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THE EFFECT OF A STANDARD TO CHILDREN'S PERSON DESCRIPTIONS

Master Thesis

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Running head: Children's Person Descriptions

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Abstract

Current master thesis consists of two different studies.

Study 1 examined 6- to 7-years-old children (n=45) and young adult (n=54) eyewitnesses' ability to describe and answer open-ended questions about a female target and children's (n=25) and young adults' (n=21) ability to identify the described person from a lineup using the descriptions given by a child or a young adult. Gender differences in describing ability favoring girls and age differences favoring boys were found in descriptions and answering questions. Young adults' descriptions were more informative than children's descriptions. Children's and young adults' ability to recognize the described person from a lineup was poor in both cases.

Study 2 focused on the effects of using a person in child witnesses visual field as a standard with which their memories about an event are compared. The participants were kindergarten children (N=64) and schoolchildren (N=71) who saw a male stranger and both described and answered the questions about the person (half of them using the standard). Children's verbal abilities were found to be related to their free recall. No gender differences were found in verbal ability and person descriptions. Younger children's result were better when having the standard available in answering questions. Also the gender of standard influenced results. Finally, some suggestions for the further studies in this field are given.

Keywords: child eyewitnesses, person descriptions, verbal ability, identification, lineups

ETALONI MÕJU LASTE ISIKUKIRJELDUSTELE**Kokkuvõte**

Käesolev magistritöö koosneb kahest uurimusest.

Uurimus 1 uuris 6- ja 7-aastaste laste (n=45) ja noorukite (n=54) võimet kirjeldada inimest ning vastata küsimustele naissoost kirjeldatava kohta ning laste (n=25) ja noorukite (n=21) võimet laste või noorukite poolt antud kirjelduste põhjal kirjeldatud inimest ära tunda. Tüdrukud kirjeldasid inimest paremini kui poisid ning noorukite poolt antud kirjeldused olid informatiivsemad kui eelkooliealiste laste omad. Laste ja noorukite võime kirjeldatud isik kirjelduste põhjal ära tunda on madal.

Uurimus 2 uuris laste nägemisväljas oleva isiku kasutamist etalonina info meenutamisel. Katseisikuteks olid lasteaialapsed (N=64) ja esimese klassi õpilased (N=71) kes nägid meessoost võõrast isikut ning seejärel kirjeldasid teda ning vastasid küsimustele nähtud isiku kohta, kasutades pooltel juhtudel andmekogujat kui etaloni. Verbaalne võimekus mõjutas laste vaba kirjeldust nähtud isiku kohta. Soolisi erinevusi verbaalses võimekuses ning isikukirjeldustes ei ilmnenud. Nooremad lapsed vastasid küsimustele nähtud isiku kohta paremini etaloni kasutades. Etaloni sugu mõjutas samuti tulemusi. Lõpetuseks antakse mõned soovitused edasiseks uurimiseks antud valdkonnas.

Märksõnad: lastest tunnistajad, isikukirjeldused, verbaalne võimekus, äratundmiseks esitamine, isikute identifitseerimine

INTRODUCTION

Several attempts have been made to improve the child eyewitness testimonies recently. Most of them have focused on the children's eyewitness memory (Ellis & Flin, 1990; Roberts, 2002; Thierry & Spence, 2002) their suggestibility (Ackil & Zaragoza, 1995; Coxon & Valentine, 1997), accuracy (Ochsner, Zaragoza & Mitchell, 1999; Nesbitt & Markham, 1999; Miller & Fremouw, 1995), person recognition (Beal, Schmitt & Dekle, 1995; Gross & Hayne, 1996), child eyewitness identification (Wells, Leippe & Ostrom, 1979; Wells, 1984; Malpass & Lindsay, 1999), patterns concerning answering questions (Memon & Vartoukian, 1996; Poole & White, 1991; Poole & White, 1993; Waterman, Blades & Spencer, 2001), person descriptions (Sporer, 1996; Flin & Shepherd, 1986), and identification (Malpass & Lindsay, 1999; Wells & Olson, 2001; Pozzulo & Warren, 2003).

Still there are few studies (Pozzulo & Warren, 2003) that focus not only on young children and adolescents' ability to describe a person but also their ability to recognize the described person from lineup. To investigate this notion further, Study 1 was conducted.

As it is hard for young children to describe a person they have seen, one alternative to increase the amount of information and accuracy in children's responses about a person is to invite the child to make judgments relative to a known "anchor" or "standard" as a familiar person as Sporer (1996) also suggested. Study 2 was conducted to investigate closely this hypothesis.

STUDY 1

Pozzulo and Warren (2003) focused on the youth in their study, they emphasize the comparison of the descriptions given by child and young adult eyewitnesses. They found that differences between child and adult eyewitnesses exist basically in categories such as quantity of details mentioned (children report fewer details than adults), quality of details mentioned (children report different details than adults) and accuracy of the details mentioned (children are less accurate describers than adults). These characteristics may also impact the lineup identification procedure.

Quantity and accuracy of descriptions

In studying child eyewitnesses, researchers have found that children's spontaneous person descriptions tend to be of less meaning. For example, Davies, Tarrant, & Flin (1989) found that six to seven years old children recalled fewer items ($M=1.00$) than ten to eleven years old children ($M=2.21$). Dent and Stephenson (1979) claimed that general questions led to more information than free recall but less erroneous responding than specific questions. The authors recommended the use of general questions as the best acceptable procedure for all types of witnesses.

One explanation for these findings could be that free recall requires good verbal skills to produce statements but compared to adults children's skills are not yet sufficient enough. On the one hand, children's free recall leads to less complete but more accurate reports, whereas prompted recall would lead to more complete report but less accurate details. For example, Dekle, Beal, Elliott, & Huneycutt (1996) found that children recalled correct but less information than adults. Young children's spontaneous accounts are typically fragmentary and tenuous. For example, adults recall five or six times more information than 6-year-olds, but the amount of correct information seems to remain constant over age (Marin, Holmes, Guth, & Kovac, 1979; Davies & Flin, 1988). Therefore, children should perform as accurate as young adults describing persons.

Hence, the information about persons provided by children (four to eight years) is likely to be less complete but nearly as accurate as data gained from their older counterparts and adults. Children's initial spontaneous account of an event or a person is likely to be the most accurate source of information in the case of child eyewitness

testimonies. One may presume that although children are valid witnesses both quantitatively and qualitatively, it is hard for them, so even for young adults, to describe a person in a way that other people could recognize this person from presented lineup.

Many studies in this field are conducted by using male targets (Shapiro & Penrod, 1986; Sporer, Penrod, Read, & Cutler, 1995), in current study the targets to be described are therefore females. It is expected that five to seven years old children produce significantly fewer details than adults when describing the targets.

Quality and accuracy of descriptions

Age, height and weight are common features to be mentioned in descriptions. Sporer (1996) revealed by content analysis of free descriptions of criminal perpetrators that 22.4% of all descriptive details referred to general features as race, age, height, stature, movements, 31% of the description covered clothing and another 29.6% face (mainly hair and beard).

Height and weight judgments are generally more likely to be underestimated in the case of a perpetrator, systematic tendency for underestimation has been found to be particularly strong with female observers (Flin & Shepherd, 1986). Tall and heavy targets were frequently underestimated, while for short and light targets there was a tendency toward overestimation. The observers' own height and weight also tend to reflect the perpetrators' height and weight estimations (own-anchor effect) but this tendency has been found only with male observers. Also, limiting the own-anchor effect to same-gender judgments could be related to witnesses' superior knowledge of fellows of their own gender. Age, height and weight estimation is also problematic for children and youth. For example, Davies, Stevenson-Robb, & Flin (1988) found that seven to twelve years old children faced difficulties in estimating the height, weight and age of an unfamiliar person, especially the age was the most inaccurate feature provided by children.

Even very young children can provide useful descriptive details about another person (Sporer, 1996). Still they often misestimate height, weight, and age. In the case of age judged by children, the problem appears to lie in younger subjects' lack of knowledge of the appropriate facial cues to aging (Ellis, 1990).

More than older children younger children (nine years old and less) focus on the exterior rather than interior facial features of familiar others (Davies et al., 1989). In

older children's accounts the amount of identity information tends to increase (King & Yuille, 1986; see Davies, 1996). Preschoolers often report relatively little information in response to open-ended invitations for free recall whereas what they do report is said to be highly accurate, though their accuracy often declines with specific questioning (Marin et al., 1979; Poole & White, 1991).

Children tend to focus on the action of the perpetrator and adolescents pay attention to the appearance (face, body, height, weight) in their descriptions, as stated by King and Yuille (1996, see in Davies, 1996). Hair seemed to be the most frequently mentioned feature stated by adults (Sporer, 1996; Davies et al. 1989). In case of children the hair and presence of glasses are likely to be reported as King and Yuille (see Davies, 1996) stated. There is a lack of researches in the field of person descriptions with a female target (Shapiro & Penrod, 1986; Sporer, Penrod, Read & Cutler, 1995). Therefore it is required to investigate further if the children focus on the action and adults on the appearance when the target is female.

Identification and accuracy

After the witnesses have given their testimony, they may be asked to provide identification of a person. The length of the description may be of crucial importance. If the child does not give a valid report on the person, children would be perceived as unreliable as witnesses or incompetent to make an accurate lineup decision.

Sporer (1996) found a significant relationship between the length of description and correct identifications. Adult witnesses that correctly recognised the suspect reported more descriptions than those who made an incorrect decision. Sporer (1996) also claimed that male witnesses provided longer descriptions than female on average but it does not mean that females convey less accurate information.

It seems likely that person's individual variables, such as verbal ability and intelligence may also be related to the quality and quantity of descriptions but there is a lack of studies of the field. Shapiro and Penrod (1986) found that gender of the witness and gender of the target have little effect on identification accuracy, and the identifications of someone of the opposite gender tend to be less accurate than identifications of same-gender targets. However, the relation between description and identification may vary for both children and young adults.

Majority of the studies conducted so far have focused on the fact that the participants had to recognize the perpetrator they have seen in reality or by video (Beal, Schmitt, & Dekle, 1995; Gross & Hayne, 1996) or the participants had to describe (some aspects of) the persons (Flin & Shepherd, 1986). As there is a lack of studies focusing on the ability of children and young adults to describe a person and setting other children and young adults recognize the described person from a lineup. This study involves both abovementioned designs and the relation between them is observed. It is expected that the participants may recognize better the persons described by young adults than by children.

The present study aims to examine the child eyewitness' descriptions across age and gender; the content of the person descriptions and answers to the questions and the relationship between descriptions and identification accuracy for child and young adult eyewitnesses.

This study consisted of two phases. In the first phase, the descriptions from the children and young adults were collected. In the second phase, the descriptions were presented to the other group of participants who had to decide, whether the described person is presented in the lineup or not.

METHOD

Phase 1.

Participants

The participants were preschool children (N=45, 25 males and 20 females) with the average age of 6 years and 10 months (range 71-91 months) and young adults (N=54, 16 males and 38 females) with the average age of 17 years (range 15-19 years). The children were recruited by notices distributed at daycare centers of Tartu, Estonia. All children spoke Estonian as their mother tongue. Letters describing the research were sent to the parents of prospective child participants. All children participated with parental permission, the participation was voluntary and feedback to the participants and their parents was provided. The age and education of the parents did not affect the results.

Procedure

Each child and young adult participated once. At the beginning the first experimenter entered the room in the children's daycare centre, where children were accompanied by their teacher. The experimenter introduced himself and had a brief conversation with children. Then he told that one of his friends was coming to see them and left the room to call the second experimenter. In 15 seconds they entered the room together. The second experimenter handed the first experimenter some papers that he had forgotten and said that she was sorry and she had to go back to the university and can not stay with them. Then she left. The children saw the second experimenter for about 1 minute. The children were informed of what was going to happen - the first experimenter is going to talk with them separately. Within one and a half an hour after the incident, children were taken individually to a separate room in the children's daycare center. Their conversation was audiotaped with a portable cassette tape recorder.

The experimenter introduced himself once again. He said: "Hi! What is your name? Do you want to talk with me? Is it all right, if I am recording our conversation?" If a child refused to cooperate, he/she was sent back to the class. Otherwise the child was asked: "How old are you? When is your birthday? Did you pay attention to the person whom you saw upstairs?" When the child described the person or remained silent, the

experimenter said: "Is this all you can remember? It is all right, if you do not remember more. Now I am going to ask some questions about the person you saw. When you answer my questions, please say only these things that you remember. If you are not sure or if you do not remember, then say "I don't know" or "I don't remember". OK?" Then one forced-choice and eight open-ended questions were asked (see Appendix A).

Young adults were collected together in the classroom of a high school. They saw the same incident as the children. All the instructions were the same. They wrote their descriptions and answers on a sheet of paper half an hour after the incident happened. Work instructions and questions were given orally.

Phase 2.

Participants

The participants were preschool children (N=25, 11 males and 14 females) with the average age of 6 years 9 months (range 72-91 months) and young adults (N=21, 10 males and 11 females) with the average age of 17 years (range 16-22 years). All children spoke Estonian as their mother tongue. Letters describing the research were sent to the parents of prospective child participants. All children participated by parental permission.

Procedure

Child participants heard two descriptions (description plus answers to the follow-up questions): one given by a child and one given by a young adult. Young adult participants read a description twice: one given by a child and one given by a young adult. The descriptions were randomly selected to the participants to read or hear.

Each child was taken individually into a separate room in the children's daycare center. The experimenter introduced himself and explained what was going to happen. The experimenter asked the child's consent to participate in the study. If the child refused to participate, then he/she was sent back to the class. The experimenter said: "I will read you a short story where one person describes another person. You may look at the pictures while I am reading it. After I am finished reading the story, you have to make up your mind – whether the described person is in those pictures or not. You do not have to choose anyone if you think that nobody fits that description." The

lineup pictures were all the time in the vision of a child. The experimenter read the child a description of a person given by a young adult or a child. Then the experimenter said: "The person described in the story I read may be and may not be in this lineup. Your task is to choose or not to choose the most favorable person from this lineup who fits the description. If you do not make a choice (you think that the described person is not here or there is not enough information to recognize him/her), it is all right. It is as important decision as choosing somebody from the lineup." In the first lineup, there were 6 possible variants for answering: 4 pictures of different persons in the lineup, "The described person is not here" (a blank sheet) or "I do not have enough information for the decision" (question mark in the blank sheet). In the second lineup, there were 5 possible variants for answering: 3 pictures of different persons in the lineup and 2 unclear variants described above. After making a decision, the child was asked to remember on what basis he/she made the decision.

The young adults were tested together in the classroom. The same work orders were given in both written and oral forms. The participants read a description by themselves only once. The pictures of the described persons were in their vision.

Coding

The coding for children and young adults were based on identical procedure. The answers were coded by two different coders who were unaware of the purpose of this study. Intercoder agreement for descriptions, questions, accurate descriptions and accurate questions were 87%, 91%, 93%, 89%, respectively.

Responses to the questions and descriptions were coded for the total number of semantic units (SUs), accurate and inaccurate (using the same method as Poole & White, 1991). Examples of an semantic unit included words that described an actor, an action or a direct object. Temporal terms (then, before) or prepositions were not included into the semantic units as originally appeared in Poole and White (1991).

In study 1, the content of descriptions produced by children and young adults were divided into following categories considering the semantic units given by participants: gender (male or female), age, face, name (if she said), body (how tall was she, how her body was built), hair (color and length), clothes (including the color of the clothes), boots, action (what she had done), character traits (friendly), evaluations (she

seemed nice), other (relevant or irrelevant semantic units mentioned) and total number of semantic units mentioned.

Semantic units were divided into accurate semantic units which then fell into broader categories. When coding, the following rules of scoring were applied: gender (one point for saying the correct gender), age (one point for estimation of correct age ± 3 years), face (one point for adding extra information about her face such as makeup), name (one point for mentioning her correct name), body (one point was given for exact height ± 5 cm, additional point was given for the accurate body build), hair (one point for the accurate color and one point for the accurate length of the hair, also a point for any accurate information concerning hair), clothes (one point was given for color and form of the clothes, if only color or form of clothes was mentioned 0.5 points were given), boots (one point if correct), action (one point for correct action referred). Total number of semantic units mentioned (sum of subscores) was calculated. No accuracy points were given for the categories of character traits, evaluations and other.

The content of participants' answers to the questions were divided into categories depending on the questions asked: gender (male or female), height, age, face characteristics, hair color, hair length, style of clothes, color of clothes, other (if something were recalled meanwhile). Total number of semantic units in their answers was counted. Each autonomous statement that was made separately was considered as a semantic unit like woman, black hair, funny face, yellow clothes, jacket etc.

Semantic units were divided into accurate semantic units which then fell into broader categories. When coding, the following scoring was applied: gender (one point for indicating she was woman), height (one point was given if the correct height was misjudged up to ± 5 cm), age (one point for misestimation of ± 3 years), face (one point for adding information about her face such as makeup), hair color (one point for the accurate color), hair length (one point for the accurate length of the hair, also a point for any accurate information concerning hair), clothes (one point was given for correct style of the clothes), color of clothes (one point for accurate color of clothes). No accuracy points were given for the category of other. Total number of semantic units mentioned in answers (sum of subscores) was counted.

In study 2, participants' answers were registered as follows: "1, 2, 3, 4" for choosing different pictures, "5" for "He/She is not here" and "6" for "Not enough information".

Lineups

There were 2 lineups composed, using the descriptions about the persons from phase 1. In this study the two persons the participants saw were both women. The first lineup was conducted using information about the person the children had seen, the second lineup was conducted using the information about the person the young adults had seen.

Color pictures of adult females were used, with details of clothing included. The pictures were sized 10 cm × 21 cm. The pictures were composed by two persons who read the descriptions and answers to the questions of children and adults. The composers selected out the main characteristics appeared in the answers and based on those characteristics composed the descriptions for an artist to draw a lineup. The composers and the artist were unaware of the purpose of this study. The pictures were drawn, not photographed. In this study, colour pictures were used and the person's face and body was seen in the picture.

Validating lineup

The functional sizes of two lineups were calculated for the target-present simultaneous lineups. Wells, Leippe, and Ostrom (1979) stated term called functional size of a lineup. The statistic describing a lineup is D/n , where D is the number of mock witnesses choosing the defendant and n is the number of mock witnesses. Reciprocal transformation of this probability into n/D is called the "functional size" of a lineup. That is, if the number of mock witnesses choosing the suspect is 20% of all mock witnesses then the probability (i.e., D/n) is .20 and the functional size (n/D) is 5.0. In the present study, 47 mock witnesses, who had not seen the culprit; were shown the lineups and were asked to choose the perpetrator. For the first lineup, 12 of 47 subjects chose the perpetrator, resulting a functional size of 3.9 ($47/12$); for the second lineup, 15 subjects chose the perpetrator, resulting a functional size of 3.1 ($15/47$). Each of other pictures was chosen at a rate of at least 75% of chance, so 3 foils from the first lineup and 2 foils from the second lineup were considered

acceptable substitutes for the perpetrator. Malpass and Devine (1981) claim that the functional size of a lineup measures the index of bias toward the suspect rather than the number of good foils in the lineup. In the present study, the functional sizes (3.9 & 3.1) are all above the criterion of 3.0 which is the criterion for meaningful bias (Brigham, Ready, & Spier, 1990).

RESULTS

Age and gender differences

A two-way ANOVA for gender and age to the semantic units (SUs) was conducted. There was main effect of age for SUs, $F(8,88)=36.35$, $p < .001$. Scheffé post hoc test indicated that age differences were all statistically significant ($p < .001$) favoring young adults for number of SUs in descriptions ($M=7.31$ vs. $M=1.28$), $F(8,88)=160.71$; for number of SUs in answering questions ($M=10.03$ vs. $M=4.92$), $F(8,88)=78.52$; for number of SUs in accurate descriptions ($M=4.15$ vs. $M=0.82$), $F(8,88)=76.50$; for number of SUs in accurately answered questions ($M=6.42$ vs. $M=2.87$), $F(8,88)=53.97$.

There were main effects of gender for SUs, $F(8,88)=3.40$, $p < .01$. Scheffé post hoc test indicated that gender differences were statistically significant favouring girls for number of SUs in accurate descriptions ($M=2.88$ vs. $M=2.09$), $F(8,88)=4.32$, $p < .05$; for number of SUs in answering questions ($M=8.26$ vs. $M=6.69$), $F(8,88)=7.15$, $p < .01$; for number of SUs in accurately answering questions ($M=5.45$ vs. $M=3.84$), $F(8,88)=11.07$, $p < .001$; except for number of SUs in descriptions ($M=4.72$ vs. $M=3.87$), $F(8,88)=3.18$, $p > .05$ which were not statistically significant.

There was also interaction between age and gender for SUs, $F(8,88)=2.84$, $p < .01$. Scheffé post hoc test for age and gender interaction also indicated that differences were statistically significant for all investigated measures about descriptions but not for questions favoring young adults (see Table 1).

Nature of descriptions reported

The children described mostly the person's action ($M=0.53$, 83% of that was accurate information)(see Table 2 and 3), hair ($M=0.27$, 66%) and clothes ($M=0.16$, 50%). The average sum of SUs produced by children when describing the person was $M=1.31$, 64% of SUs was accurate information ($M=0.84$)(see Table 2).

Young adults described mostly the person's clothes ($M=1.69$, 69% was accurate information), hair ($M=1.65$, 72%), body ($M=0.78$, 50%), character traits ($M=0.74$) and gender ($M=0.72$, 100%). The average sum of SUs produced by young adults

when describing the person was $M=7.78$, 59% of that was accurate information ($M=4.57$).

Table 1. Age and gender differences in describing and answering the questions about the person.

	Boys	Men	Girls	Women	F	p
	M	M	M	M		
Number of SUs in descriptions	1.56	6.19	1.00	8.45	8.76	**
Number of accurate SUs in descriptions	1.04	3.16	0.60	5.16	10.54	**
Number of SUs in questions	4.64	8.75	5.20	11.32	2.94	
Number of accurate SUs in questions	2.38	5.31	3.38	7.53	1.60	

Note. SUs = semantic units; M = mean. * $p<.05$, ** $p<.01$, *** $p<.001$.

Table 2. Mean SU scores, standard deviations and significance levels in children and young adults person descriptions.

	Child		Adult		p
	M	SD	M	SD	
Action	0.53	1.22	0.15	0.45	
Age	0.00	0.00	0.54	0.69	
Body	0.00	0.00	0.78	0.86	*
Boots	0.04	0.21	0.04	0.19	
Character	0.02	0.15	0.74	1.15	*
Clothes	0.16	0.47	1.69	1.11	*
Evaluation	0.02	0.15	0.15	0.60	
Face	0.09	0.36	0.28	0.56	
Gender	0.02	0.15	0.72	0.45	*
Hair	0.27	0.58	1.65	0.70	*
Name	0.07	0.25	0.04	0.19	
Other	0.09	0.29	0.61	0.92	
Total	1.31	1.95	7.78	2.66	*

Note. M = Mean score; SD = standard deviation. * $p<.001$.

The relationship between age and description characteristics was studied with analysis of variance. There was main effect of age favoring young adults in cases of describing body $F(4,110)=7.20$, $p < .001$; character $F(5,109)=5.16$, $p < .001$; clothes $F(4,110)=8.40$, $p < .001$; gender $F(1,113)=17.82$, $p < .001$; hair $F(3,111)=7.86$, $p < .001$ and total number of SUs describing target $F(13,101)=8.11$, $p < .001$.

The relationship between age and accurate description characteristics was also studied. The main effect of age emerged in cases of describing body $F(2,107)=3.42$, $p < .05$; clothes $F(4,87)=8.08$, $p < .001$; gender $F(1,113)=17.80$, $p < .001$; hair $F(3,91)=6.32$, $p < .001$ and total number of accurate SUs describing target $F(9,75)=3.16$, $p < .001$ favoring young adults (see Table 3).

Table 3. Mean accurate SU scores, standard deviations, percentages of accurate information and significance levels in children and young adults person descriptions.

	Child			Adult			p
	M ^a	SD	%	M ^a	SD	%	
Action	0.44	1.06	83	0.15	0.45	100	
Age	0.00	0.00		0.52	0.69	96	
Body	0.00	0.00		0.39	0.60	50	*
Boots	0.02	0.15	50	0.04	0.23	100	
Clothes	0.08	0.28	50	1.17	0.96	69	***
Face	0.03	0.17	33	0.14	0.42	50	
Gender	0.02	0.15	100	0.72	0.45	100	***
Hair	0.18	0.43	66	1.19	0.66	72	***
Name	0.07	0.25	100	0.03	0.15	75	
Total	0.84	1.41	64	4.57	2.22	59	***

Note. M^a = mean accurate score; SD = standard deviation; % = percentage of accurate information. * $p < .05$, ** $p < .01$, *** $p < .001$.

Nature of asking questions

Asking children questions about the person gave the following results. The children mostly recalled information about the clothes ($M=0.98$, 60% was accurate information; see tables 4 and 5), gender ($M=0.84$, 100%), hair color ($M=0.73$, 57%), hair length ($M=0.60$, 72%) and color of the clothes ($M=0.58$, 36%). The average sum

of SUs the children provided about the person was $M=4.89$, 58% contained accurate information ($M=2.82$).

Asking young adults questions about the person revealed that they produced more information about clothes ($M=2.06$, 76% accurate information), face ($M=1.59$, 32%) and color of clothes ($M=1.44$, 45%). The average sum of SUs the young adults mentioned about the person was $M=10.56$, which included 65% accurate information ($M=6.87$).

The relationship between age and answers to the questions was studied with analysis of variance. There were main effects of age favoring young adults were statistically significant ($p < .001$) in all questions asked (see Table 4).

Table 4. Mean SU scores, standard deviations, percentages of accurate information, and significance levels in children's and young adults' answers to the questions.

	Child		Adult		F	df	p
	M	SD	M	SD			
Age	0.47	0.50	0.96	0.19	44.30	1,113	*
Color of clothes	0.58	0.78	1.44	0.90	10.52	4,110	*
Clothes	0.98	0.92	2.06	0.94	6.46	5,109	*
Face	0.38	0.58	1.59	0.88	15.80	4,110	*
Gender	0.84	0.37	0.96	0.19	5.98	1,113	*
Hair color	0.73	0.45	1.00	0.27	6.90	2,112	*
Hair length	0.60	0.50	1.00	0.27	13.12	2,112	*
Height	0.18	0.39	0.98	0.24	51.61	2,112	*
Other	0.13	0.40	0.56	0.74	8.43	4,111	*
Total	4.89	2.97	10.56	2.80	9.49	16,98	*

Note. M = Mean score; SD = standard deviation. * $p < .001$.

The relationships between age and accurate answers to the questions were also studied. There were no accuracy score computed for category others. The main effects of age favoring young adults emerged in cases of age $F(1,104)=66.0$, $p < .001$; color of clothes $F(2,89)=18.88$; $p < .001$; gender $F(1,113)=7.37$, $p < .001$; hair color $F(1,102)=12.17$, $p < .001$; height $F(1,89)=6.27$, $p < .01$; and total number of accurate SUs in answering questions about the target $F(11,56)=3.63$, $p < .001$, (see Table 5).

Table 5. Mean SU scores, standard deviations, percentages of accurate information, and significance levels in children's and young adults' answers to the questions.

	Child			Adult			p
	M ^a	SD	%	M ^a	SD	%	
Age	0.11	0.32	23	0.91	0.24	95	***
Color of clothes	0.21	0.39	36	0.65	0.67	45	***
Clothes	0.59	0.81	60	1.57	1.16	76	
Face	0.06	0.22	16	0.51	0.60	32	
Gender	0.84	0.39	100	0.96	0.19	100	***
Hair color	0.42	0.44	58	0.48	0.51	48	***
Hair length	0.43	0.46	72	0.88	0.32	88	
Height	0.04	0.21	22	0.63	0.38	64	**
Total	2.82	2.16	58	6.87	2.58	65	***

Note. M^a = mean accurate score; SD = standard deviation; % = percentage of accurate information. *p<.05, **p<.01, *** p<.001.

Identification

Overall, 4% of children and none of young adults made the correct identification in target-present lineup where descriptions and answers to the questions were collected from children about the person they had seen (see Table 6, lineup 1) and 8% of children and 25% of young adults made the correct identification in target-present lineup where descriptions and answers to the questions were collected from young adults about the person they have seen (Table 6, lineup 2). The difference between children and young adults in identification was not statistically significant in both lineups.

Chi-square statistics was used to examine reporting differences in identification for the describers' gender and age. The overall effect of using children or young adults' descriptions in identifying the described person from the target-present lineup occurred $\chi^2=(1, N=41)=7.35, p<0.01, M=0.37 (0.59)$ vs. $M=0.83 (0.77)$ favoring young adults' descriptions. The age differences in identifying the described person did not emerge for young adult recognizers using child or young adult person descriptions $\chi^2=(1, N=23)=3.77, p<0.052, M=0.39 (0.65)$ vs. $M=0.87 (0.87)$ and for children recognizers $\chi^2=(1, N=18)=3.60, p<0.058, M=0.33(0.48)$ vs. $M=0.78 (0.65)$.

Table 6. Frequency of participants' responses on the perpetrator identification task using children's or young adults' descriptions.

		Correctly identify	Incorrectly identify	Not here	Not enough information
Lineup 1	Children	1 (4%)	13 (52%)	7 (28%)	4 (16%)
	Young adults	0 (0%)	12 (57%)	3 (14%)	6 (29%)
Lineup 2	Children	2 (8%)	13 (52%)	10 (40%)	0 (0%)
	Young adults	5 (25%)	7 (35%)	6 (30%)	2 (10%)

There was statistically significant relationship in case of males identifying the target using children or young adult person descriptions $\chi^2 = (1, N=22) = 5,40$ $p < 0.02$, $M=0.41(0.67)$ vs. $M=0.95(0.78)$ but the effect did not occur in the case of females $\chi^2 = (1, N=19) = 2,00$ $p < 0.16$, $M=0.31(0.48)$ vs. $M=0.68(0.75)$.

In age and gender interaction there were also statistically significant relationships in identifying the described person favoring young adults's descriptions in cases of men $\chi^2 = (1, N=32) = 7,20$ $p < .01$ $M=0.34 (0.60)$ vs. $M=0.87 (0.79)$; boys $\chi^2 = (1, N=31) = 5,55$ $p < .02$ $M=0.42 (0.62)$ vs. $M=0.87 (0.76)$; women $\chi^2 = (1, N=32) = 4,00$ $p < .05$ $M=0.41 (0.61)$ vs. $M=0.81 (0.82)$; and girls $\chi^2 = (1, N=28) = 5,40$ $p < .02$ $M=0.28 (0.46)$ vs. $M=0.75 (0.70)$.

DISCUSSION

The description ability of child and young adult eyewitnesses and its influence on the person recognition was studied. The first group of participants described a person, whereas the second group of participants used those descriptions for identifying persons from a lineup. The results indicate that both children and young adults have difficulties describing the person if they do not pay attention to the target. Therefore the recognition of the described persons from lineup was low. As regards person descriptions, the age differences favored young adults and the gender differences favored girls.

Age and gender differences

The age differences were found in all cases, favoring young adults (comparing amount of information and amount of accurate information in different age groups). Several researchers (Marin et al., 1979; Flin & Boon, 1992; Dekle et al., 1996) have indicated the same finding: adolescents or adults are superior compared to children when amount of information is considered.

The gender differences were found in almost all cases when quality and quantity of information, descriptions and questions were compared for male and female subjects. There was no gender difference in describing the person, which may indicate the short exposure time and poor attention to the stranger. Previous studies have also shown gender differences, although the gender differences in this research area are decreasing as Hyde and Linn (1988) have stated.

However, in gender and age interaction, interesting findings emerged. In case of children, boys outperform girls when describing a person, whereas in case of young adults, women exceeded men in describing the person. This finding indicates that even if girls tend to be more productive describing other women, there may be differences within age group. This cross-gender relationship is worth further studies.

Children and young adults' answers to the questions about the person did not differ within the agegroup. This finding may be based on the fact that there were only nine questions for all the subjects and conditions and the differences within agegroups

were therefore minimal, whereas differences between ages were present. Still, questions tended to produce more accurate information than descriptions. This finding shows that questions may produce more information in case of children (Davies, 1996; Poole & White, 1991), indicating also children's lack of expressive language abilities as mentioned above. Children's linguistic development is sufficient to understand information about people (recognition task) but there tend to be lack of expressive language abilities (free recall) at this period of age.

Children's ability to describe a person tends to be poor (see Davies, 1996). The exposure time for observing the person was limited but still the delay between the event and data collection was short. An explanation for this finding is that the children were not told to remember the persons and therefore their focus on persons' appearance was low. Another possibility is that children tend to concentrate on characteristics they are interested in (Shapiro & Penrod, 1986). As the purpose of this study was not to direct the participants attention to the target, the targets were not apparently distinguished. It could be had the target had distinctive features, the children's descriptive performance might have been better.

It should be noted for future researches that both free descriptions and open-ended questions should be asked from children to obtain the maximum quantity and quality of information. Parker and Ryan (1993) also claimed that children provided information that was as accurate as that provided by adults when using free recall and general questions. Young adults' descriptions are almost as numerous and accurate as their answers to the questions, still both free descriptions and questions should be asked to maximize the amount of useful information.

Quality of descriptions

In the current study children described mostly the action, hair and clothes, whereas young adults described mostly the clothes, hair, and body of the persons. In this study young adults were significantly better at describing the clothes, gender and hair of the person which confirms the previous results where King and Yuille (1996, see Davies, 1996) found children indeed focused more on action than appearance when describing a person, whereas young adults focused more on the appearance of the person. The proposed goal was achieved as young adults were better in describing the person than children, also in case of accurate descriptions.

When questions were asked children focused rather on the clothes, gender and hair characteristics, whereas young adults' attention was directed on clothes, face and colour of clothes.

The questions were significantly better answered by young adults as expected. Considering accuracy of answers to the questions, interesting findings emerged though. Questions concerning age, color of clothes, gender, height, and hair color were significantly better answered by young adults but hair length and clothes in general were not mentioned more accurately by young adults than by children.

On the one hand, in case of female targets, young adults remembered hair color better than the length of hair – is it referring to the fact that women have long hair in general and therefore what matters is the color? The same relation also holds for clothes. On the other hand, both color of clothes and color of hair are not mentioned so accurately as the type of clothes and hair, favoring young adults again. It seems that color appears to be more important fact to mention in case of young adults despite of lower accuracy rate.

Person identifications

There have been several studies showing how the same person recognizes the perpetrator from a lineup (Dekle et al., 1996; Gross & Hayne, 1996; Memon & Vartoukian, 1996; Parker & Ryan, 1993). As stated, one of the main purposes of this study was to investigate whether child and young adult participants are able to identify a person using only descriptions or descriptions and additional information gained by extra questions to another child or young adult. Also, in most studies, the person to be identified in the lineup appears to be male (Sporer, Penrod, Read et al., 1995) but in this study, the persons to be described were females.

The participants recognized significantly better the person in the second lineup (person described by young adults) than the person in the first lineup (person described by children) which indicates that young adults and children can recognize the perpetrator better when described by young adult.

An interesting finding exposed that males were better at recognizing when using young adults' descriptions of female target but the similar effect did not emerge in case of female recognisers. The age difference in identifying a described person did

not emerge but there is a tendency towards this relation. The present finding indicates the crucial importance of describer, not recognizer.

The gender of the recognizer seems to be more important factor than age in recognizing task. Shapiro and Penrod (1986) have found that gender of the witness and gender of the target have a little effect on identification accuracy, the identifications of someone of the opposite gender tend to be less accurate than identifications of same-gender targets.

Age and gender interaction in recognizing task emerged favoring young adults' descriptions, which indicates the fact that adults are still better at describing the person than children (Dekle, Beal, Elliott, & Huneycutt, 1996). One may state that the children's descriptions were quantitatively but not qualitatively insufficient and these did not enable the identification of described persons.

However, as this study reveals, recognition ability using other participants' descriptions is relatively low. Since none of the young adults and only one child recognized the person described by other children, one may claim that the describing ability of 6- to 7-year-old children is poor. For better results, training children how to describe a person is worth considering (Vrij, 1998).

STUDY 2

Improving children descriptions about a person has a crucial value in the field of collecting information from children about the person they saw. Suppose a police officer has to make a quick decision about the culprit, especially based on the data given by a child. If the estimates of age, height, weight differ a lot from the actual characteristics of the perpetrator, much time would be wasted and the culprit could disappear without difficulty.

Using standard in children's eyewitness testimony

Previous results (Kask, in submission) have shown that it is very hard for young children to describe the person they have seen to an other group of children or adolescents who have to recognize the described person. On that basis it can be concluded that children have difficulties in describing a person to facilitate other people recognize them.

It is known that encoding a face into verbal description is a hard task, even in the case of adults. Therefore, when possible, it is necessary and easier for the child him/herself to look at the lineup and try to identify the person he or she saw during incident.

Using aids to help children to remember the perpetrator has both crucial theoretical and practical value. One way that has been suggested to increase the quantity of information about stranger, is to invite the child to make judgments relative to a standard, for instance a person in his/her visual field (Sporer, 1996; Kask, in submission). This notion is examined in the present study because there does not seem to be any studies of this aspect.

Quality and quantity of children's recollections

Free recall, general and specific questioning are all used to obtain information from child eyewitnesses. It is well-known effect that children's free recall will lead to less complete but more accurate reports, whereas prompted recall will lead to more complete report but less accurate details might be provoked (Milne & Bull, 1999). Children's testimonies contain significantly less details than descriptions given by adults or adolescents but the accuracy of the information is comparable (Marin,

Holmes, Guth & Kovac, 1979; Dekle, Beal, Elliott & Huneycutt, 1996; Kask, in submission). Hutcheson, Baxter, Telfer, and Warden (1995) found that general questions asked from children elicited less information than specific questions but specific questions often decreased children's overall accuracy. General questions produced more information than free recall but less erroneous responding than specific questions (Dent and Stephenson, 1979). The authors recommended the use of general questions as the best compromise procedure for all types of witnesses. Thus, children can be reliable witnesses.

Ceci, Crossman, Gilstrap, and Scullin (1998) support this notion claiming that even the youngest of child witnesses are capable of accurately reporting the behaviour of others (but they have difficulty accurately reporting events that involve their own bodies). In the case of adults, person characteristics have sometimes been found to be more accurately recalled than clothing characteristics (Yarmey & Yarmey, 1997). King and Yuille (1986; see Davies, 1996) state that children's free accounts tend to focus on actions rather than personal descriptive information. Some previous studies (Sporer, 1996; Kask, in submission) have also claimed the fact that age, height, weight are not correctly estimated by young children.

Poole and White (1991) and Memon and Vartoukian (1996) found that six to eight-year-old children were as accurate as adults when responding to open-ended questions. Poole and White (1991) also found that superiority of free recall, regardless of age, maintained consistent accuracy on supporting information across repetitions of open-ended questions.

To sum it up, the information about persons to be gained from very young children is generally likely to be less complete but as accurate as their older counterparts and adults. Children's free recall of a person or an event is likely to be the most accurate source of information in the case of child eyewitness testimonies. Although age differences have been a primary concern of investigators, few researchers have speculated about the sources of within-group variation in children's recall (see Bruck & Melnyk, 2004 for overview). Therefore, the ratio of correct and incorrect characteristics in person descriptions and answers to questions is studied.

Gender differences in children's recollections

It has been noted that characteristics of a witness, such as the witness's gender, age, and perceptual skills can affect their descriptions. Gender of the witness is considered to have little influence on identification accuracy. In the meta-analysis by Shapiro and Penrod (1986), females had slightly more correct identifications than males. Also, women proved superior to men in recall for the target's weight, hair color and length (Yarmey, 1993).

Powers, Andriks, and Loftus (1979) found that women were more accurate than men on questions dealing with women's clothing or actions, whereas men were more accurate on questions concerning man's appearance and surroundings. Sporer (1996) reported that on average male witnesses provided longer descriptions than female but this does not mean that females convey less accurate information. Kask (in submission) found that girls were superior to boys in descriptions and in answering questions about a person.

While gender of witness and gender of target have little effect on identification accuracy, a cross-gender bias identification may exist in that identifications of someone of the opposite gender may be less accurate than identifications of someone of the same gender (Shapiro & Penrod, 1986). Similarly, a cross-race bias identification effect exists (Wells & Olson, 2001). It seems likely that person's individual variables, such as verbal ability and intelligence may also be related to the quality and quantity of descriptions. For example, Bruck & Melnyk (2004) found that children with more advanced language skills (on expressive tests) were more resistant to suggestion.

Therefore, gender differences are studied when using a male or a female as a "standard". Previous studies (Powers, Andriks, & Loftus, 1979; Shapiro & Penrod, 1986; Kask, in submission) suggest that boys probably achieve better results in their recollections about the person when the standard is male and vice versa in case of the girls.

Face recognition ability

Several studies have also shown that faces rated as highly attractive or highly unattractive are better recognized than neutrally rated faces (Sporer, 1996). This suggests that facial distinctiveness is related to facial recognition. Gender of the target

seems to have no effect on face recognition accuracy (Shapiro & Penrod, 1986). Schwarzer and Massaro (2001) state that children of the age of four to five and ten years categorized faces by focusing on single facial features, whereas the majority of adults based their decisions on the whole face. Despite development of an early preference for facial stimuli, children perform poorly on face recognition and encoding tasks until adolescence (Taylor, Edmonds, McCarthy, & Allison, 2001).

Translating a face into a verbal description is quite a difficult task (Sporer, 1996). Therefore, it is necessary to study the effect of memory for faces in children's eyewitness testimony. It could be assumed that there is a connection between memory for faces on the one hand and person description ability on the other hand. Therefore, the Kaufman subtest for face recognition can be used to observe this possible relationship (Kaufman & Kaufman, 1983a; 1983b).

Verbal ability

Language is a critical tool for organizing our past in a coherent framework which can be verbally communicated to others (Westcott, Davies, & Bull, 2002). Young children's recall may be limited by developmental factors such as restricted language skills (Greenhoot, Ornstein, Gordon, & Baker-Ward, 1999). From this perspective, young children's reports of their experiences may not reflect what they actually remember. Children's language skills may affect their understanding of an interviewer's questions as well as their ability to describe past events. Greenhoot et al. (1999) found that there were no significant relations between language scores and measures of recall performance across age groups. On the contrary, Gordon et al. (1993) observed that language ability predicted children's elaboration of the details of their check-ups. To sum it up, controversial results have been found in the influence of children's verbal ability on their free recall.

Girls mature earlier than boys, which favors girls' language development and verbal facility in childhood (Jensen, 1998). Hyde and Linn (1988) found in their meta-analysis that through preschool years and in early school years, girls exceeded boys in most aspects of verbal performance. In vocabulary measures, boys exceeded girls in the age group of six to ten, whereas girls exceeded boys in the age group younger than six. In overall tests girls exceeded boys in all age groups. However, Hyde and Linn

(1988) claim in their meta-analysis that gender differences in this area of research are diminishing (e.g. in vocabulary, reading comprehension, and analogies).

We should keep in mind that knowledge about language development is important in order to interpret accurately young children's speech. One way to assess expressive language is to let children describe a picture as Imhoff and Baker-Ward (1999) suggested and then count the total number of semantic units in description (see Poole & White, 1991). It is worthy of study if the level of expressive language influences children's free recall of the person and the answers to questions about the person.

The purposes of the current study

The present study has the following aims.

First, to examine if using a person as a standard helps children to recall more details about the person.

Second, to observe gender differences in terms of quantity and quality of person descriptions. It is expected the results favour boys because the target to be described is male. Interaction between gender of the standard and gender of children regarding quantity and quality of person descriptions is also worthy of study.

Third, to study the content of children's descriptions and examine if children tend to focus on the action of the perpetrator in their accounts (King & Yuille, 1996, see in Davies, 1996).

Forth, to examine the ratio between correct and incorrect answers in both person descriptions and answers to the questions. Also, to compare the quantity of information provided in free recall and answers to the questions. Previous findings suggest that quantitatively more information is obtained from answering questions.

Fifth, to examine gender differences in verbal ability and the relation between children's verbal ability and their performance in free recall and answering questions.

I assume that verbal ability influences children's person descriptions.

METHOD

Subjects.

The participants were children (N=135, 69 boys and 66 girls) with the average age of 7 years and 3 months (range 73-99 months), out of whom there were 64 preschool children (32 males and 32 females) with the average age of 6 years and 9 months (range 73-95 months) and 71 schoolchildren (37 males and 34 females) with the average age of 7 years and 8 months (range 83-99 months).

96 % of participants' mothers had at least high school education or higher, 44 % of all mothers had a university degree; 96 % of fathers had at least high school education or higher, 27 % of all fathers had a university degree. 97 % of parents had one to three children, in 60 % of cases the participant was the first, in 31 % the second child.

The children were recruited by notices distributed at daycare centers and schools of Tartu. All children spoke Estonian as their mother tongue. Letters describing the research were sent to the parents of prospective child participants. All children participated with parental permission.

Procedure.

A male and a female experimenter entered the room in the children's daycare centre or school, where children were together with their teacher. The experimenters introduced themselves and had a brief conversation with children. Then the stranger entered and was introduced as a friend of experimenters. He said a few words to the children and gave a blue map to one of the experimenters and commented on his actions briefly. They had a little talk about why he was late. Then he claimed that he had to go back to the university and could not stay with them. They said goodbye to each other and he left. The children saw the friend for about one minute.

The experimenter asked if the children were willing to do several tasks with him/her. In one hour or more the children are sent one by one to a room separate from the classroom by the teacher. All the memory tests were administered within three hours after seeing the friend.

The experimenter (male or female) introduced her/himself once again. If the child refused to cooperate, he or she was sent back to the class. If the answer was positive, the following took place.

First the experimenter showed the child a picture and asked to describe what was happening in the picture (task of expressive language).

Secondly, experimenter said: "Please describe my friend who was in the classroom a while ago. What do you remember about him? Tell me only what you remember. What did he look like? It is all right, if you do not remember more."

When the child described the person or remained silent, the experimenter said: "Is this all you can remember? It is all right, if you do not remember more. Now I am going to ask you some questions about the stranger you saw. When you answer my questions, please only say the things that you remember. If you are not sure or if you do not remember, then say "I don't know" or "I don't remember". OK?". Then questions about the person's figure, height, gender, clothes, hair etc. were asked (see Appendix B). The questions were asked using the data collector as a standard in half of the cases. For example, without the standard the child was asked "Was my friend a man or a woman?" when using the standard the questions was „I am a man. Was my friend a man or a woman?“

Thirdly, the experimenter introduced the child to the face recognition subtest from Kaufman ABC. The child was told to look at a person on a photo and then choose the same person in a following photo set of several pictures. Each picture was shown for five seconds. After this task the child was sent back to the classroom. All memory tests were audiotaped with a portable cassette tape recorder.

Coding.

The answers were coded by two different coders who were unaware of the purpose of the study. Intercoder reliability were 97% for coding verbal ability tasks, 71% for free recall, and 91% for answers to the questions.

Descriptions and responses to the questions were coded for the total number of semantic units as in Study 1.

In the expressive language task, the number of semantic units and accurate semantic units were counted and summed up.

The content of descriptions produced by children were divided into following categories considering the semantic units given by participants: gender (male or female), age, face, name, body (height and body build), hair (color and length), clothing (including the color of the clothes), boots, action (what he had done),

character traits (friendly), evaluations (he seemed nice), folder, other (relevant or irrelevant information units mentioned), and total number of semantic units mentioned.

When coding the categories into accurate semantic units, the given rules for scoring were followed: zero points for not mentioning, one point for mentioning, and two points for mentioning the correct answer in cases of gender, age (correct answer if estimation disaccorded ± 5 years), face, name, body (correct answer if estimation differing ± 5 cm), hair, clothes, boots, action, folder, and total number of semantic units mentioned (sum of subscores). No accuracy points were given for the categories of character traits, evaluations and other, which were coded as zero points for not mentioning and one point for mentioning.

The content of participants' answers to the questions were divided into categories depending on the questions asked: gender (male or female), height, figure, face, mouth, type of nose, size of nose, shape of nose (straight or hooked nose), ears, eyes, parting of the hair, hair color, hair length, pullover, color of pullover, trousers, color of trousers, boots, color of boots, and other (if something was recalled meanwhile).

When coding the categories into accurate semantic units, the given rules for scoring were followed: zero points for not mentioning and one point for mentioning the correct answer in cases of gender, height (one point was given if the actual height was misestimated up to ± 5 cm), figure, face, mouth, type of nose, size of nose, shape of nose (straight or hooked nose), ears, eyes, parting of the hair, hair color, hair length, boots, color of boots, and other (if something was recalled meanwhile). Zero point for not mentioning, one point for partly correct answer and two points for correct answer were given in cases of pullover, color of pullover, trousers, and color of trousers. Finally the total number of correct answers was calculated.

RESULTS

Gender differences in children's free recall

One-way ANOVA indicated that there were no statistically significant differences of gender in children's free recall.

The effect of gender on the number of different items mentioned in different categories in children's free accounts was studied with one-way ANOVA. There were also no gender differences present.

Answers to the questions

A two-way ANOVA for gender and using a standard in children's answers to the questions was conducted. There were no statistically significant differences of gender and using the standard in answering the questions. A two-way ANOVA for schoolchildren/kindergarten children and standard interaction to the answers of the questions was conducted, which showed a statistically significant interaction effect $F(1,133)=6.36, p<.02$ (schoolchildren's results were better without standard and kindergarten children gained from using the standard, see Figure 1).

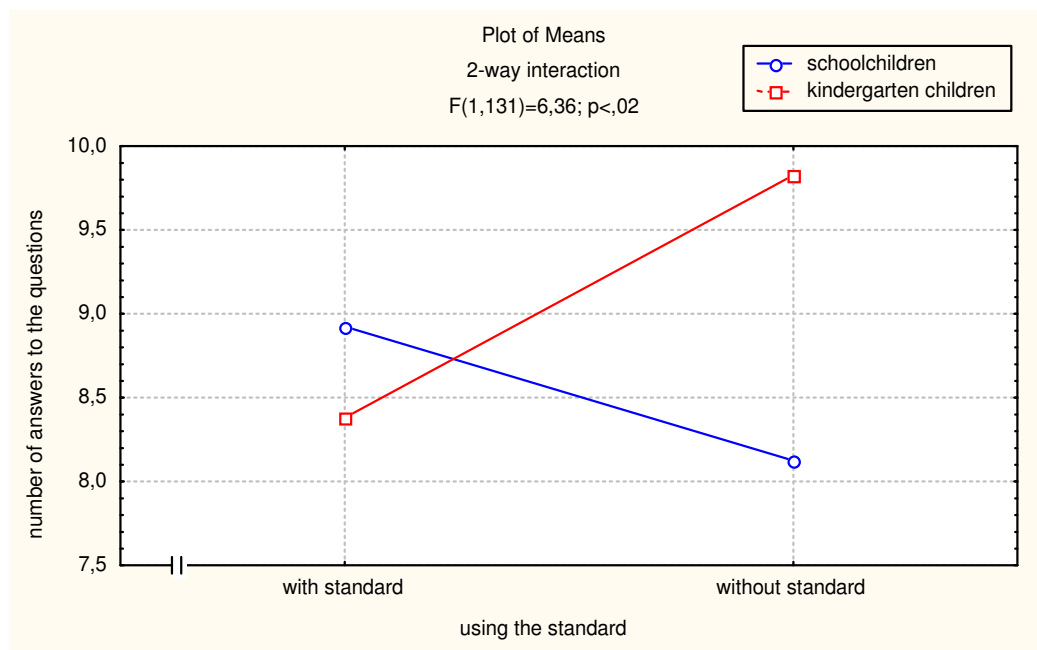


Figure 1. The effect of interaction of age and using a standard on the number of answers to the questions.

The effects of gender and using standard were compared to the number of different items mentioned in different categories in children's answers to the questions. There was one statistically significant main effect present in gender differences in category of "gender of the target" favoring boys $M=1.00$ vs. $M=0.91$, $F(1,133)=6.80$, $p < .01$. The effect of using standard was present in cases of target's figure $M=0.66$ vs. $M=0.32$, $F(1,113)=17.02$, $p < .001$ and target's size of nose $M=0.81$ vs. $M=0.60$, $F(1,113)=7.03$, $p < .01$ favoring not using the standard in children's visual field (see Table 7). It is important to note that these two findings were present when the data collector as the standard was male.

Table 7. Mean scores and significance levels for using or not using a standard when answering the questions.

	With standard	Without standard	F	p
Gender	0.95	0.96	0.09	.76
Height	0.32	0.25	0.80	.37
Figure	0.32	0.66	17.02	.001
Face	0.15	0.11	0.30	.58
Parting of hair	0.38	0.34	0.20	.65
Mouth	0.12	0.19	1.13	.29
Type of the nose	0.48	0.60	2.12	.15
Size of nose	0.60	0.81	7.03	.01
Shape of the nose	0.76	0.77	0.05	.82
Ears	0.73	0.72	0.03	.85
Eyes	0.05	0.04	0.09	.76
Hair color	0.37	0.42	0.33	.57
Hair length	0.50	0.47	0.10	.75
Pullover	0.32	0.24	1.01	.32
Color of pullover	0.50	0.37	1.37	.24
Trousers	0.73	0.62	1.78	.18
Color of trousers	0.27	0.23	0.30	.59
Boots	0.20	0.30	1.55	.21
Color of boots	0.27	0.34	0.78	.38
Total	8.65	9.06	0.82	.37

Comparison of descriptions and answers to the questions

Descriptions and answers to the questions about the person were compared with t-test for dependent variables. There was statistically significant difference between children's descriptions ($M=0.61$) and answers to the questions ($M=8.80$) about the person, $t(134)=-34.86$, $p<.001$. The differences were present in case of boys $M=0.75$ vs. $M=8.92$, $t(68)=-23.87$, $p<.001$ and girls $M=0.47$ vs. $M=8.68$, $t(65)=-25.38$, $p<.001$.

Comparison of correct and incorrect semantic units

The comparison of correct and incorrect number of SUs in children's free recall and answering the questions were made. The content of children's free recall and answers to the questions were divided into categories. In children's free recall, only „clothes“ was the category which children indicated half of the cases incorrectly and half of the cases correctly. Responses in all the other categories were statistically significantly more often incorrect than correct (see Table 8).

Table 8. Correct and incorrect responses in children's free recall with significance levels.

	Incorrect	Correct	p		Incorrect	Correct	p
Gender	129	0	***	Name	134	1	***
Clothes	74	57	ns.	Face	132	3	***
Boots	129	5	***	Character	133	2	***
Hair	111	24	***	Evaluation	128	7	***
Action	115	20	***	Folder	121	14	***
Body	128	7	***	Other	126	9	***

Note. * $p<.05$, ** $p<.01$, *** $p<.001$, ns = not significant.

In answering questions, the categories of gender, size of nose, shape of nose, ears and trousers were statistically more likely answered correctly, whereas height, face, mouth, size of nose, eyes, parting of the hair, hair color, pullover, color of pullover, color of trousers, boots and color of boots were answered more incorrectly. In case of characteristics as figure, type of nose and hair length the proportion of answers being correct or incorrect were more or less equal (see Table 9).

Table 9. Correct and incorrect responses in children's answers to the questions with significance levels.

	Incorrect	Correct	p
Gender	6	129	***
Height	96	39	***
Figure	74	61	,25
Face	117	18	***
Parting of hair	86	49	**
Mouth	115	20	***
Type of nose	64	71	,48
Size of nose	43	92	***
Shape of nose	32	103	***
Ears	37	98	***
Eyes	129	6	***
Hair color	83	52	*
Hair length	69	66	,81
Pullover	96	38	***
Color of pullover	81	54	*
Trousers	42	93	***
Color of trousers	101	34	***
Boots	102	33	***
Color of boots	95	40	***

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

The effect of the standard in answering questions

The effects of the gender of the standard were studied. One-way ANOVA for the effects of the gender of the standard on children's answers to the questions were conducted. There were no statistically significant differences present.

Then the effect of the gender of the standard and the gender of the children to answers to the questions was studied with two-way ANOVA. When the standard was male, there were no statistically significant differences in answering questions for boys $M=8.27$ vs. girls $M=8.83$, $F(1,61)=0.56$, $p > .45$ but when the standard was

female, there were slight tendency towards statistically significant difference in answering questions for boys $M=9.52$ vs. girls $M=8.85$, $F(1,70)=3.77$, $p < .056$.

Kaufman subtest for face recognition

The children's results in Kaufman subtest were on average $M=10.93$ ($SD=1.51$, range 5-13). Gender differences in Kaufman subtest for face recognition was studied with one-way ANOVA, which showed no statistically significant gender differences. Scores of Kaufman subtest were not correlated significantly with the number of SUs in free recall nor with number of SUs in answering questions.

Effects of verbal ability to person descriptions.

The children produced on average $M=11.71$ ($SD=6.40$) semantic units (range 0-33 SUs) in verbal ability task. Gender differences in verbal ability were studied with one-way ANOVA. There were no statistically significant main effects present on total number of SUs and total number of accurate SUs.

The number of semantic units in picture description task was correlated with the number of SUs in free recall $r=.20$ ($p < .04$) but not statistically significant with number of SUs in answering questions.

DISCUSSION

The description ability of child witnesses was studied. The results reveal that different aspects of using a person as a standard gives new perspectives to the field of child witness studies.

Children's free recall

Previous studies have shown that there are gender differences present in free recall and answering questions tasks (Kask, in submission). Although Sporer (1996) reported that on average male witnesses provided longer descriptions than female, in the present study there were no effects of gender in children's free recall. One possible cause of this might be that the gender differences in describing the person are diminishing as in verbal abilities (Hyde & Linn, 1988).

Also, in present study it was not found that children's free recall focuses more on actions than personal descriptive information as King and Yuille (1986, see Davies, 1996) and Kask (in submission) have shown.

Comparison of correct and incorrect semantic units

The comparison of correct and incorrect semantic units in children's free recall revealed that children's recollections tended to be incorrect. Only clothing was described incorrectly half of the cases incorrectly and correctly half of the cases. This notion supports Kask's (in submission) findings that clothes were one of the best remembered characteristics. In the present study both quality and quantity of the children's free recall were low which is opposite to other findings in this area (Marin, Holmes, Guth, & Kovac, 1979; Dekle, Beal, Elliott, & Huneycutt, 1996; Kask, in submission).

Children's answers to the questions.

In answering the questions about the target, there was no statistically significant effect of gender and using of standard. Kask (in submission) found the gender differences favoring girls in answering questions. In the present research not using the standard when answering questions gave slightly better results. This may reveal that using a standard in order to facilitate children's eyewitness testimony may confuse

some children of the given age and not increase the quantity or quality of their responses, although the opposite results were expected due to previous research (see Sporer, 1996; Kask, in submission).

However, younger children's results were better using the standard and older children's results were worse in answering questions. This indicates that younger children may need the standard to perform better when answering questions about the person.

The content of the answers to the questions showed that there was only one significant finding present considering gender in answering questions. Boys' answers about the target's gender were more correct than girls' answers. One issue affecting this may be that children were possibly mixing up the target with the data collector (they were both males). On the other hand, the standard's gender affect only some characteristics of answers to the questions. Also, this finding supports the cross-gender bias concept which has been found in previous research (Shapiro & Penrod, 1986).

Effect of using the standard was not present except in categories such as target's figure and size of his nose where higher results were obtained when no standard was used. It is interesting to note that the abovementioned two findings were present when the standard was male. This finding is similar to some previous findings in this study and indicate the six to seven years old children's poor ability to remember very specific details about the person (see Kask, in submission).

Comparison of correct and incorrect semantic units

The comparison of correct and incorrect number of SUs in answers to the questions revealed that gender, size and shape of nose, ears and trousers were indicated more correctly whereas height, face, mouth, eyes, hair, boots and color of clothes more incorrectly. Previous research (Flin & Sheperd, 1986; Sporer, 1996; Kask, in submission) supports these findings suggesting that height and weight characteristics are estimated incorrectly by young children. Yarmey (1993) stated that women proved superior to men in recall of the target's weight, hair color and length but this finding was not replicated in the present study. Kask (in submission) found also that children described mostly the action, hair and clothes in answering questions, whereas adolescents focus more on the person characteristics. Powers, Andriks, & Loftus

(1979) claimed that women are more accurate about questions dealing with women's clothing. However, in Kask's (in submission) study the target was female and in the present study the target was male. To sum it up, the gender of the target might have influenced the results of this study.

Comparison of descriptions and answers to the questions

Answers to the questions gave quantitatively more information than children's free recall, as expected. Similar findings have been found previously (Kask, in submission). Walker and Hunt (1998) found that 100% of professionals questioned recommend using free narrative in child witness interviews, 33-100% suggest direct questions, and 77.8% asking developmentally appropriate questions. When observing the work of Child Protective Service workers, the authors found that 100% of the workers used direct questions and only 2% free recall.

The effects of the standard

There was no effect of the gender of the standard on the children's quantity of answers. However, the interaction of the gender of the standard and gender of the children indicated that male standard made no difference in answering questions whereas in case of female standard boys tended to answer questions better than girls. Shapiro and Penrod (1986) found that a cross-gender bias identification effect exists but the present finding indicates the interaction between the gender of the standard and gender of subject.

One possible explanation is that both kindergarten teachers and school teachers in Estonia are usually women. It might be that the children are more used to seeing women and compare new information to the standard which is familiar to them. However, this notion does not explain clearly why the differences did not emerge in case of the girls. It could be that when the gender of the target and standard being the same, transfer effects may occur, for example some characteristics of the standard may also be attributed to the target. This does not happen if target and standard are of different genders.

Kaufman subtest for face recognition

Children's gender did not influence their scores in Kaufman subtest of face recognition. Also, memory for faces did not influence the results when describing person and answering the questions. It could be that face recognition ability does not affect quantity and quality of children's descriptions. On the other hand, children of this age group may have reached the ceiling of Kaufman subtest.

Effects of verbal ability to person descriptions.

No gender differences were found in children's verbal ability, which was measured by picture describing task. This finding is consistent with Hyde and Linn's (1988) research where they stated that gender differences in this area are decreasing and the gender difference in verbal ability is currently so small that it can effectively be considered to be zero.

Children's verbal ability was related to their free recall, but the same was not found about their answering of questions. One possible explanation is the similarity of expressive language task and verbal ability in free recall, in both tasks the children had to provide a description about a picture or a person they saw.

Children's scores in free recall were low, which supports Greenhoot et al. (1999) findings that young children's recall may be limited by developmental factors such as restricted language skills. However, they noted no significant relations between language scores and measures of recall performance across age groups but in a present study the verbal ability and recall were related. This supports Gordon et al.'s (1993) study where language ability was related to children's elaboration of the details of their check-ups.

GENERAL DISCUSSION

There have been numerous studies where participants have described and answered questions about a perpetrator. A fair amount of studies have been conducted where the perpetrator is identified from lineups. Uniting the describing and the recognizing part into the same study is a novel approach in the eyewitness testimony research. Also the influence of a standard to increase the amount of information in children's eyewitness accounts has not been studied before.

The results emphasize the strength of young witnesses' tendency to remember and recall accurate information, which is still significantly less detailed than young adults' descriptions but the amount of accurate information units is comparable. Also, the results indicate that it is very hard for young children and even young adults to describe a person they have seen to the other group of children and young adults who have to recognize the described person from a lineup.

The future researches in this field should emphasize more precisely the role of verbal abilities in child eyewitness testimony. Within-group variation of children's recall is also a promising field to be studied. It seems likely that person's individual variables, such as verbal ability and intelligence may also be related to the quality and quantity of descriptions and answers to the questions, but there is lack of studies in this field.

The findings of this research indicate that a cross-gender bias may exist. The interaction of the gender of the standard and gender of the children needs a closer look, especially because of the large amount of incorrect information in the present study. Finally, age and standard interaction needs further research to state more clearly that younger children may need the standard to perform better when answering questions about the person.

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Appendix A

Asked Questions

1. Was he/she a man or a woman?
2. How tall was he/she?
3. How old was he/she?
4. How did her face look like?
5. What colour was her hair?
6. How long was the hair ?
7. What clothes did she have on?
8. What color were they?
9. Do you remember something else you want to say?

Appendix B

No standard mode	Using standard
Was my friend a man or a woman?	I am X. Was my friend a man or a woman?
Show me on this scale, how tall was my friend?	I am this tall (stands beside the scale). Show me on this scale, how tall was my friend?
Look, in here different people are drawn here. Show me, whom did my friend look similar to?	Look, different people are drawn here. I would be similar to this person here. Show me, with whom did my friend look similar to?
There are some faces on this paper. Which face did my friend have?	There are some faces on this paper. I have this kind of face. Which face did my friend have?
There are some hairstyles on this paper. Which hairstyle did my friend have?	There are some hairstyles on this paper. My hair is like on this picture. Which hairstyle did my friend have?
There are some mouths on this paper. Which mouth did my friend have?	There are some mouths on this paper. I have this kind of mouth. Which mouth did my friend have?
There are some noses on this paper. Which nose did my friend have?	There are some noses on this paper. I have this kind of nose. Which nose did my friend have?
Did he have big, small or average nose?	I have X nose. Did he have big, small or average nose?
Did he have straight or hooked nose?	I have X nose. Did he have straight or hooked nose?
Did he have big, small or average ears?	I have X ears. Did he have big, small or average ears?
Try to remember what color were his eyes?	I have grey eyes. Try to recall what color were his eyes.
What was his hair color?	My hair is black. What was his

Show how long his hair was?	hair color? My hair is this long. Show how long his hair was?
What clothes did he have on?	I wear this and this. What clothes did he have on?
What footwear did he have?	I wear this and this. What footwear did he have?
Do you remember anything else about him?	Do you remember anything else about him?

NB! For each mentioned piece of clothing – what was it's color?