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SOUTĚŽNÍ TEXT

THE RELATIONSHIP BETWEEN SUGGESTIBILITY AND THEORY OF MIND IN PRESCHOOL CHILDREN

Renata Hlavová

Katedra psychologie, Fakulta sociálních studií, Masarykova univerzita

425436@mail.muni.cz

Abstrakt:

Cílem práce bylo ověřit vztah mezi teorií mysli a sugestibilitou u dětí předškolního věku. Třicet devět čtyř až pětiletých dětí se zúčastnilo hry s pomocníkem mužského pohlaví, pro měření teorie mysli byla využita Škála teorie mysli. Se sedmihodinovým časovým rozestupem byl administrován paměťový test a test sugestibility. Sugestibilita byla zkoumána pomocí otázek založených na paradigmatu zavádějící otázky. Protože není doposud jasné, jaké typy zavádějících otázek působí na dítě sugestivněji než jiné, byly využity: (1) otázky zaměřené na detail a (2) otázky zaměřené na podstatu situace. Bylo zjištěno, že úroveň teorie mysli nesouvisí s tendencí dítěte podlehnout sugesci u otázek na detaily. Úroveň teorie mysli však souvisela s tendencí dítěte podlehnout sugestivním otázkám na podstatu události, které se dítě zúčastnilo. Na základě teorie bylo očekáváno, že vztah bude negativní, tato studie ukázala ale opačný vztah, do něhož vstupovalo také pohlaví dítěte. Výsledky a jejich možné implikace do praxe jsou diskutovány v kontextu předešlých empirických zjištění.

Klíčová slova: sugestibilita, teorie mysli, předškolní období

Abstract:

The aim of this study was to explore the relationship between theory of mind and suggestibility in preschool children. Thirty-nine, four and five-year-old preschool children, first participated in the specific event playing with a male assistant, then the Theory-of-Mind Scale was administered. After a seven-hour delay, a memory test was administered along with a suggestibility test using questions based on the leading question paradigm. Since it still remains unclear what types of questions are more suggestive than others, two types of questions concerning the specific event were used: (1) questions aimed at details, and (2) questions aimed at gist. Results revealed no relationship between theory of mind and suggestibility when asking about the details of the specific event. When asking about gist of the event, results showed a relationship between theory of mind and children's suggestibility, however, in the opposite direction than expected and with children's gender as a predictor. Results and practical implications are discussed in the context of previous empirical findings.

Keywords: suggestibility, theory of mind, preschool age

INTRODUCTION

One of the main focuses in the field of forensic psychology is the credibility of children's eyewitness testimony. To date, the credibility of children's testimony is still being questioned, with the immaturity of children's memory processes and verbal abilities as the most crucial arguments (Tang, 2006). However, recent research indicates that preschool children can give an accurate testimony if the interviewer avoids bias when asking questions (Talwar & Crossman, 2012), i.e. asking "*What colour was the perpetrator's hat?*", despite the fact that the perpetrator did not wear a hat at all. The primary cause of memory distortions is suggestion, which means asking misleading questions that can interfere with memory and lead to inaccuracies in testimony (Ceci & Bruck, 1993).

THEORETICAL FRAMEWORK

Leading Question Paradigm

The leading question paradigm is used in studies addressing suggestibility, or susceptibility to misleading questions (Ceci & Bruck, 1993). Misleading questions include a fact which did not necessarily happen, i.e. "*What weapon did the perpetrator use?*", yet it is unknown whether the perpetrator used any kind of weapon. Several studies have been based on the leading question paradigm, for example Stolzenberg and Pezdek (2013) asked six and nine-year-old children for a colour of a boat which they were told they had seen in the video before. Children in both groups specified the colour despite the fact that there was no boat presented.

Relationship between Suggestibility and Theory of Mind

There have been several attempts to explain suggestibility in various developmental stages. Researchers argue whether age is a predictor of suggestibility, however, research findings are rather inconsistent (Marsh, Meade, & Roediger, 2003; Schaaf, Alexander, & Goodman, 2008). These inconsistencies can be caused by other age-related factors which are not taken into consideration, such as the development of theory of mind in preschool children (Doherty, 2009).

Theory of mind refers to the ability to allocate the mental states in oneself and others and its development occurs between three and six years of life (Doherty, 2009). Primary methods used for theory of mind measurement, false belief tasks, are based on the ability to detect the discrepancy between reality and beliefs about reality (Wellman & Liu, 2004). In these methods,

a child is introduced a story. The child, as an observer of the situation, is familiar with some facts (i.e. candy is hidden in a box), however, the main character of the story has created false belief about the situation (i.e. candy is in a basket). The child's task is to recognize the main character's false belief (Kaysili & Acarlar, 2011).

Recent research focused on different components of theory of mind that can affect suggestibility and its reduction (Aydin & Ceci, 2009). Within the Mental-State Reasoning Model of Suggestibility by Welch-Ross (2000), two such components are described – the ability to handle different mental representations of reality and the origins of knowledge. However, many authors argue whether these components are completely separated or if they contribute to reduction of suggestibility equally (i.e. Bright-Paul, Jarrold, & Wright, 2008). Furthermore, both suggestibility and theory of mind incorporate evaluation of two representations of reality, which are held at the same time (the specific event and misinformation, reality and false belief) and the formation of beliefs about what actually happened (Bright-Paul, Jarrold, & Wright, 2008). Only when children understand that even an interviewer may be mistaken, or that they may have incorrect beliefs about the event, they can resist suggestion (Bruck & Melnyk, 2004).

Due to lack of empirical basis, research findings on suggestibility and its relationship to theory of mind are conflicting. Most studies describe the relationship as negative, namely the more developed theory of mind children have, the less suggestible they are (i.e. Karpinski & Scullin, 2009; Scullin & Bonner, 2006). However, there have been several studies showing no such relationship (Quas & Schaaf, 2002; Roebbers & Schneider, 2005). Conflicting results may rise from a different operationalization of suggestibility – stronger relationship tends to be found in studies comparing theory of mind and incorporation of misinformation rather than in studies investigating theory of mind and misleading questions based on the leading question paradigm (Bruck & Melnyk, 2004).

Another problem arises from using different measures of theory of mind. As Wellman and Liu (2004) highlight, theory of mind develops gradually and is composed of various aspects. Therefore, using a scale for theory of mind measurement would be more appropriate than focusing only on certain false belief tasks. It must be taken into consideration that the preschoolers can understand they have different desires than others, but only later realize that other people can have different beliefs (Wellman & Liu, 2004). On this basis, Wellman and Liu (2004) created the Theory-of-Mind Scale which comprises seven tasks ordered by difficulty illustrating theory of mind development. The most significant relationship was found when using theory of mind tasks on *Knowledge Access* and *Contents False Belief*. In both cases, the child must correctly identify that a doll does not know the contents of the box, even though the

child has seen it (Karpinski & Scullin, 2009). This means that for the child, it is important to understand that other people do not have the same knowledge as the child himself (*Knowledge Access*), together with the ability to identify false belief of another person (*Contents False Belief*).

Research Goals

The present study aims to investigate the relationship between theory of mind and suggestibility in preschool children. Four and five-year-old preschool children first participated in the specific event playing with a male assistant, then the Theory-of-Mind Scale (Wellman & Liu, 2004) was administered. The scale was selected to minimize the risk of bias due to various measures used for assessing theory of mind in previous studies (see Karpinski & Scullin, 2009). Suggestibility was examined based on the leading question paradigm (Ceci & Bruck, 1993) using misleading questions which were presented to preschool children after a seven-hour delay along with a memory test. Since it still remains unclear what types of questions are more suggestive than others, two types of questions concerning the specific event were used: (1) questions aimed at details, and (2) questions aimed at gist.

It was hypothesized that the relationship between theory of mind and suggestibility is negative, namely with the higher level of theory of mind decreases the tendency of children to succumb to misleading questions (see Bruck & Melnyk, 2004). This relationship was expected to be found when asking questions aimed at details as well as gist. Both types of questions were included because such distinction has not appeared in research so far. Previous studies targeted on small details that can make a child mistake easily (i.e. Stolzenberg & Pezdek, 2013).

METHODS

Participants

After exclusion of children with developmental delay, ADHD and memory problems, a total number of 28 four-year and 11 five-year old children ($N = 39$) participated in this study. The sample consisted of 18 girls and 21 boys, with the mean age $M = 4.28$ years, $SD = .46$.

Measures and Materials

Demographic Background. Demographic profile as a part of Informed consent (see Appendix 1) was completed by parents. It contained eight items assessing child's date of birth, number of siblings, number of inhabitants of the place where the child lives, his living situation and highest education achieved by parents.

Theory of Mind. The Theory-of-Mind Scale (Wellman & Liu, 2004) was administered. The scale comprises seven tasks (see Appendix 2) and is used for assessing preschool children aged from three to six years. The tasks were scored dichotomously, resulting in an overall score of maximum of 7 points.

Memory. The memory test was administered in an interview, consisting of six questions concerning the specific event (see Appendix 3). The answers were rated as correct or incorrect, resulting in an overall score of maximum of 6 points. In case of a lower score than 2, participant was excluded from the analysis. An open question about the assistant present during the specific event was part of the test, this question was administered for future purposes.

Suggestibility. Children were asked four suggestive questions based on the leading question paradigm (Ceci & Bruck, 1993). Two questions aimed at details: (1) finder of a picture of a giraffe in a game (there was no giraffe), and (2) colour of the assistant's scarf (he had no scarf; see Appendix 3). Other two questions aimed at gist, namely gender of the person playing with the child. These were formulated as memory questions with incorrect gender (*“What did the lady who played with us forget?”* and *“What colour was her shirt?”* in case of the male assistant). All questions were scored dichotomously, 1 in case of any finder / colour provided and any answer given in accordance to the lady (i.e. *she forgot a whale* or any other object, *I do not know what she forgot*), 0 in case of do not know answer or scarf / giraffe / lady rejection (i.e. *I do not remember any lady, what lady do you mean?*).

Procedure

Prior to the testing in kindergartens, 3 pilots were conducted. Pilots served as a training for the administrator and for finalization of the memory and suggestibility tests. Study was conducted in four kindergartens whose directors have agreed to participate in research.

First part of the procedure began at seven in the morning, in a remote part of a playroom. The child was asked to play pexeso with the administrator. Afterwards, the male assistant came and expressed interest to play the game as well. The assistant participated in the game for three to four minutes to ensure similar strength of the memory trace. The game was initiated for children to win, as it was important to prevent children from mentioning the assistant during the memory test (i.e. *“Who was the winner?”*) which preceded the suggestibility test.

After the game, the Theory-of-Mind Scale (Wellman & Liu, 2004) was administered (see Appendix 2). Upon completion, study administrator left and returned after a seven-hour delay. The memory test along with the suggestibility test was administered, and eventually, the child received a gift from the administrator.

Proposed analysis

Data were analysed using IBM SPSS Statistics 24, Armonk, NY, USA. Before testing the hypotheses, preliminary analyses were conducted to control the confounding variables. Hypotheses were tested using logistic regression, for each question separately.

RESULTS

Descriptive statistics

Suggestibility was measured using four questions, of which three were included in the analyses. When asking about the first detail (giraffe), 32 children (82.1 %) succumbed to suggestion, when asking about the second detail (scarf), 13 children (33.3%) did. When asking about gist, 20 children (51.3%) succumbed to suggestion. Suggestibility was analysed in relation with theory of mind score. Other relevant variables are described in Table 1 below.

TABLE 1
Descriptive statistics of key variables

Variable	<i>M</i>	<i>SD</i>	<i>Med</i>	<i>Mod</i>	<i>Min</i>	<i>Max</i>	<i>Kurtosis</i>	<i>Skewness</i>
Theory of mind score	3.33	1.51	3	3 and 5	1	6	-.07	-1.07
Memory score	5.46	.76	6	6	3	6	-1.41	1.75
Time delay (mm:ss)	6:45	0:28	6:50	7:05	5:45	7:54	.12	-.15
Children's age (in months)	57.51	5.11	57	58	47	69	1.01	-.21

Note: $N = 39$

Preliminary Analyses

Before testing the hypotheses, confounding variables in relation to suggestibility were tested based on previous research findings. All variables were tested with each misleading question separately.

Children's gender. Due to expected values less than 5, Fisher's exact test was performed for the question about the detail (giraffe), otherwise Chi-square tests were performed. No significant relationship was found neither when asking about the first detail (giraffe), $\chi^2(1) = 2.19, p = .26, \phi = .24$, nor when asking about the second detail (scarf), $\chi^2(1) = .47, p = .50, \phi = .24$. There was a significant difference when asking about gist, $\chi^2(1) = 5.87, p = .015, \phi = -.39$. The odds ratio showed that girls were 5.2 times more likely to succumb to misleading question aimed at gist than boys.

Memory. Due to non-normal distribution of memory scores in each group, Mann-Whitney U test was performed. When asking about the first detail (giraffe), memory scores did not differ in a group of children who succumbed to suggestion ($Mdn = 6$) and children who did not (Mdn

= 6), $U = 116$, $z = .17$, $p = .90$, $r = .027$. Likewise, when asking about the second detail (scarf), $Mdn_1 = 6$, $Mdn_2 = 6$, $U = 176$, $z = .24$, $p = .85$, $r = .038$, and when asking about gist, $Mdn_1 = 6$, $Mdn_2 = 6$, $U = 212$, $z = .72$, $p = .53$, $r = .116$.

Time delay. Due to non-normal distribution of time delay in each group, Mann-Whitney U test was performed in question aimed at detail (giraffe), otherwise T-tests were performed. When asking about the first detail (giraffe), time delay did not differ in a group of children who succumbed to suggestion ($Mdn = 6:45$) and children who did not ($Mdn = 6:54$), $U = 101$, $z = -.40$, $p = .69$, $r = -.065$. Similarly, no difference was found neither when asking about the second detail (scarf), $M_1 = 6:49$, $SE_1 = 0:07$, $M_2 = 6:43$, $SE_2 = 0:05$, $t(37) = -.60$, $p = .55$, BCa 95% CI [-0:26, 0:14], $d = .21$, nor when asking about gist, $M_1 = 6:42$, $SE_1 = 0:07$, $M_2 = 6:49$, $SE_2 = 0:06$, $t(37) = .43$, $p = .55$, BCa 95% CI [-0:11, 0:26], $d = -.27$.

Main Analyses

To test the relationship between theory of mind and suggestibility, logistic regression was performed for each question separately. For CI estimations, bootstrap method with 1000 samples was used due to small sample size, p values were corrected using Holm-Bonferroni method.

Detail (giraffe). With each predictor entering logistic regression in steps, prediction of a success did not change from the original value of 82.1 %, Hosmer-Lemeshow $\chi^2(8) = 8.66$, $p = .37$. In the first step, theory of mind explained 4.5 % of the variance in suggestibility, model showed to be non-significant, $\chi^2(1) = 1.08$, $p = .30$. When adding children's age in the next step, model still was not significant, $\chi^2(2) = 1.23$, $p = .54$, $p' = 1$, $\alpha' = 0,025$, theory of mind and age explained 5.1 % of variance in suggestibility. Wald statistics indicated that none of the predictors was significant in the model (see Table 2).

TABLE 2

Logistic regression: question aimed at the detail (giraffe)

	<i>B</i>	<i>SE</i>	<i>Wald</i>	<i>df</i>	<i>Sig.</i>	<i>Exp(B)</i>	<i>BCa 95% CI</i>	
Theory of mind score	-.28	.30	.83	1	.363	.76	-1.74	.55
Age in months	-.03	.08	.16	1	.693	.97	-.16	.05

Detail (scarf). With each predictor entering logistic regression in steps, prediction of a success changed from 66.7 % to 69.2 %, Hosmer-Lemeshow $\chi^2(8) = 9.54$, $p = .30$. In the first step, theory of mind explained 2 % of variance in suggestibility, model showed to be non-significant, $\chi^2(1) = .58$, $p = .45$. When adding children's age in the next step, model still was non-significant, $\chi^2(2) = 1.18$, $p = .56$, $p' = 1$, $\alpha' = 0,025$, theory of mind and age explained 4.1

% of variance in suggestibility. Wald statistics indicated that none of the predictors was significant in the model (see Table 3).

TABLE 3

Logistic regression: question aimed at the detail (scarf)

	<i>B</i>	<i>SE</i>	<i>Wald</i>	<i>df</i>	<i>Sig.</i>	<i>Exp(B)</i>	<i>BCa 95% CI</i>	
Theory of mind score	-.13	.24	.30	1	.582	.88	-.75	.38
Age in months	-.06	.07	.57	1	.449	.95	-.28	.09

Gist. Based on preliminary analyses, child's gender was included in the list of predictors. With each predictor entering logistic regression in steps, prediction of a success changed from 51.3 % to 82.1 %, Hosmer-Lemeshow $\chi^2(8) = 3.98$, $p = .86$. In the first step, theory of mind explained 8.4 % of variance in suggestibility, model showed to be non-significant, $\chi^2(1) = 2.54$, $p = .11$. When adding children's age in the next step, model was significant, $\chi^2(2) = 11.57$, $p = .003$, theory of mind and age explained 34.2 % of variance in suggestibility. When including child's gender, model was significant as well, $\chi^2(3) = 21.54$, $p = .000$, $p' = .000$, $\alpha' = 0,00167$, theory of mind, age and child's gender explained 56.6 % of variance in suggestibility. Wald statistics indicated that all predictors were significant in the model (see Table 4). When theory of mind score increases by one unit, the child is 2 times more likely to succumb to suggestion. When the child's age rises by one month, the child is .71 times less likely to succumb to suggestion. Girls are 19.37 times more likely to succumb suggestion than boys.

TABLE 4

Logistic regression: question aimed at gist (assistant's gender)

	<i>B</i>	<i>SE</i>	<i>Wald</i>	<i>df</i>	<i>Sig.</i>	<i>Exp(B)</i>	<i>BCa 95% CI</i>	
Theory of mind score	.71	.36	3.76	1	.05	2.03	-.67	74.76
Age in months	-.35	.12	8.58	1	.003	.71	-.79	-.29
Child's gender	2.96	1.15	6.66	1	.01	19.37	-	-

DISCUSSION

The aim of this study was to explore the relationship between suggestibility and theory of mind in preschool children. This relationship was tested using three misleading questions aimed at details and gist of the specific event children attended in the morning part of the procedure. The results showed that the level of theory of mind when controlling for age explained only negligible amount of variance of children's suggestibility when asking about the details, same

relationship was reported also in study conducted by Quas and Schaaf (2002) and Roebbers and Schneider (2005).

Theory of mind has, based on results, no influence on reduction or increase of suggestibility when asking about the details of the event. It is possible that in case of details, child is unable to detect interviewer's suggestion, respectively his false belief, because he might not even register pictures in the game or assistant's clothes. Child might not hold two representations of reality at the same time, which could be the reason for theory of mind having no relationship with suggestibility when asking about details. On the contrary, when asking about gist, results suggested that the level of theory of mind predicted succumbing to the question about the assistant. However, the relationship appeared to be in the opposite direction than suggested, namely the higher level of theory of mind child has, the more suggestible he is. In addition, this relationship showed to be influenced by children's gender, that is girls were more likely to succumb suggestion than boys.

Nevertheless, these findings are in contrast to the results of previous studies (i.e. Bright-Paul Jarrold, & Wright, 2008; Bruck & Melnyk, 2004). In this study, asking "*What did the lady who played with us forget?*" even though children played with the male assistant, was in conflict with their mental representation of reality. It was highly likely that children would detect interviewer's false belief and that they would have to decide which representation is correct. However, this study showed, that even if children detected the interviewer's false belief, they still did not reject this conflicting information, as was similarly reported in Thomsen and Berntsen's (2005) study. Roebbers, Schwarz and Neumann (2005) argue that children might be vulnerable to social influence, also Scullin and Bonner's study demonstrated (2006) that this factor may result in increased suggestibility even with increasing level of theory of mind. Even if children understand that an interviewer can have different beliefs about reality, they provide with a response that is in accordance to this false belief (Bruck & Melnyk, 2004).

The findings also showed that girls are twenty times more likely to succumb to the misleading question about gist compared to boys. Although previous research has shown that girls more often succumb to suggestion than boys (i.e. McFarlane, Powell, & Dudgeon, 2002), there are also studies showing the opposite (Crossman, as cited in Bruck & Melnyk, 2004). It is also possible that, rather than the difference in susceptibility to suggestion in girls and boys, the assistant's gender played a role. There are many possible explanations, however, both assistant's genders, male and female, would need to present in this study to make any more conclusions.

Children's answers to misleading questions varied. When asking about the first detail (giraffe), more than sixty percent of children labelled themselves as finders of the giraffe despite the fact there was no giraffe presented in the game. It is, therefore, necessary to consider that children succumbed to suggestion in accordance to what is typical for their developmental stage, that is egocentrism (Kesselring & Müller, 2011). When asking about the scarf, only a third of children succumbed to suggestion. This question followed the misleading question about gist, so it is possible that the low rate of suggestibility in children emerged because they revealed the investigator's suggestion. The exposure to suggestion can influence answers to following questions, making children be more cautious. However, no difference between both questions aimed at details in connection to theory of mind has been found.

When asking about gist, half of children succumbed to suggestion, however, the children's testimony varied. Some children showed tendency to supplement missing information using their own imagination, for example the answer "*lady forgot a whale*" (see Pipe, Lamb, Orbach, & Esplin, 2004). Age of four and five also corresponds with the emergence of confabulation in children, which could affect their answers as well (Talwar & Lee, 2008). This can be illustrated with an example when the child described four male assistants, who played pexeso with him, or when the child described both lady and man playing pexeso with him.

The relatively short interval between morning and afternoon procedure could influence the results as well. In previous research when the relationship between theory of mind and suggestibility was detected, time intervals were greater than one day (Bright-Paul, Jarrold, & Wright, 2008), in some cases even a week (Quas & Schaaf, 2002). It is therefore possible that children are more likely to succumb to suggestion, if the time delay between the event or memory and suggestibility tests is higher. However, it is important to emphasize that the research procedure of this study was standardized, which helped to control for confounding variables. The most important of them were also tested before the main analyses.

Limitations and Future Directions

Male assistant is one of the limits of this study. Only male gender was selected, however, gender showed to be a significant confounding variable when asking about gist. For future investigations, it would be appropriate to consider the inclusion of female and male assistants, and investigate this effect more deeply. Moreover, for relatively small sample size, open question about the assistant could not be analysed in depth. In such question, children could freely express what they remember about the assistant. When analysing open question in

connection to children's previous answers given, we could evaluate consistency in their answers resulting in deeper understanding of traces and motives behind their answers.

CONCLUSION

This study focused on the relationship between theory of mind and suggestibility in preschool children. Suggestibility was investigated using the leading question paradigm (Ceci & Bruck, 1993), Theory-of-Mind Scale (Wellman & Liu, 2004) was administered. It was assumed that with increasing levels of theory of mind decreases the tendency of children to succumb to suggestion, however, such assumption was not supported neither when asking about the details nor gist. In case of misleading questions aimed at details, higher level of theory of mind did not help children resist suggestion, probably because children did not reveal the interviewer's false belief about reality (Bruck & Melnyk, 2004). When asking about gist, suggestibility was even higher in children with higher level of theory of mind, and rather in girls than in boys. This work opens several topics for future investigation, such as the direction of this relationship and other variables entering this relationship. The findings of this study might be applicable in the field of forensic psychology and also highlight high suggestibility of preschool children.

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APPENDIX 1: INFORMED CONSENT AND DEMOGRAPHIC PROFILE

Note: Appendix 1, 2 and 3 were retained in the language of administration.

Informovaný souhlas rodičů s účastí dítěte na výzkumu k bakalářské práci

Milí rodiče,

ráda bych Vás požádala o souhlas s účastí Vašeho dítěte na výzkumu, který se zabývá pamětí dítěte v souvislosti s jeho sociálním a kognitivním vývojem.

Bakalářská práce je realizována pod vedením Mgr. Veroniky Hanáčkové na Katedře psychologie Fakulty sociálních studií Masarykovy univerzity. Nejprve budete požádáni o vyplnění dotazníku o základních demografických údajích dítěte, který je přiložen k tomuto informovanému souhlasu. Samotná práce s dítětem pak bude spočívat v tom, že během prvního sezení, které proběhne ráno, si s dítětem za asistence jiného experimentátora krátce pohrají s panenkami. Klíčové však bude následující setkání, které proběhne stejný den později, a během kterého dítěti položím paměťové otázky týkající se našeho prvního setkání. Výsledky této studie mohou být prospěšné v oblasti forenzní psychologie či v dalším navazujícím výzkumu.

Účast ve výzkumu je naprosto dobrovolná. Dítě bude před začátkem výzkumu dotázáno, zda si přeje se zúčastnit a i v jeho průběhu má právo sezení kdykoliv ukončit. Výzkum by však pro dítě neměl být nijak náročný nebo stresující a je velice nepravděpodobné, že by na dítě měl negativní dopad. Všechny informace získané během realizace rozhovoru jsou anonymní a nikdy nebudou zveřejněny společně se jménem rodiče nebo dítěte.

Pokud s účastí dítěte ve výzkumu souhlasíte, podepište prosím formulář níže a odevzdejte tento informovaný souhlas spolu s úvodním dotazníkem paní učitelce v MŠ. V případě jakýkoliv dotazů mě pak neváhejte kontaktovat na čísle +420 666 666 666 nebo emailové adrese jmeno.prijmeni@gmail.com.

Předem děkuji za účast ve výzkumu a s přispěním k mé bakalářské práci,

Renata Hlavová

Za takových podmínek já..... dávám dobrovolně své svolení k tomu, aby se můj/moje nezletilý/á syn/dcera..... zúčastnil/a tohoto výzkumu realizovaného studentkou psychologie Fakulty sociálních studií Masarykovy univerzity.

V(e)..... dne.....

Podpis

Úvodní dotazník

Děkuji za Vaši účast ve výzkumu. Ze všeho nejdříve, prosím, odpovězte na základní demografické údaje týkající se Vás a Vašeho dítěte. Pokaždé prosím vyberte, která z odpovědí nejlépe vystihuje Vaši situaci.

Pohlaví dítěte: CHLAPEC DÍVKKA

Datum narození: _____ **Počet sourozenců:** _____

Název mateřské školy, kterou dítě navštěvuje: _____

1. Označte prosím, kolik obyvatel má místo, ve kterém dítě žije:

- Méně než 3 000 obyvatel
- Mezi 3 000 – 15 000 obyvatel
- Mezi 15 000 – 50 000 obyvatel
- Mezi 50 000 – 100 000 obyvatel
- Více než 100 000 obyvatel

2. Vyberte prosím tvrzení, které Vaše dítě nejlépe vystihuje:

- Moje dítě žije s oběma rodiči.
- Moje dítě žije s jedním rodičem.
- Moje dítě žije ve střídavé péči.
- Moje dítě žije s prarodiči.
- Jiné (upřesněte): _____

3. Označte prosím, jaké je nejvyšší dosažené vzdělání:

MATKY

- Základní vzdělání
- Střední vzdělání bez maturity
- Střední vzdělání s maturitou
- Vyšší odborné vzdělání
- Vysokoškolské vzdělání
- Jiné (upřesněte): _____

OTCE

- Základní vzdělání
- Střední vzdělání bez maturity
- Střední vzdělání s maturitou
- Vyšší odborné vzdělání
- Vysokoškolské vzdělání
- Jiné (upřesněte): _____

APPENDIX 2: THEORY-OF-MIND SCALE (Wellman & Liu, 2004)

Rozdílné touhy (*Diverse Desires*). Výzkumník ukáže dítěti panenku a papír s obrázky mrkve a sušenky. „Vidíš Marečku (jméno dítěte), toto je pan Novák. Zrovna je čas na svačinu a pan Novák si chce dát něco k jídlu. Tady vidíš dvě různá jídla: mrkev a sušenku. Co by sis dal na svačinu TY? Dal by sis raději mrkev nebo sušenku?“ Dítě zvolí jednu alternativu, například mrkev. „Výborně, to je dobrá volba. Pan Novák by si ale raději dal sušenku, protože mrkev nemá rád. Pan Novák má nejraději ze všeho sušenky.“ (Pokud si dítě vybere sušenku, tak výzkumník dítěti řekne, že má pan Novák nejraději mrkev). Poté se výzkumník dítěte zeptá: „Takže teď už je čas na svačinu. Pan Novák si může vybrat pouze jednu svačinu. Které jídlo si pan Novák na svačinu vybere? Mrkev nebo sušenku? Za správnou odpověď je považována taková odpověď, kterou dítě řekne opačně ke své volbě – pokud má dítě raději sušenku, musí říct, že pan Novák si vybere mrkev, a naopak.“

Odlišná přesvědčení (*Diverse Beliefs*). Výzkumník ukáže dítěti druhou panenku spolu s papírem, kde je vyobrazena garáž a křoví. „Tady máme Marušku. Maruška se snaží najít svou kočku. Kočka se může schovávat buď ve křoví, nebo také v garáži. Kde si myslíš, že kočka je? V křoví nebo v garáži?“ Dítě si zvolí jednu z alternativ, například křoví. „Výborně, to je skvělý nápad. Maruška si ale myslí, že je její kočka v garáži. (Pokud si dítě vybere garáž, dítě dostane instrukci, že si Maruška myslí, že se kočka ukrývá v křoví.) Kde si tedy myslíš, že bude Maruška hledat svou kočku? V křoví nebo v garáži?“ Za správnou odpověď se považuje opět opačná volba – pokud si dítě zvolilo křoví, musí odpovědět garáž, a naopak.“

Přístup k vědomostem (*Knowledge Access*). Výzkumník dítěti ukáže nepopsanou krabičku, ve které je schována malá hračka dinosaura. „Tady je krabička. Co si myslíš, že je uvnitř?“ Dítě může uvést libovolnou odpověď. Poté výzkumník otevře krabičku a ukáže dítěti, co se uvnitř skrývá. „Podívej, je tam dinosaur!“ Výzkumník zavře krabičku a položí dítěti paměťovou otázku: „Co je v krabičce?“ Poté výzkumník dítěti ukáže novou panenku, která byla do té doby schovaná. „Dívej, tohle je Anička. Anička nikdy neviděla, co se skrývá v této krabičce. Takže, ví Anička, co se skrývá uvnitř této krabičky? A viděla někdy Anička, co se skrývá uvnitř této krabičky?“ Jako správné odpovědi jsou hodnoceny *ne* v obou případech a počítají se pouze, pokud dítě zodpoví správně jak otázky na teorii mysli, tak otázku na paměť.

Nesprávné přesvědčení o obsahu (*Contents False Belief*). Výzkumník dítěti ukáže krabičku od vajíček, ve které se skrývá malá hračka mašinky. „Tady máme krabičku od vajíček. Co si myslíš, že bude uvnitř?“ Dítě může podat libovolnou odpověď. Poté výzkumník otevře krabičku. „Podívej, ve skutečnosti je uvnitř mašinka!“ Výzkumník krabičku uzavře a položí mu

paměťovou otázku: „Co je tedy uvnitř krabičky?“ Poté výzkumník ukáže dítěti čtvrtou panenku. „Tohle je Pavla. Pavla nikdy neviděla, co je uvnitř této krabičky od vajíček. Takže, co si Pavla myslí, že je uvnitř této krabičky od vajíček? Vajíčka nebo mašinka? A viděla někdy Pavla, co se skrývá uvnitř této krabičky od vajíček? Jako správné odpovědi jsou hodnoceny *vajíčka* v prvním případě a *ne* v druhém a počítají se pouze, pokud dítě zodpoví správně jak otázky na teorii myslí, tak otázku na paměť.

Explicitní nesprávné přesvědčení (*Explicit False Belief*). Dítěti je ukázána hračka chlapce a papír s obrázky batohu a skřínky. „Tohle je Tomášek. Tomášek se snaží najít svoje rukavice. Jeho rukavice mohou být buď v batohu, nebo ve skříni. Tomáškovy rukavice jsou ve skutečnosti v batohu, ale Tomášek si myslí, že jsou ve skříni. Kde tedy bude Tomášek hledat své rukavice? V batohu nebo ve skříni?“ Za správnou odpověď je považována *skříň*. Dítěti je položena ještě i paměťová otázka: „Kde jsou Tomáškovy rukavice ve skutečnosti? V batohu nebo ve skříni?“ Za správnou odpověď je považován *batoh*. Úkol je hodnocen jako správně, pokud dítě zodpoví správně jak otázku na teorii myslí, tak na paměť.

Přesvědčení vs. emoce (*Belief – Emotion*). Výzkumník dítěti ukáže postavičku a krabici lentilek, ve které jsou kamínky. „Toto je krabice od lentilek a tohle je Lenka. Co si myslíš, že je uvnitř krabice od lentilek?“ Dítě odpoví lentilky a výzkumník začne mluvit za panenku Lenku. „Tady Lenka říká, skvělé, já mám moc ráda lentilky! Lentilky jsou moje nejoblíbenější svačina. Teď si půjdu na chvíli hrát.“ Výzkumník schová panenku z dohledu dítěte a ukáže dítěti skutečný obsah krabice. „Podívej se, uvnitř jsou ve skutečnosti kamínky a ne lentilky! Není tu ani jedna lentilka, pouze kamínky.“ Výzkumník uzavře krabici od lentilek a položí dítěti paměťovou otázku: „Co je nejoblíbenější svačina Lenky?“ Výzkumník ukáže panenku Lenky a říká: „Tady máme znovu Lenku. Nikdy neviděla, co se skrývá uvnitř krabice. Lenka se už ale vrátila a zrovna je čas na svačinu. Dáme jí tedy tuto krabici od lentilek, dobře? Jak se cítí Lenka, když dostala tuto krabici, smutně nebo šťastně?“ Poté výzkumník otevře krabičku od lentilek a nechá panenku Lenku, aby nahlédla dovnitř. „Jak se Lenka cítí teď, když se podívala dovnitř do krabice? Smutně nebo šťastně?“ Za správné odpovědi se považují *šťastně* v první otázce a *smutně* v druhé a počítají se pouze, pokud dítě zodpoví správně jak otázky na teorii myslí, tak na paměť.

Skutečné vs. zjevné emoce (*Real - Apparent Emotion*). Nakonec výzkumník dítěti ukáže list papíru s třemi různými obličejí – šťastným, neutrálním a smutným. Poté papír odloží a ukáže mu jiný, na kterém je vyobrazen chlapec, kterému nejde vidět do obličeje. „Teď ti povyprávím příběh o tomto chlapci. Později se tě zeptám na to, jak se chlapec doopravdy cítí a jak se tváří. Může se totiž cítit jinak, než jak se tváří, nebo se taky může cítit úplně stejně, jak se tváří. Až

ti dovyprávím příběh, zeptám se tě, jak se chlapec doopravdy cítí a jak se tváří. Tenhle příběh je o Martinovi. Martin si hrál s kamarády a říkali si různé vtipy. Jedna ze starších holek, Kamila, řekla vtip o Martinovi a všichni se smáli. Všichni si mysleli, že to bylo velice vtipné, Martin si to ale nemyslel. Martin ale nechtěl, aby se mu ostatní děti posmívaly za to, že pro něj vtip byl nepříjemný, proto skryl, jak se doopravdy cítí. Můžeš mi říct, co udělali ostatní kamarádi Martina, když o něm Kamila řekla vtip? A v tom příběhu, co by ostatní Martinovi kamarádi udělali, kdyby věděli, jak se Martin doopravdy cítí?“ Správné odpovědi u těchto paměťových otázek jsou *smáli se* a *posmívali by se*. Výzkumník znovu dítěti ukáže papír s třemi obličejí znázorňujícími rozdílné emoce: „Tak, teď mi prosím ukaž, jak se Martin doopravdy cítil, když se všichni smáli vtipu, který o něm Kamila řekla? Cítil se šťastně, smutně, nebo v pohodě? A jak se Martin snažil tvářit, když se všichni smáli vtipu, který o něm Kamila řekla? Tvářil se šťastně, smutně, nebo v pohodě?“ Za správné odpovědi se hodnotí negativnější emoce v první otázce v porovnání s odpovědí na druhou otázku (pokud dítě odpoví, že se Martin cítil smutně, správně jsou *šťastně* i *v pohodě*, pokud dítě odpoví v pohodě, správně je pouze *šťastně*). Tyto odpovědi se počítají pouze, pokud dítě zodpoví správně jak otázky na teorii mysli, tak na paměť.

ILLUSTRATION 1 AND 2

Rozdílné touhy (Diverse Desires)



ILLUSTRATION 3 AND 4

Odlišná přesvědčení (Diverse Beliefs)



ILLUSTRATION 5

Přístup k vědomostem (Knowledge Access)



ILLUSTRATION 6

Nesprávné přesvědčení o obsahu (Contents False Belief)



ILLUSTRATION 7 AND 8

Explicitní nesprávné přesvědčení (Explicit False Belief)



ILLUSTRATION 9

Přesvědčení vs. emoce (Belief – Emotion)



ILLUSTRATION 10 AND 11

Skutečné vs. zjevné emoce (Real - Apparent Emotion)

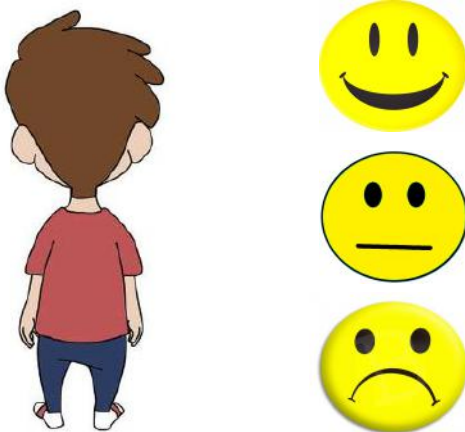


ILLUSTRATION 12

Dolls used for Theory-of-Mind Scale Administration (Wellman & Liu, 2004)



APPENDIX 3 = MEMORY TEST AND SUGGESTIBILITY TEST

OTÁZKY	Hodnocení
Říkala jsem ti své jméno?	1b = ne
Jakou hru jsme společně hráli?	1b = pexeso
Kolik lidí hrálo tuto hru?	1b = tři
Kdo tuto hru vyhrál?	1b = dítě
Co za obrázky byly na pexesu?	1b = zvířátka, příp. beruška, motýl, slon, kráva, kuře, žába, opice, ježek, kůň, myš
Našla jsem tu žirafu v pexesu já nebo ty?	1b = jakákoliv osoba
Co tam zapoměla ta paní, která si s námi hrála?	1b = odpověď v souladu se ženou, tzn., zapoměla si autíčko / jiný předmět, nevím, co si paní zapoměla
Jakou měla barvu košile?	1b = jakákoliv barva
A jakou barvu měl šátek?	1b = jakákoliv barva
Pamatuješ si na můj slib, že přinesu nějaké dárečky?	1b = ano
Můžeš mi říct něco víc o té paní/pánovi? Co si o ní/něm pamatuješ? Jak vypadal/a? Jsi si jistý, že to doopravdy byla paní/pán? Nemohl to být například pán/paní?	volná odpověď