n=34)	0.58	84.6	(n=65)
15: estimation mother's feelings	1	100	(n=13)	.86	92.9	(n=28)	0.90	95.1	(n=41)
15: estimation child's feelings	1	100	(n=21)	1	100	(n=32)	1	100	(n=53)
*Question with 5 answer options instead of 4.  Abbreviations: POA = percentage of agreement; n.a. = not applicable / not available									

## Appendix IV – Non-verbal reactions scoring form results

**Table 1.** Intra-rater agreement in Cohen's kappa and POA - medians and IQR per reaction on each picture – per study group and in the total sample

Behaviour	Suspected victim group		Control group		Total sample	
	Intra-rater median kappa (IQR)	Intra-rater median POA (IQR)	Intra-rater median kappa (IQR)	Intra-rater median POA (IQR)	Intra-rater median kappa (IQR)	Intra-rater median POA (IQR)
<b>1</b> silent / saying little	.89 (.80-1)	97.4 (97.4-100)	1 (.89-1)	100 (100-100)	.86 (.84–1)	98.7 (97.–100)
<b>2</b> speaking very softly	.79 (.61-1)	100 (94.4-100)	1 (1-1)	100 (100-100)	1 (.84–1)	100 (98.–100)
<b>3</b> speaking with another voice	.84 (0.66-1)	97.4 (97.4-100)	1 (.75-1)	100 (97.4-100)	.79 (.66–.88)	98.7 (97.4–100)
<b>4</b> giggling	1 (0.78-1)	97.4 (97.4-100)	.97 (.84-1)	100 (97.4-100)	.94 (.85–1)	98.7 (97.4 –100)
<b>5</b> abhorred / with disgust	.65 (.52-.66)	100 (97.4-100)	1 (1-1)	100 (100-100)	.66 (.53–.76)	100 (98.7–100)
<b>6</b> staring with anxious look	1 (1-1)	100 (100-100)	.83 (.66-.)	100 (100-100)	1 (.75–1)	100 (98.7–100)
<b>7</b> wanting to go to next picture	1 (.88-1)	100 (97.4-100)	1 (.83-1)	100 (100-100)	.94 (.88–1)	98.7 (98.7–100)
<b>8</b> trying to close SKPI book	1 (1-1)	100 (100-100)	-	100 (100-100)	1 (1–1)	100 (100–100)
<b>9</b> walking away	1 (1-1)	100 (100-100)	1 (1-1)	100 (100-100)	1 (1–1)	100 (100–100)
<b>10</b> wanting to go to the toilet	1 (1-1)	100 (100-100)	1 (1-1)	100 (100-100)	1 (1–1)	100 (100–100)
<b>11</b> looking away from SKPI book	.88 (.66-.88)	97.4 (97.4-100)	1 (.91-1)	100 (100-100)	.88 (.70–.98)	98.7 (98.7–100)
<b>12</b> avoiding eye-contact	1 (.809-1)	100 (97.4-100)	1 (1-1)	100 (100-100)	.91 (.84–1)	98.7 (98.7 – 100)
<b>13</b> distracting the interviewer	.84 (.81-.87)	92.3 (89.7-97.4)	.84 (.73-1)	97.4 (97.4-100)	.84 (.82–.89)	96.2 (94.9 – 97.4)
<b>14</b> showing funny faces	1 (.66-1)	100 (97.4-100)	1 (1-1)	100 (100-100)	1 (.66–1)	100 (98.7–100)
<b>15</b> looking sad / gloomy	.79 (.72-1)	97.4 (94.9-100)	.83 (.66-.)	100 (100-100)	.79 (.66–.89)	98.7 (98.7 – 100)
<b>16</b> crying	-	100 (100-100)	1 (1-1)	100 (100-100)	1 (1–1)	100 (100–100)
<b>17</b> looking angry	-	100 (100-100)	1 (.74-1)	100 (100-100)	1 (0.75–1)	100 (100–100)
<b>18</b> sitting huddled	1 (1-1)	100 (97.4-100)	1 (1-1)	100 (100-100)	1 (.79–1)	100 (98.7–100)
<b>19</b> putting hands over mouth	.79 (.64-.)	100 (97.4-100)	1 (1-1)	100 (100-100)	.85 (.72–1)	100 (98.7–100)



<b>20</b> putting hands over the eyes	1 (.66-1)	100 (100-100)	1 (.66-1)	100 (100-100)	1.00 (.66 – 1.00)	100 (98.7–100)
<b>21</b> hiding head / face	1 (1-1)	100 (100-100)	1 (0.83-1)	100 (100-100)	1.00 (.79–1.00)	100 (100–100)
<b>22</b> laying head on arms or table	.79 (.71-.84)	97.4 (97.4-97.4)	1 (0.98-1)	100 (100-100)	.88 (.85–0.92)	98.7 (97.4–98.7)
<b>23</b> being unable to sit still	.88 (.79-.94)	97.4 (97.4-97.4)	0.84 (0.55-1)	97.4 (97.4-100)	.89 (.75–.93)	98.4 (97.4–98.7)
<b>24</b> participation refusal by child	1 (1-1)	100 (100-100)	-	100 (97.4-100)	.79 (.73–.90)	98.7 (98.7–100.0)
Abbreviations: POA = percentage of agreement; IQR = interquartile range; n.a. = not applicable / not available						

**Table 2.** Inter- rater agreement in Cohen’s kappa and POA - medians and IQR per reaction on each picture- divided per study group and in the total sample.

Behaviour	Suspected victim group		Control group		Total sample	
	Median kappa (IQR)	Median POA (IQR)	Median kappa (IQR)	Median POA (IQR)	Median kappa (IQR)	Median POA (IQR)
<b>1</b> silent / saying little	.37 (.09-.51)	92.3 (87.2-94.9)	.12 (-.04-.)	97.4 (92.3-100)	.31 (.07–.39)	93.6 (91.0 – 96.2)
<b>2</b> speaking very softly	.36 (-.04-1)	97.4 (92.3-100)	.38 (.04-.71)	97.4 (94.9-97.4)	.32 (-.02–.66)	97.4 (93.6 – 98.7)
<b>3</b> speaking with another voice	.37 (-.04-.66)	97.4 (92.3-97.4)	-.04 (-.05-.83)	97.4 (94.9-97.4)	.26 (-.02–.59)	94.9 (94.9 – 97.4)
<b>4</b> giggling	.45 (.28-.54)	89.7 (79.5-92.3)	.28 (.22-.54)	89.7 (84.6-94.9)	.41 (.22–.55)	85.9 (82.1 – 93.6)
<b>5</b> abhorred / with disgust	-.03 (-.05-.49)	100 (94.9-100)	-	100 (100-100)	-.01 (-.02–.24)	100 (97.4-100)
<b>6</b> staring with anxious look	1 (1-1)	100 (97.4-100)	-	100 (100-100)	.66 (-.01– .)	98.7 (98.7-100)
<b>7</b> wanting to go to next picture	.54 (.41-.69)	89.7 (87.2-94.9)	.65 (.48-.95)	97.4 (94.9-100)	.59 (.44–.67)	93.6 (92.3–94.9)
<b>8</b> trying to close SKPI book	-	100 (100-100)	-	100 (100-100)	-	100 (100–100)
<b>9</b> walking away	1 (0.66-1)	100 (100-100)	1 (.66-.)	100 (100-100)	.85 (.66 – 1.00)	98.7 (98.7–100)
<b>10</b> wanting to go to the toilet	1 (1-1)	100 (100-100)	1 (1-1)	100 (100-100)	1.00 (1.00–1.00)	100 (100–100)
<b>11</b> looking away from SKPI book	.37 (-.04-.64)	94.9 (87.2-97.4)	-.03 (-.04-.)	100 (100-100)	.40 (-.02–.49)	94.9 (93.–97.4)
<b>12</b> avoiding eye-contact	-.03 (-.04-.40)	92.3 (87.2-94.9)	-	97.4 (94.9-100)	-.02 (-.03–.22)	94.9 (92.3–96.2)

<b>13</b>	distracting the interviewer	.37 (.26-.50)	79.5 (76.9-84.6)	.36 (.28-.54)	92.3 (89.7-97.4)	.43 (.30-0.49)	84.6 (84.6-89.7)
<b>14</b>	showing funny faces	-.03(-.04-.03)	94.9 (94.9-97.4)	.66 (0.66-.)	97.4 (97.4-100)	-.01 (-.02-.49)	96.2 (94.9-97.4)
<b>15</b>	looking sad / gloomy	.37 (-.03-.47)	94.9 (92.3-97.4)	.66 (.66-.66)	100 (100-100)	.38 (-.01-.49)	97.4 (96.2-98.7)
<b>16</b>	crying	-	100 (100-100)	-	100 (100-100)	-	100 (100-100)
<b>17</b>	looking angry	-	100 (100-100)	-	100 (100-100)	-.01 (-.01-.01)	100 (98.7-100)
<b>18</b>	sitting huddled	-.03 (-.03-.03)	97.4 (97.4-100)	-	100 (97.4-100)	-.02 (-.02-.02)	97.4 (97.4-100)
<b>19</b>	putting hands over mouth	.22 (-.04-.)	100 (94.9-100)	1 (1-1)	100 (100-100)	.38 (-.01-.)	100 (97.4-100)
<b>20</b>	putting hands over the eyes	.66 (.63-.66)	97.4 (97.4-100)	.32 (-.03-.)	100 (97.4-100)	.57 (-.01-.66)	98.7 (97.4-100)
<b>21</b>	hiding head / face	.36 (-.03-.83)	97.4 (94.9-100)	-.03 (-.03-.03)	100 (97.4-100)	.31 (-.02-.83)	98.7 (96.2-100)
<b>22</b>	laying head on arms or table	.30 (-.04-.36)	92.3 (89.7-92.3)	.37 (.01-.48)	94.9 (92.3-94.9)	.25 (-.02-.36)	92.3 (92.3-93.6)
<b>23</b>	being unable to sit still	.31 (.15-.40)	82.1 (76.9-84.6)	.36 (.03-.53)	94.9 (92.3-94.9)	.31 (.22-.37)	87.2 (84.6 – 89.7)
<b>24</b>	participation refusal by child	.83 (0.14-1)	97.4 (97.4-100)	1 (.65-1)	100 (100-100)	.79 (.52-1.00)	98.7 (98.7 – 100)
Abbreviations: POA = percentage of agreement; IQR = interquartile range; n.a. = not applicable / not available							

**Appendix V – Red flag scoring form results**

**Table 1.** Intra-rater reliability results red flag form scoring - median kappa / POA- per group and in the total sample

Question	Suspected group		Control group		Total sample	
	Intra-rater kappa	Intra-rater POA	Intra-rater kappa	Intra-rater POA	Intra-rater kappa	Intra-rater POA
1: General impression	.52	76.9	1.00	100	0.64	88.5
2: Other remarkable verbal reactions	.54	92.3	.89	94.9	0.86	93.6
3: Other remarkable non-verbal behaviours	.55	87.2	.95	97.4	0.84	92.3
Abbreviation:  POA = percentage of agreement						

**Table 2.** Inter-rater reliability results red flag form scoring - median kappa / POA- per group and in the total sample

Question	Suspected group	Control group	Total sample
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	Inter-rater kappa	Inter-rater POA	Inter-rater kappa	Inter-rater POA	Inter-rater kappa	Inter-rater POA
1: General impression	.42	73.7	-	97.4	.51	85.7
2: Other remarkable verbal reactions	.47	86.8	.52	76.9	.61	81.8
3: Other remarkable non-verbal behaviours	.27	73.3	.38	71.8	.45	72.7
Abbreviation:  POA = percentage of agreement						

# The reliability of the Sexual Knowledge Picture Instrument, a potential diagnostic instrument for sexual abuse in young children

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## ABSTRACT

**Objectives:** To determine the intra- and inter-rater reliability of the Sexual Knowledge Picture Instrument (SKPI), a potential diagnostic instrument for young suspected victims of sexual abuse, containing three scoring forms, i.e., verbal responses, non-verbal reactions and red flags.

**Design:** Video-recorded SKPI interviews with children with and without suspicion of Child Sexual Abuse (CSA) were observed and scored by two trained, independent raters. The second rater repeated the assessment 6 weeks after initial rating to evaluate for intra-rater reliability.

**Subjects:** 78 children aged 3 to 9 years old were included in the study. 39 of those included had known suspicion of sexual abuse and the other 39 had no suspicion. A group of 78 children aged three to nine years, of whom 39 with and 39 without suspicion of a history of sexual abuse.

**Main Outcome Measures:** Intra- and inter-rater reliability of the scores per study group and in the total sample were assessed by Cohen's kappa and percentage of agreement (POA).

**Results** Median intra-rater Cohen's kappa exceeded 0.90 and POA exceeded 95 for all three forms in both study groups, except for the red flag form (median Cohen's kappa 0.54 and POA 87 in the suspected group, and 0.84 and 92, respectively, in the total sample). For the verbal scoring form median inter-rater Cohen's kappa and POA for the verbal scoring form were 1.00 and 100, respectively, in both groups. For the non-verbal form median inter-rater kappa and POA for the non-verbal form were, 0.37 and 97, respectively, in the suspected group, and 0.47 and 100, respectively, in the control group. For the red flag form, they were 0.37 and 76, respectively, in the suspected group and 0.42 and 77, respectively, in the control group.

**Conclusion:** The reliability of the SKPI verbal form was sufficient, but there is room for improvement in the non-verbal and red flag scoring forms. These forms may be improved by adjusting the manual and improving rater training.

**Keywords:** Child sexual abuse, diagnostic instrument, validation, interviewing children, reliability, clinimetrics

### What is known:

- Despite its major consequences, sexual abuse in young children often remains unrecognized by medical and psychological professionals.
- ~~PICAS is the first clinical study aiming to develop and validate a practical diagnostic tool for CSA, the Sexual Knowledge Picture Instrument (SKPI).~~

### What this study adds:

- The verbal scoring form of the SKPI has adequate intra- and inter-rater reliability.

~~The inter- and intra-rater reliability of the SKPI will be quantified.~~

- ~~The reliability of the nonverbal and red flag scoring forms is suboptimal, requiring improvement of the manual and interviewer training for these forms. Based on the results, recommendations for research and potential use of the tool in practice are formulated.~~

## INTRODUCTION

Child sexual abuse (CSA) is a worldwide problem with potentially detrimental consequences for victims.(1-4) Short- and long-term health effects that may arise as a result include depression, anxiety, post-traumatic stress disorder, eating disorders, substance abuse, and somatic syndromes such as sleeping disorders and heart and lung diseases.(4-7) Early detection of signs of CSA by medical or psychological professionals is crucial, to provide specialist support ~~minimize the harm to~~ the victims, and to protect possible future victims. However, as reported by adults who were victims of CSA, and supported by the gap between prevalence numbers reported by authorities and self-report studies, we know that the timely diagnosis of CSA is uncommon.(8-14)

Professionals who see young children with a suspicion of CSA ~~to establish whether CSA has taken place~~ are challenged for several reasons. When a child is presented for health care because of suspected CSA, the chance of finding physical evidence is very small.(15, 16) Due to the nature of the abuse, there are usually no witnesses, although recording the abuse, either for personal use or to share on the dark web, does occur.(17) Victims may struggle with feelings of dependency on, and loyalty to, the perpetrator, as well as feelings of shame and guilt or fear of being blamed if they disclose about sexual abuse. The limited verbal capacity of young children may hamper their ability to express their experiences, thoughts and feelings even more.(11, 14). Unfortunately, lessons from the past make us aware that the use of developed tools to facilitate disclosure, such as dolls and diagrams, even by professionals, can lead to false positive results.(18-20) ~~(18-21)~~ This can have major consequences, especially if such findings are used during the legal process, as was shown in notorious cases of false allegations of CSA. (21-24), ~~and lead to the detection and conviction of a possible perpetrator.~~ The current lack of scientific substantiation and the risk of improper tool use emphasize the importance of developing reliable, structured, evidence based and uniform methods to support the diagnosis of CSA in clinical practice.

A potential diagnostic instrument for medical and psychological professionals in cases of suspected CSA in young children (aged 3–9 years) is the Sexual Knowledge Picture Instrument (SKPI), based on previous work by Brilleslijper-Kater et al.(25) This instrument consists of a child-friendly picture book with 15 illustrations about family routines, gender differences and identity, genitals and their

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3 functions, reproduction, intimate and sexual behaviour in adults and normal physical intimacy in  
4 children. A semi-structured interview technique from a manual allows a trained interviewer to  
5 conduct an open conversation with the child about the topics in the pictures, and to potentially  
6 overcome the burdens of disclosure. Afterwards, video recordings of each interview can be scored  
7 according to three standardized scoring lists from the manual: one on the child's verbal responses,  
8 one on non-verbal behavioural reactions, and one on overall impression and/or alarm signs (so called  
9 'red flags'). The SKPI pictures and manual are presented in online appendices 1 and 2.

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18 The aim of this study is to determine the intra- and inter-rater reliability of the SKPI. This is the first of  
19 two studies planned to validate the SKPI as a diagnostic instrument for CSA in children aged 3–9  
20 years.<sup>(26)</sup> If the diagnostic accuracy is proven to be adequate, this tool could be a valuable addition  
21 to current medical and psychological diagnostic work up in young children with a suspicion of CSA.  
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## 25 26 27 **METHODS**

### 28 **Subject selection**

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30 In 2016, the Picture Instrument for Child Sexual Abuse Screening (PICAS) study started at Amsterdam  
31 UMC. It included children aged 3–9 years with and without suspicion of CSA. The PICAS study was  
32 approved by the Institutional Review Board (METC 2015\_173). During the study, trained interviewers  
33 used the SKPI with a sample of children, from two different sources:

- 34 • First, a group consisting of suspected victims of CSA, who had either been referred to the  
35 Department of Social Paediatrics in one of three participating Dutch university medical centres, or  
36 who were investigated by a vice squad of the Dutch national police.
- 37 • Second, a control group, consisting of children considered not to be victims of CSA.

38 For more details on the study procedures we refer to the article on the protocol.<sup>(26)</sup>

39 As recommended by De Vet et al., a minimum sample size of 50 subjects is required in validation  
40 studies of measurement instruments.<sup>(27)</sup> To reach this number, all 39 children with suspicion of CSA  
41 who had been interviewed with the latest version of the scoring forms were included, as well as a  
42 selected sample of 39 children from the control group with equal age and gender distribution.

### 43 44 45 **Data collection**

46 Video-recorded interviews with the 78 children were scored three times: immediately by a first rater  
47 (who was one of eight interviewers), a second time by the second rater (one Forensic Science  
48 master's student), and a third time by the same second rater after a minimum interval of six weeks,  
49 to preclude recollection. All raters were either physicians or master's students with medical or  
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3 forensic backgrounds. They were individually trained by a specialised child psychologist (SBK) and/or  
4 the main researcher (KH) on how to conduct the semi-structured interviews and how to work with  
5 the manual. All raters were blind to the participants' medical and psychological background  
6 information, and only the first rater was aware of the study group to which each child belonged.  
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11 The verbal scoring form contained all 52 interview questions from the manual. By checking one of  
12 four (n=45) or five (n=7) answer options, each rater scored the answer given by the child. The non-  
13 verbal scoring form contained a table listing a total of 24 behavioural reactions. Each reaction could  
14 be checked for presence while observing each of the 15 pictures. The red-flag scoring form consisted  
15 of three overarching questions with binary answer options to assess the interviewer's overall  
16 impression of the child's verbal and non-verbal behaviour during the interview.  
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### 23 **Statistical analysis**

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25 The SKPI's intra-rater reliability was assessed by comparing the two scorings of the second rater at  
26 different time points. Inter-rater reliability was assessed by comparing the rater scores for each child  
27 between the first rater and the primary scoring of the second rater. Data-analysis was performed  
28 using the IBM SPSS software package (IBM SPSS Statistics for Windows, Version 26.0. Armonk, NY:  
29 IBM Corp.).  
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35 Descriptive statistics (percentages, medians and interquartile ranges (IQR)) were used to describe the  
36 demographic characteristics of the study population. For the verbal scoring, no, multiple answer  
37 options, or 'other...' were considered a missing value. We calculated both Cohen's kappa and  
38 Percentage of Agreement (POA) to assess intra- and inter-rater reliability. By definition, POA is higher  
39 than Cohen's kappa, since kappa is adjusted for agreement by coincidence. For this reason, kappa is  
40 generally preferred over POA. However, in contrast to kappa, POA can always be calculated, even  
41 when some options have not been scored by one of the raters, as was the case for many items, in  
42 particular on the non-verbal scoring form.(28)  
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50 For the interpretation of Cohen's kappa, Landis and Koch's (arbitrary) grading system was applied on  
51 median kappas per form, with a Cohen's kappa of < 0 signifying poor agreement, 0.00–0.20 as slight  
52 agreement, 0.21–0.40 as fair agreement, 0.41–0.60 as moderate agreement, 0.61–0.80 as substantial  
53 agreement, and 0.81–1.00 as almost perfect agreement.(29) For the interpretation of POA, a median  
54 ≥ 80% agreement between raters was considered acceptable.(28)  
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For each of the three separate scoring forms, Cohen's kappa and POA of all items, and the median (IQR) per form were calculated in both study groups and in the total study sample.

### Patients and public involvement

During the course of PICAS we received input from several adult CSA survivors who lived with the burdens of the abuse throughout their childhood. The aim was to carefully assess and evaluate each step of the study with them. We intend to disseminate the main results to all parents and caregivers from the included subjects, as well as these CSA survivors, and will continue seeking their involvement in the development of a tool and appropriate methods of dissemination.

## RESULTS

### Baseline Characteristics

The baseline characteristics of the study population are shown in Table 1. The median age was 5 years (IQR: 4–7). Slightly more girls than boys were included (55 vs 45%) in the total sample and, in particular, in the suspected group (61 vs 39%).

**Table 1: Baseline characteristics of the study population**

Variables	Suspected CSA group (n=39)	Control group (n=39)	Total sample (n=78)
Male, n (%)	15 (39)	20 (51)	35 (45)
Age (years), median (IQR)	5 (3-7)	5 (4-7)	5 (4-7)
Age groups, n (%)			
3 years	10 (26)	7 (18)	17 (22)
4 years	8 (20)	7 (18)	15 (19)
5 years	5 (13)	7 (18)	12 (15)
6 years	6 (15)	6 (15)	12 (15)
7 years	1 (3)	6 (15)	7 (9)
8 years	9 (23)	6 (16)	15 (20)

### Intra- and inter-rater reliability per group

Tables 2 and 3 present aggregated intra- and inter-rater reliability, respectively, on all items of the verbal, non-verbal and red flag scoring forms in the suspected CSA group, the control group and the total sample, represented by Cohen's kappa and POA.

**Table 2: Intra-rater reliability per scoring form, divided per study group and in the total sample**

Outcome measure	Suspected CSA group	Control group	Total sample
<i>Verbal scoring form (52 items)</i>			
Cohen's kappa, median (IQR)	1.00 (1.00-1.00) <sup>1</sup>	1.00 (1.00-1.00) <sup>2</sup>	1.00 (0.96-1.00)
POA, median (IQR)	100 (100-100)	100 (98-100)	100 (98-100)
<i>Non-verbal scoring form (360 items)</i>			
Cohen's kappa, median (IQR)	0.91 (0.79-1.00) <sup>3</sup>	0.92 (0.84-1.00) <sup>4</sup>	0.90 (0.79-1.00) <sup>5</sup>
POA, median (IQR)	100 (97-100)	100 (100-100)	100 (99-100)
<i>Red flag scoring form (3 items)</i>			
Cohen's kappa, median (min-max)	0.54 (0.52- 0.55)	0.95 (0.89-1.00)	0.84 (0.64-0.86)
POA, median (min-max)	87 (77-92)	97 (95-100)	92 (89-94)

Abbreviations: IQR = interquartile range, min-max = lowest and highest value, POA = percentage of agreement

<sup>1</sup>kappa could be calculated for 49 out of 52 questions

<sup>2</sup>kappa could be calculated for 44 out of 52 questions

<sup>3</sup>kappa could be calculated for 204 out of 360 reactions

<sup>4</sup>kappa could be calculated for 148 out of 360 reactions

<sup>5</sup>kappa could be calculated for 233 out of 360 reactions

**Table 3: Inter-rater reliability per scoring form, divided per study group and in the total sample**

Outcome measure	Suspected CSA group	Control group	Total sample
<i>Verbal scoring form (52 items)</i>			
Cohen's kappa, median (IQR)	1.00 (0.69-1.00) <sup>1</sup>	1.00 (0.76-1.00) <sup>2</sup>	0.91 (0.66-1.00) <sup>3</sup>

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POA, median (IQR)	100 (94-100)	100 (94-100)	98 (95-100)
<i>Non-verbal scoring form</i>			
<i>(360 items)</i>			
Cohen's kappa, median (IQR)	0.37 (-.03-0.55) <sup>4</sup>	0.47 (0.22-0.79) <sup>5</sup>	0.36 (-0.01-0.53) <sup>6</sup>
POA, median (IQR)	97 (92-100)	100 (97-100)	97 (94-100)
<i>Red flag scoring form (3 items)</i>			
Cohen's kappa, median (min-max)	0.42 (0.27-0.47)	(0.38-0.52) <sup>7</sup>	0.51 (0.45-0.61)
POA, median (min-max)	74 (73-87)	77 (72-97)	82 (73-83)

Abbreviations: IQR = interquartile range, min-max = lowest and highest value

<sup>1</sup>kappa could be calculated for 45 out of 52 questions

<sup>2</sup>kappa could be calculated for 41 out of 52 questions

<sup>3</sup>kappa could be calculated for 48 out of 52 questions

<sup>4</sup>kappa could be calculated for 183 out of 360 reactions

<sup>5</sup>kappa could be calculated for 87 out of 360 reactions

<sup>6</sup>kappa could be calculated for 206 out of 360 reactions

<sup>7</sup>Kappa could be calculated for 2 out of 3 questions; therefore, only minimum and maximum values given

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### Verbal scoring form

Intra- and inter-rater agreement on the verbal scoring form are almost perfect in both the suspected and control groups (both median Cohen's kappa 1.00, POA 100). For intra- and inter-rater agreement on each of the 52 questions on the verbal scoring form, divided per study group and for the total sample, we refer to online appendix 3.

### Non-verbal scoring form

For the non-verbal form, the median intra-rater Cohen's kappa and POA were 0.91 and 100, respectively, in the suspected group and 0.92 and 100, respectively, in the control group. The median inter-rater Cohen's kappa and POA were 0.37 and 97, respectively, in the suspected group and 0.47 and 100, respectively, in the control group. Intra- and inter-rater agreement of the non-verbal scoring form on each possible reaction and for each of the 15 pictures per each study group and in the total sample are presented in online appendix 4.

### Red flag scoring form

For the red flag form, the median intra-rater Cohen's kappa and POA were 0.54 and 87, respectively, in the suspected group and 0.95 and 97, respectively, in the control group. The median inter-rater Cohen's kappa and POA were 0.37 and 74, respectively, in the suspected group and 0.42 and 77, respectively, in the control group. For results per question divided per study group and in the total sample we refer to online appendix 5.

## DISCUSSION

The aim of this study was to evaluate the inter and intra-rater reliability of the scoring method of the SKPI, consisting of a verbal, non-verbal and red flag scoring form, in a group of suspected CSA victims and a healthy control group. The intra-rater reliability of the verbal, non-verbal and red flag scoring forms is substantial to almost perfect, except for the red flag form in the suspected group, which is moderate. All median intra-rater POAs showed acceptable agreement for each of the three forms. The inter-rater reliability of the verbal scoring form is substantial to almost perfect, but the non-verbal and red flag form show only fair to moderate reliability in both study groups. Inter-rater agreement is acceptable for the verbal and non-verbal forms, but the median POAs were under the 80% threshold for the red flag form. The interpretation of Cohen's kappa is arbitrary, as stated in Landis and Koch's often-cited paper.<sup>(29)</sup> Moreover, Cohen's kappa depends on the distribution of the item scores, leading to lower kappa values with more skewed distributions, as is the case in many of the SKPI items. Therefore, the POA values may be preferable for determining SKPI reliability. Focusing on the results per item (appendices 4 and 5), we notice that agreement varies widely between individual items in both the non-verbal and the red flag scoring forms.<sup>(30)</sup> Therefore, opportunities to improve the scoring method may be found at the level of individual items. For now, simply removing those items that lacked reliability does not seem the best solution, as it may decrease the face validity of the instrument. However, once the diagnostic accuracy of the instrument has been established, it is worth reconsidering this option. Another way to improve the

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3 reliability of non-verbal and red flag scoring may be to intensify rater training and to improve manual  
4 instructions, in particular with regard to less reliable scoring items.  
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8 On the verbal scoring form, raters were instructed to tick the box 'other...' if there was cause for  
9 doubt or, which was most often the case, if, despite the manual instructions, the interviewer was  
10 unable to ask the question during the interview. This led to a considerable amount of missing data  
11 during the analysis, as can be seen in online appendix 3.  
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15 Although the reliability in the CSA suspected group is slightly lower than in the control group for most  
16 verbal and non-verbal items, intra- and inter-rater agreement for both forms are generally adequate.  
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19 On the red flag form, however, ~~a difference was observed between the~~ intra-rater reliability is  
20 remarkably lower in the suspected ~~than the~~ control group. This may have been due to the fact  
21 that all scoring for this intra-rater analysis ~~was~~ performed by a single rater who was trained once,  
22 before she first rated the video recordings. To improve both intra and inter-rater agreement, in  
23 addition to one individual training, refresher courses and group-training on how to work with the  
24 manual should be considered for all raters, to ensure consistency in manual use and form scoring.  
25 During training at present, an example interview with a child from the control group is shown, and a  
26 single practice interview is conducted with a non-abused child. ~~A More extensive experience with use~~  
27 of the SPKI, including a practice ~~video~~ interview with a child from the suspected group should,  
28 therefore, also be included in training to improve interviewer and rater skills.  
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### 38 **Strengths and limitations**

39 A strength of the present study is its large sample size involving young children with suspected CSA.  
40 The study population consisted of a broad spectrum of children, including confirmed cases of CSA,  
41 children with high, moderate or low CSA-suspicion in the suspected CSA group, and children with no  
42 suspicion in the control group. The study groups were analysed separately to evaluate the SKPI  
43 reliability in a group that is largely representative of the target population (suspected CSA group).  
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50 Another strength of this study is the blinding of the first and second rater. ~~Only~~ the first rater, who  
51 was also the interviewer, had some knowledge of the child's background, and whether or not CSA  
52 was suspected. A study design with one sub-optimally blinded rater ~~(as will be the case when the~~  
53 instrument is used in practice) and one fully blinded rater (as will be the case when the instrument is  
54 used in practice) enhances the validity of the results.  
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3 A limitation is that a single, and relatively inexperienced second rater performed the repeated  
4 assessments, thus limiting the generalisability of the intra-rater reliability. A further limitation is that  
5 all interviewers and raters were female. This was not by design. Despite the use of a structured  
6 interview technique, children might have responded differently in interviews conducted by male  
7 interviewers.(31)  
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### 11 12 13 **Recommendations for practice**

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15 When applied by experienced and trained professionals, the SKPI can be used to lower the threshold  
16 to start a conversation with a young child on sexually-related topics. However, it is very important  
17 that video images of the interviews are analysed afterwards and, if necessary, that remarkable verbal  
18 and non-verbal reactions are discussed with another (independent) professional. Creating a balance  
19 between the preservation of privacy while enabling objective assessment remains a challenge. Taking  
20 into account the European General Data Protection Regulation (GDPR), clear protocols must be  
21 developed and adhered to within each medical or psychological institution on how to deal with  
22 storage and/or the sharing of data.(32)  
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### 30 31 **Recommendations for research**

32 The diagnostic accuracy of the SKPI will be investigated as a next step in our validation study. In  
33 addition, we recommend improving the manual and improving interviewer training.  
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### 36 37 **CONCLUSION**

38 The verbal scoring form of the SKPI has adequate intra- and inter-rater reliability. The reliability of  
39 the nonverbal and red flag scoring forms is suboptimal, requiring improvement of the manual and  
40 interviewer training for these forms. In its current form, the instrument can be used to open a  
41 conversation with a child suspected of being sexually abused. Due to its clear structure, the SKPI is a  
42 relevant additional tool for use in the medical, psychological and forensic field.  
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