



## CHILDREN'S UNDERSTANDING OF PRETEND EMOTIONS

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### ABSTRACT

This preliminary study aims to investigate children's ability to understand that the emotional expressions that occur in pretend play do not necessarily coincide with the emotions people feel inside. Previous research has found that children aged 4 and 6 have difficulty to distinguish between the external and the internal emotion of a character who pretends an emotion. In the present work, thirteen 4-year-olds and eight 6-year-olds were administered stories in which a character simulated an emotion. Differently from previous research, the questions addressed to the children did not focus on the distinction external/internal emotion but on the distinction between real/pretend emotion. Furthermore, since previous research has suggested that children may understand better self-pretence than pretence of others, the participants in our study were engaged in a pretence situation where they had to pretend to be happy. The results obtained showed that, contrary to previous research, most 4- and 6-year-olds realize that pretend emotions may not be real, and this was true both for self-pretence and for the pretence of others.

#### Key words

Children, pretend play, emotional expression, simulation, theory of mind.

### INTRODUCTION

The theory of mind is the human capacity to understand the social world through the attribution of mental states (such as beliefs, desires, intentions or emotions) that serves to explain the people's behaviour (Lucariello, Durand & Yarnell, 2007). Wellman and Liu (2004) have proposed that the theory of the mind consists of a series of skills that people acquire progressively during development.



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One of these skills is the ability to recognize and participate in pretend play situations, a phenomenon almost exclusively human (Rakoczy, 2005). Around the age of 2, the pretend or symbolic play already involves a non-literal treatment of objects, and children are already capable of making inferences from pretend play situations and behave accordingly (Rakoczy, Tomasello & Striano, 2006). After the age of 3, children typically start to assign roles within their pretend games, and to negotiate metalinguistically the issues they want to pretend (Bretherton, 1989). In the literature, however, there is no agreement on whether the pretend play involves metarepresentational skills. While some authors consider the understanding of symbolic play as an *acting-as-if*, which considers that children do not view pretend play as a form of intentional activity until at least the age of 4 or 5 (Nichols & Stich, 2003), other authors support an interpretation of the pretend play as a social event with a shared intentionality (Rakoczy, 2006). According to Friedman and Leslie (2007), the theories that consider pretend play as non-representational cannot explain the premature abilities of children to produce and interpret symbolic play. Therefore, if children did not have these metarepresentational abilities, they would confound pretend play and real events. Nevertheless, as Lillard (1994) suggests, the metacognitive signs or the typical mannerisms intrinsic to the pretend play situations could explain children's ability to distinguish the real from the pretend worlds without the need to understand pretend play in a metarepresentational way. In the same vein, the results by Sidera, Serrat, Rostan and Sanz-Torrent (2011), who observed the difficulty of 4-year-olds to realize that the emotions displayed by other people in pretend play situations may be different from their real emotions, support the view that young children do not understand pretend emotions in a metarepresentational way. While these authors asked children about the internal emotions of some characters that were pretending an emotion, in the present study the questions asked to the children are whether the simulated emotions are real or pretend. On the other hand, Mitchell and Neal (2005) observed that in a pretend play context, it is easier for children from 4 to 6 years of age to understand their own mental states than those of others. Therefore, children's capacity to realize that pretend emotions can be different from internal emotions might be easier for the children when they pretend emotions themselves rather than when they observe other children pretending. In this study, we will test this hypothesis by comparing situations where the children will pretend emotions themselves with situations where they will observe other children pretending.

## METHOD

### Participants

A total 13 four-year-olds (13 girls, 4 boys; age range: 48 to 56 months; mean age: 51,15 months; SD: 1,91) and 8 six-year-olds (7 boys, 1 girl; age range: 62 to 66 months; mean age: 65 months; SD: 1,41) participated in the study. They were recruited from two public schools in the area of Girona, in Spain. They were Catalan speakers, and the tasks were administered in Catalan language. In order to participate in the study, children were expected to distinguish *real from pretend actions* (see *Real versus pretend actions task*). A total of three 4-year-olds did not participate in the study for that reason.

### Instruments

Children were administered the following 6 tasks:

#### a) *Real versus pretend actions task*

This task, that was adapted from Rosen, Schwebel and Singer (1997), was used to study children's understanding of the distinction between pretend and real actions. Participants were shown



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six videos of a young girl doing actions. In the half of the videos, the protagonist performed real actions (eating a banana, combing her hair or brushing her teeth), and in the other half, the protagonist pretended to do the same actions (“eating” a plastic banana, “combing” without a comb and “brushing” without a brush). Participants were asked whether the actions were real or pretend (“*is this girl really brushing her teeth or she is just pretending to brush his teeth?*”). Children obtained one point for each pair of videos (real-pretend action) answered correctly. The range score was from 0 to 3, and children who obtained 0 or 1 were not included in the sample.

*b) Understanding emotions simulated by oneself task*

In this task, within a pretend play context, children were asked to simulate to be sad and they were asked if the emotion they had showed was real or pretended. This was done two times. In one type of task, children were asked to simulate sadness because a toy car was broken (*toy car task*), and in the other task, children were asked to simulated sadness because a stuffed mice (*mice task*) got hurted in his leg.

In the toy car task, the experimenter started saying: “*Ok X, now we will play a fun game, but first I will introduce you a friend of mine, Enric.*” Then, a puppet of a man entered on the scene and said to the children: “*Hello, my name is Enric, what’s your name?*” After that, Enric brought a toy car and said: “*Look X, I brought a car. Now I leave to my home to sleep for a while. Goodbye!*” Next, the experimenter asked the children if he liked the toy that the puppet had left, and then asked to the child the *internal emotion question*: “*how do you feel now, happy or sad?*” Once the child had answered, the experimenter said: “*Ok, now we will pretend that the toy car has broken, and we will show a sad face, ok? Oh, the toy car has fallen...*” Here, the experimenter crashed the car against the table, showed a sad face, and said: “*Oh, the car got broken, what a pity! Let’s see how you show a sad face...*” In that moment, Enric went back to the scene and said: “*Hi X, why do you show a sad face? You did not like my toy?*” Afterwards, the experimenter asked two questions. The first question was addressed to the beliefs of Enric about the feelings of the child (this question is not taken into account in this study). The second question, or *real emotion question*, was addressed to investigate if the child was aware that his real emotion when he was pretending to be sad was not of sadness: “*X, when you were showing a sad face, where you really sad or you pretended to be sad?*”

The mice task was similar to the toy car task, except that in the mice task the puppet Enric stayed and participated in the pretend play situation.

Children were awarded 1 point if, in the *real emotion question*, they answered that they were just pretending. As there were two types of task, children could score 2 points.

*c) Understanding emotions simulated by others task.*

Children were administered four pretend play tasks, adapted from those used by Sidera et al. (2011). Children were told 4 stories in which 2 characters played a pretend game, and one of them, the protagonist, pretended one emotion (happy or sad) while feeling different inside (sad or happy). In two of the tasks, the protagonist showed a happy face while feeling sad (negative tasks), and in the other two tasks, the protagonist showed a sad face while feeling happy (positive tasks). Two memory questions were asked in each task to check if children understood and remembered it. In case children did not answer correctly to these questions, they were repeated the story one more time. If children understood the story, they were asked two test questions in order to study their understanding that the emotions expressed by the protagonist were not real but just pretence. Despite the four stories used here were the same as in Sidera et al., the test questions were changed. The external emotion question was maintained, but instead of asking about the internal emotion of the protagonist, in the present study we asked the children whether the protagonist was feeling really happy/sad, or she was just pretending:



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External emotion question: "How does the protagonist look like, happy or sad?"

Real emotion question: "Is the protagonist really happy / sad, or she is just pretending?"

In addition, a question about the beliefs of the observer of the emotional simulation was made in each task, though it is not taken into account for the present study.

Children were awarded 1 point in each of the stories in which they answered in the real emotion question that the protagonist was just pretending. Therefore, the maximum score was 4.

d) *Receptive vocabulary test*. The ELI test (Saborit & Julián, 2005) was used to evaluate the receptive vocabulary in Catalan language. In this test, children were given a word and they had to point the correct from among five different pictures.

Finally, a version of the *desire-belief-emotion task* (Harris, Johnson, Hutton, Andrews, & Cooke, 1989; Experiment 2), and a version of the *sentential complement sentences task* (Hale & Tager-Flusberg, 2003), were also administered to the children, though their results are not reported in this paper.

### Procedure

Children were tested individually in one session (15 to 25 minutes), in a quiet room from their schools. They were audio and video recorded. Children were administered the six tasks in the same order as they appear in the instruments section. In the *Real versus pretend actions task*, the videos were presented in pairs, so the real and the pretend action were always showed one after the other. Half of the children saw always the real action first and the other half the pretend action first. In the *Understanding emotions simulated by oneself task*, the order of presentation of the two types of task were counterbalanced. In the *Understanding emotions simulated by others task* the order of presentation of the four stories was counterbalanced.

## RESULTS

### Real versus pretend actions task

In the younger group (four-year-olds), two children obtained a score of 2 points in this task, while the rest obtained 3 points (Mean: 2,88; SD: .354). In the older group (six-year-olds), only one child obtained a score of 2 points and the 7 other children obtained 3 points (Mean: 2,88; SD: .354).

### Understanding emotions simulated by oneself task

In both types of task, all the children, independently of their age, reported to be happy in the *internal emotion question*, before they were asked to simulate to be sad. After children showed a sad face, they were asked the *real emotion question* (see Table 1). The results show that, when asked "when you were showing a sad face, were you really sad or you pretended to be sad?" the majority of the children said that they pretended to be sad. This happened in both tasks and in both age groups. Comparing the results of the younger and the older children in each task, using the Chi-square test, we observed that there were not significant differences as a function of age in the responses they gave in any of the two tasks ( $p > .05$ ).

In order to compare the results of children in the *Understanding emotions simulated by oneself task* (maximum score = 2) and their results in the *Real versus pretend actions task* (maximum score = 3), we multiplied the scores of the first task per 1.5, to equal the maximum scores. Then, we used the Wilcoxon test to compare children's scores in the two tasks, and we found a significant difference ( $Z = -2.335$ ,  $p = .020$ ). While children had a mean of 2.86 (SD = .359) in the *Real versus pre-*



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tend action task, they had a mean of 2,1 (SD = 1.32) in the *Understanding emotions simulated by oneself task*.

Table 1. Results of the real emotion question in the *Understanding emotions simulated by oneself task*, as a function of age and type of task.

	Toy car		Mice	
	<i>Really sad</i>	<i>Pretend to be sad</i>	<i>Really sad</i>	<i>Pretend to be sad</i>
4-year-olds (N = 13)	4	9	4	9
6-year-olds (N = 7)	3	4	1	6

**Notes:**

- a) The results show the number of children giving each type of answer.  
b) The responses of one six-year-old in this task were lost, so they are 7 instead of 8.

**Understanding emotions simulated by others task**

The results of the children in this task are shown in Table 2. The children responded correctly to all the *external emotion question*, so its results are not included in the table. In relation to the *real emotion question*, as shown in the table, the majority of children said that the protagonists of the stories were pretending to be happy or sad, and this is valid for both the younger and the older group of children. In fact, using the Chi-square test we observed that there were not significant differences as a function of age in the responses the children gave in the real emotion question, and this is valid for the four tasks ( $p > .05$ ).

Table 2. Results of the real emotion question in the *Understanding emotions simulated by others task*, as a function of age and type of task.

	Task 1		Task 2		Task 3		Task 4	
	<i>Really sad</i>	<i>Pretend to be sad</i>	<i>Really sad</i>	<i>Pretend to be sad</i>	<i>Really sad</i>	<i>Pretend to be sad</i>	<i>Really sad</i>	<i>Pretend to be sad</i>
4-year-olds N = 13	3	9	3	9	5	6	4	5
6-year-olds N = 8	1	7	0	8	2	5	2	6

**Notes:**

- a) The results show the number of children giving each type of answer.  
b) In some tasks, there were children who did not respond correctly to the memory questions. These children do not appear on the table, and that is why the results do not fit sometimes the number of participants.



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### Comparing the understanding of simulated emotions in oneself and others

We compared the scores of the children who said that they only pretended to be sad between the tasks where the *sadness was simulated by oneself* (toy car and mice tasks) with the tasks where the *sadness was simulated by other children* (tasks 1 and 2). The Wilcoxon test shows that there are not significant differences in children's performance of the two types of tasks in none of the two age groups ( $p > .05$ ). Indeed, there is a very high correlation (Pearson) in the scores of the children in the two types of tasks ( $r = .895$ ,  $p = .000$ ).

## DISCUSSION

An interesting conclusion from the results of this preliminary study is that children are better at distinguishing real from pretend actions than real from pretend emotions. In fact, the literature suggests that the use of emotions in pretend play occurs after the use of objects. Whereas children's ability to participate and recognise pretend play appears at the age of 12-16 months (Smith, Cowie & Blades, 2003), the attribution of emotions to toys in pretend play starts later, between the ages of 22 and 34 months (Wolf, Rygh & Atschuler, 1984). Furthermore, real emotions can never be observed, and children might use pretend play as a tool to change their internal emotions (Barnett, 1984). Thus, if pretending to be happy makes me happy, how do other people know if my happiness is real or not? Researchers have found several linguistic and behavioural cues that indicate to the children when other people are pretending (Lillard, 2006), but to our knowledge it has not been addressed yet the question of which cues the children use to indicate that their pretend emotions are not real. This would be an interesting issue for future research.

Our results show that children as young as 4-year-olds understand that when someone is simulating an emotion, the emotion expressed may not be real. Therefore, they may understand simulated emotions in a metarepresentational way. These results are quite surprising taking into account Sidera et al. (2011) results, who suggested that 4-year-olds were not able to distinguish, in pretend play stories, that the emotions expressed by the protagonists could be different from their internal emotions. Moreover, the tasks used in the present study were the same as in Sidera et al. study, except for the test questions. Whereas Sidera et al. asked children about the internal emotion of the protagonist, in the current study, we have asked the children whether the protagonist is really happy/sad or she just pretends to be happy/sad. A possible way to reconcile the results of both studies is to interpret that, as Gardner et al. (1988) suggested, 4-year-olds do understand that the emotions people simulate are not real, and they thus differentiate the emotions expressed in pretend contexts from the emotions expressed in real contexts. Then, why young children from Sidera et al. study were unable to say that the internal emotion of the protagonist could be different from the pretend emotion he expressed? Perhaps the distinction internal/external was too sophisticated for them, but it might not be needed to distinguish real from pretend emotions. As Peskin (1996) suggested, the distinction reality-pretence precedes the distinction reality-appearance. This might be also the case in children's understanding of pretend emotions.

It seems quite surprising that the performance of 6-year-olds in distinguishing real from pretend emotions was not better than that of 4-year-olds. We hope that the continuation of the present research will bring new data to discuss this aspect, but one possibility is that this understanding is still developed after the age of six. This seems plausible, since Sidera et al. found that from the age of 6 to the age of 8 there is an increase in children's understanding that in pretend play internal emotions might differ from external emotions.

Another finding from the present study, which needs to be confirmed, is that children's understanding that simulated emotions might not be real is similar regardless of who is pretending, themselves or others. This finding is at odds with Mitchell and Neal's (2005) proposal that in pretend play



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contexts children aged 4 to 6 years understand better their own mental states than those of others. In their task, children had to judge if someone or themselves doing an action that unintentionally resembled the action of an animal was pretence or not. They found that children tended to make this judgement considering the overt behaviour rather than the intention to pretend. One possible explanation is that children in self-pretence performed better because they were able to recognise that they did not have such an intention, while disregarded the fact that the others did not have this intention either. In our study, the majority of the children did not confound overt behaviour, or the expression of sadness, with the real emotion, no matter if they were themselves or other people who were simulating. The difference between our study and the study by Mitchell and Neal (2005) may be that what is questioned in their task is the intention to pretend, while this is taken for granted in the present study.

In sum, the results of this work show that children aged 4 and 6 are better at distinguishing real from pretend actions than real from pretend emotions. Our results also suggest that, in spite of their difficulty with the distinction *internal/external emotion*, most of 4- and 6-year-olds are capable of realizing that when other people or themselves pretend an emotion, it does not necessarily be real.

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