

# The Use of Deceptive Actions by the Preschoolers

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**Abstract.** The article presents a psychodiagnostic study of the ability to use of ideas about the knowledge of another person and how to change it by the preschool children with mental retardation. We hypothesized that the presence of the ability to understand deception indicates the normal cognitive development of a child and reflects the important points in the formation of the “mental model.” A total of 74 children of preschool age from 5 to 6 years old compiled an empirical sample of the study. Out of them, 42 children attend compensatory groups. All children in the sample are diagnosed with mental retardation. The number of 30 preschoolers, corresponding to the age norm of development, made a sample of contrast. For the analysis of the development of basic ideas about the mental world of other people in the preschoolers, the classical techniques that evaluate and recognize false beliefs and the situation of deception were used. The created experimental situations confirmed that due to the lack of a model of mental and cognitive development, weak manifestations of social interaction are characteristic of a group of children with mental retardation. The study was conducted in the Altai region, a bordering regions, which experiences large migration of people from the bordering states for a qualified physiological and medical assistance.

## 1. Introduction

The problem of the formation of various forms of social interaction in children with normative and impaired development is associated with the analysis of the mechanisms that determine the active interaction of the child with the world [6]. In turn, the data on intellectual development should be considered through the level of formation of an arbitrary regulation of behavior associated with the orientation towards other children and social motives [7]. Difficulties in the perception of significant social signals and symbolic means are usually distinguished among the main reasons for the low level of formation of social interactions [9]. Also, the ability manifested in cognitive development (metarepresentation) is violated, namely, the mental model is not formed. Metarepresentation is the ability to represent that another person represents something different from their own beliefs. The ability to use “signs” as pointers and social signals in relation to others and the formation of a system of collective signs generating a symbolic function as a means of expressing thinking becomes important in the development of a child [8, 1, 2].

It is the “mental model” that underlies the appeal to mental internal schemes and models. These schemes and models allow us to interpret these states. In the case of a low-level mental model, the mental basis of social cognition is not formed. Mental model is an important basis for the development of child socialization [9].

The peculiarity of the “mental model” research direction is that the formation and specificity of this phenomenon are studied on the example of one, more rarely several mental phenomena. And the level of development of understanding of a specific mental phenomenon reflects the level of development of the “mental model” as a whole. So, 2 levels of development of the mental model is usually distinguished [9]. The first level refers to the ideas about the thoughts of another person (normally, this level develops at the age of four years). The second level relates to the argument that one person (except himself) thinks about the thoughts of another person. Accordingly, the main issue is the methodical procedure for studying the mental model at each level.

The mental model is the mechanism without which deception is impossible. Deception is associated with the understanding of other people’s psychic, since it involves ideas about the knowledge of another person

and how to change it. Namely, deception is an attempt to make you believe in what is actually wrong, in order to influence the mental state of others [5]. In order to recognize deception, children must understand not only the manifested mental phenomena, but also carefully concealed ones, i.e. they perform double decoding (recognize deception), relying on additional knowledge and ideas. When an individual knows what the other wants (desire) and what he thinks (conviction) about how to achieve this, then the individual can predict his behavior (intention) [3].

Understanding deception through the mental model acts as one of the components of the “objective-reflexive-normative thinking”, namely “socially recursive and self-reflective inferences about others or their own intentional states.” With a lack of a mental model, a child cannot initially reflect the social understanding of other people's intentions [10].

Recognition the deception is considered as a cognitive function, the specific methods of implementing the “mental model” at a particular level of formation are taken into account. In this regard, such cognitive aspects of understanding a fraud were investigated as the definition and use of the concept of “deception,” ideas about the possibility of success of deception, methods of recognizing deception. Ways to recognizing deception include signs, strategies, and conditions for the use of different signs in recognizing deception, using the concept of deception on their own, their own deception strategies [10].

Considering the emergence of a mental model in ontogenesis, we can come to the conclusion that the ability to understand deception is indicative of the child’s cognitive development. And this ability reflects the important moments in the formation of the “mental model” as a system of representations of one’s own psychic phenomena and the psychic of other people. At the same time, an important aspect to study is the reduction of the level of the mental model with deviations of mental development [9]. For the experimental scheme of all studied aspects of the mental model, including the understanding of deception, in our opinion, experimental play activity is the most suitable.

1. In games, a new kind of behavior can be offered to the child. Its essence lies in the fact that activity in an imaginary situation frees a child from situational connectedness: in a game, the child learns to act in a knowable, not visible situation [2, 8].
2. In games, the difference between the semantic and visible fields is observed [8]. It is in the game when a child begins to act independently of the immediate perception of the thing or the situation directly acting on him, and the meaning of this situation. As part of the “mental model” study, we will be able to observe an understanding of the distinction between apparent and real.
3. The behavior of a child in games as an imaginary situation already contains the rules of behavior, although it is not a game with some advanced rules formulated in advance [2]. That is, the child is forced to abandon the immediate impulse in the game, coordinating his behavior and each act with the game rules. First of all, these rules differ in that they are established by the child himself [8].

An ability to secondary representations reflecting not things in reality, but what they can be, and most importantly, the ability to build causal hypotheses manifest in the game should be considered. It is significant to us that in a game with deceit, a child must use signs to anticipate events that made it known about another person’s nascent action. Thus, this deception is associated with understanding the mental state of other people, since it involves ideas about the knowledge of another person and how to change it. Namely, deception is an attempt to make you believe in what is actually wrong, in order to influence the mental state of others.

In a number of studies, an analysis of the relationship between the level of intellectual development and the development of a mental model has been carried out. These studies were conducted on the children with autism spectrum disorders and the children with reduced intelligence. Systematic data on a sample of children with a diagnosis of mental retardation were not enough. In our opinion, this is an unsolved problem. At the same time, the question of the factors underlining the absence of building a mental model remains open. Another hypothesis that needs to be tested is the lack of mechanisms for the formation of social experience, which is the basis of violations of the mental model, due to excessive developmental delays. The game of deception is based on a certain level of intellectual development of the child. We believe that it is important to trace how the development of an understanding of deception indicates the general development of the “mental model” as a cognitive phenomenon in a sample of children with mental retardation.

## 2. Materials and Methods

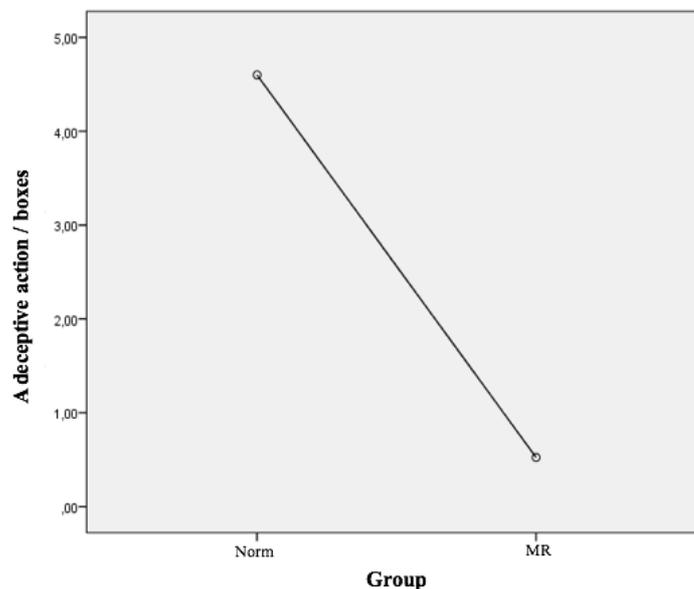
The empirical sample of the study: 74 children of the preschool age from 5 to 6 years. 42 of them were of the preschool age, visiting compensatory groups. Preschoolers with the presence of combined forms of mental developmental characteristics and (or) behavioral deviations (impaired cognitive functions, speech, emotional-volitional sphere, behavior, communicative function) made up the sample. All these children are diagnosed with mental retardation. A total of 30 preschoolers, corresponding to the age norm of development, made a sample of contrast.

We proposed an experiment in which the preschool children were asked to hide a toy in one of three small boxes so that the experimenter did not know exactly where it is located. A child could hide an object absolutely in any box and rearrange them in the order chosen by him. Just as in the first series, at the end of the game, the experimenter asked the question of exactly which box the toy was in and the children had to “deceive” the experimenter by pointing to the empty box. These series of games were repeated several times, which allowed us to trace not only the frequency of applying false beliefs, but also to take into account the fact that some children could use deceptive actions only after several attempts. Especially, this was expressed in the group of children with mental retardation, where often, the occasional use of fraudulent actions was observed, or even after several attempts to lose the situation, deception did not occur.

## 3. Results

Initially, we tested the hypothesis about the differences between the two groups of children in the use of deceptive actions in the proposed experimental series. With the help of analysis of variance, we found that the children with mental retardation either cannot use deceptive actions, or do it much less often in a series of tasks with a hidden toy in boxes, unlike those children with normative development (Leven's statistics = 0,074,  $p = 0,787$ ;  $F = 131,89$ ,  $p = 0,0001$ ) (Fig. 1).

Our analysis of the research results leads to the conclusion that the use of ideas about the knowledge of another person and how to change it is associated with the normative age of the child and is caused by cognitive functioning.



**Fig. 1.** The frequency of using deceptive actions in groups of preschoolers in a series of tasks with a hidden toy in boxes.

## 4. Discussion

From the developmental perspective, the fact of creating an imaginary situation can be viewed as a path to the development of abstract thinking, then the connection between the deficit of mental model and “realism”, concreteness of perception and thinking in a game with deceptive action becomes understandable. This

concreteness of thinking will be observed in the recognition of social signals, which is manifested in the fact that a child confuses the symbolic rules of the game (for example, with deception) with the real rules, physical. This is due to the fact that the ability to use ideas about the knowledge of another person and how to change it, the constant exchange of thoughts with other people allow one to concentrate and provide the ability to internally coordinate relations arising from different points of view. Due to the lack of ability to decentration, children with mental retardation showed a purely situational specific way of thinking without taking into account the model of the mental partner in the interaction with the game of deception. This way of thinking is often divorced from the actual communicative situation.

In the course of the experiment, the children of the normal developmental level did not have difficulties with the use of deceptive actions in the form of a game. It is important to note that the children from this group specified before committing a deception, whether this is the rule of the game and the condition of winning. The children with mental retardation experienced difficulties both in committing deceptive actions and in understanding that deception would lead to the appearance of incorrect opinions in other people. These children were often mistaken in this game, which indicates that the deceptive actions are difficult to apply to them, and there is no understanding of the meaning of these actions.

Moreover, the children with mental retardation had difficulties with understanding the principle “to know is to see” in this game. Thus, the children with mental retardation often used the strategy of rearranging the box itself, hiding the box with the toy under other boxes or under the table instead of hiding the toy in another box. That is, these children had a direct perception: if the boxes is the place with a hidden toy, then the experimenter would not know that the toy is in it. Also, the children with mental retardation often did not know how to act according to such a rule and, as a result, could not indicate a single box. They either opened the box with the toy by an impulsive reaction, or showed each box where the hidden object was lying, demonstrating that they just cannot understand the rule.

Based on the data obtained, we see that unlike their peers, the children with mental retardation have difficulty with the mental model in understanding the differences between the representation of their own mental phenomena and mental. This is due to violations in the perception of significant social signals and symbolic-symbolic means, the predominance of direct perception, and the reduction of voluntary control.

## 5. Conclusion

With a low level of mental model, the preschoolers have difficulties in creating an imaginary situation for a communication partner to change his mind. These difficulties experiencing by the child, at the same time, can be considered as the difficulties of an arbitrary control, since actions according to the rules of the game require the child to act contrary to the immediate impulse.

Our study also shows that the children with mental retardation often come to a conflict between the rule of the game and what he would do. In the game, he acts contrary to what he wants now.

As a result, we can conclude that due to the deficit of mental model and cognitive development, a group of children with mental retardation is characterized by deviations in the range from “normal” or “weak” manifestations of social interaction: not fully formed game actions, active avoidance of social contacts, as well as the inability to initiate and maintain interaction.

## 6. Acknowledgments

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