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Taking Fiction Seriously: Young Children Understand the Normative Structure of Joint Pretence Games

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Joint pretence games are implicit rule-governed activities with a normative structure: Given shared fictional stipulations, some acts are appropriate moves, others are inappropriate (i.e., mistakes). The awareness of 2- and 3-year-old children of this normative structure was explored, as indicated by their ability to not only act according to the rules themselves but to spontaneously protest against 3rd party rule violations. After the child and a 2nd person had set up a pretence scenario, a 3rd character (a puppet controlled by another experimenter) joined the game and performed acts either appropriate or inappropriate to the scenario set-up. Children in both age groups protested specifically against inappropriate acts, indicating they were able to not only follow pretence stipulations and act in accordance with them but to understand their deontic implications. This effect was more pronounced in the 3-year-olds than in the 2-year-olds. The results are discussed in the broader context of the development of social understanding and cultural learning.

Keywords: pretend play, social learning, normativity

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Human fictional activities have their roots in the emergence of pretend play in the 2nd year of life. From around 18 months of age, infants begin to perform simple pretence acts such as pretending to eat and drink, to be amused by others' pretending, and to engage in joint pretending with other people (e.g., Haight & Miller, 1992; Leslie, 1987). From the end of the 2nd year, in joint pretence games, children follow the pretend stipulations introduced by play partners and act appropriately on these premises (Harris & Kavanaugh, 1993; Rakoczy & Tomasello, 2006; Rakoczy, Tomasello, & Striano, 2004; Walker-Andrews & Harris, 1993; Walker-Andrews & Kahana-Kalman, 1999). For example, when a play partner pretends that a pot is full of tea, pretends to pour tea from the pot into a glass, and then pretends to spill something, children supplement this act by pretending to wipe the table at the appropriate spot (Harris & Kavanaugh, 1993). Children from age 2.5 are even quite proficient at talking about the unfolding of joint pretence scenarios. For example, when a partner pretends to pour tea into two cups and then to drink from one cup, children in the game say that the one cup is "empty" now and the other still "full of tea" (Harris & Kavanaugh, 1993; Leslie, 1994).

These are truly remarkable phenomena: Children have to set, remember, coordinate, and follow joint fictional worlds with others and at the same time not get confused about reality. In fact, in embryonic form these phenomena exhibit the logical structure of the conventional creation of institutional facts (Searle, 1995, 2005). In contrast to brute facts "out there," *institutional facts* hold only by virtue of a social, conventional practice and have the logical form "*X* counts as a *Y* in a context *C*." Among the standard examples are money ("This slip of paper counts as money in our currency area") and rule games ("This piece of wood counts as a king in chess" or "Moving the piece of wood in this way counts as attacking in chess"). Analogously, in joint pretence of the sort mentioned above, though it is a brute fact that there are two empty cups, in the game one cup counts as full, the other one as empty, and certain movements count as emptying or filling the cups (Walton, 1990).

Institutional facts essentially involve normative, deontic aspects: Given that an *X* counts as a *Y* in a certain context *C*, some acts with *X* in *C* are appropriate and others are inappropriate, mistakes. For example, given that a piece of wood counts as a king in a game of chess, it is appropriate to perform certain moves with it (i.e., move one field in any direction), a mistake to make certain other moves (e.g., move more than one field in any direction), and highly inappropriate to use it as a piece of firewood. Analogously, in the case of joint pretend play, when we pretend that milk was poured from a bottle into a cup, in the context of the pretence the cup now counts as full of milk. It is thus appropriate to pretend to drink from the cup and say "Delicious milk" (or "Disgusting! Milk!"), but it is a mistake to call the cup empty or to say it contains whiskey.

A fascinating question in the broader context of children's social–cognitive and cultural development is how their general grasp of the logical and normative structure of institutional reality develops (e.g., Kalish, 2005). As social pretence might be one of the first areas where children participate in the creation of simple

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institutional facts (Rakoczy, 2006, 2007), a more specific question in the present context is how children's understanding of the normative structure of joint pretend games develops.

Existing research has shown that children from 2 years old in their own acts respect the inferential normative structure of pretence scenarios: In response to another person pretending to spill tea, for example, they do what is warranted, that is, pretend to wipe the table. Arguably, however, this is not sufficient evidence for normative awareness—acting in a way that is compatible with a rule does not necessarily amount to truly following a rule. What is needed beyond children's own appropriate responses are normative responses to a third party's inappropriate acts (i.e., mistakes), such as protest or teaching. It is part of the essence of rules that they license specific normative responses in the case of violations (protest, critique, etc., in contrast to surprise, which is the appropriate response to violations of mere regularities) and that they can be enforced toward third parties. For example, when the child and a second person pretend that one cup is empty and another full, and when then a third person joins the game, announces to "drink," and takes the "empty" cup, to object "No! There's nothing in this cup! That one over there is full!" would be such an appropriate normative response.

Two- and three-year-old children have recently been shown to produce similar kinds of responses in the context of explicitly rule-governed activities (Rakoczy, Warneken, & Tomasello, 2008): When an experimenter taught them how to play a novel rule game (given a novel label, e.g., *daxing*) and then a third party joined and produced an act inappropriate to the game (i.e., a mistake), children spontaneously protested (but did not do so in a control condition when the other person performed appropriate acts). Note, however, that in this study children were involved in rule games, the constitutive rules of which had been explicitly introduced and explained ("This is how daxing goes . . ."). They thus drew normative conclusions about the games and enforced them toward a third party—but the conclusions were from an explicitly normative exposition of the very game. An especially interesting feature of pretence games, in contrast, is that they are implicitly rule-governed games: In jointly pretending, the pretence stipulations themselves implicitly set up a framework defining normatively appropriate and inappropriate moves (e.g., Walton, 1990).

In the present study, therefore, children's awareness of the implicit normative structure of joint fictional activities in the absence of any explicitly normative introduction of the activity was explored: Children were not taught, nor were explicit rules introduced, but rather children were just involved in a shared pretence game with a play partner. A third party then entered, announced he would join the game, and performed either pretence acts inappropriate to the implicit rules of the games, that is, mistakes (in the experimental condition), or appropriate pretence acts (in the control condition), and children's spontaneous normative responses such as protest, critique, and teaching were measured.

Children at the ages of 2 and 3 years old were tested. Competence in following simple pretence scenarios has been found to emerge around 2 years and to consolidate in the course of the 3rd year (Harris & Kavanaugh, 1993). Regarding interventions in response to violations of explicitly established game rules, Rakoczy et al. (2008) found solid competence in 3-year-olds and some competence on a less sophisticated level in 2-year-olds. Against this background, it was hypothesized that in the present study both age groups would protest in response to violations of the implicit rules of the pretence game, with marked development between 2 and 3 years (such that 3-year-olds protest more and in a more sophisticated way).

Method

Participants

Twenty-four 3-year-olds (35–39 months, mean age = 37 months; 9 boys, 15 girls) and twenty-four 2-year-olds (24–28 months, mean age = 26 months; 12 boys, 12 girls) were included in the final sample. One additional child was tested but had to be excluded because he was uncooperative. Children were recruited from urban daycare centers, came from mixed socioeconomic backgrounds, and were native German speakers.

Design

In a within-subjects design, each child received two experimental and two control tasks in blocks. Across children, the order of the blocks was counterbalanced (half got experimental tasks first, the other half the control tasks first). Each task existed in an experimental and a control version, and across children the assignment of tasks to conditions was counterbalanced, as was the within-block order of the tasks.

Materials and Procedure

All testing was done by two experimenters in a separate quiet room of the children's daycare center. Sessions lasted between approximately 25–35 min. At the beginning of the session, the first experimenter played with the child until he or she felt comfortable. Then the first experimenter announced that a puppet would come and play with them. The second experimenter brought out a hand puppet called "Max," which she animated and introduced to the child. The first experimenter, Max, and the child then played with a ball and other toys to make the child feel comfortable with the puppet before the pretence tasks began.[1]

The common structure of the tasks in the experimental and control conditions was as follows (see the Appendix for details; see the supplemental materials for movies of the different conditions): Max left before each task, remarking that he would be back soon. While Max was absent, the first experimenter brought out some neutral objects and set up a pretence scenario with the child. For example, she brought out some clothespins and a replica frying pan. First she established the pretence identities of the objects: She declared one clothespin to be a knife and the others to be carrots. Then she pretended to peel the carrots with the knife, to fry the carrots, and then to eat them, inviting the child to join her. After the first experimenter and the child played this pretence game together for a while, Max returned, asked whether he could join the

[1] A puppet rather than a real human adult was used as the mistaken pretender, as pilot studies had shown that young children were more reluctant to criticize adults than puppets. A recent study by Jaswal & Neely (2006) also suggested that children's default expectation is that adults are competent authorities.

game, was invited by the first experimenter to do so, and then Max announced "I am going to eat something as well." In the control condition his subsequent pretence act was appropriate, that is, he took one of the clothespins that was a carrot and made eating movements and sounds. In the experimental condition, however, he took the clothespin that was the knife and made the same eating movements and sounds. While the puppet then performed the target pretence act (for approximately 20 sec), the first experimenter turned away from child and puppet and read (the rationale for this was the following: Given that adults are considered authorities by children, if the first experimenter had watched the puppet's mistake, the children might have thought it was the authority's responsibility to object and thus refrained from intervening themselves). After the puppet had finished the pretence act, the first experimenter turned toward the child again, looked at him or her neutrally for a moment (children could report to the first experimenter what had happened if they wanted to) and then asked "Do you want me to show you something else?" whereupon the objects were removed from the table and the next trial began.

Observational and Coding Procedure

All sessions were videotaped and coded from the tapes by a single observer. A second independent observer coded a random sample of 20% of all the sessions for reliability. This coder was blind to the hypotheses and conditions: She saw only edited tapes of the phase where Max acted (the previous game phase with the first experimenter and the child interacting was cut out).

For each task, all relevant responses and utterances of the child while the puppet was performing the target pretence act were carefully described and given one of the following hierarchically ordered codes. A code of 1 was given for an *explicit protest*: The child intervened, criticizing the puppet with explicit normative vocabulary. For example, "No, you must not take this one, you must take that one, that is a carrot!" A code of 2 was given for an *implicit negative protest*: The child intervened and criticized the puppet, without explicit normative vocabulary but with a negative element ("No!" or "Not like that!" etc.) that indicated reproach. For example, "No! This is not a carrot, this is a knife!" A code of 3 was given for an *implicit protest other*: The child intervened and criticized the puppet implicitly, but without negative utterances. For example, "This is a *knife*. *That* is a carrot!" These three forms of protest were distinguished from a fourth category where the child only pretended him or herself or described the pretence scenario without any protest or intervention. Thus, a code of 4 was given for a *neutral pretence act/statement*: The child merely performed a pretence move appropriate to the pretence scenarios him or herself (e.g., pretended to eat a carrot) or made an utterance appropriate to the pretence scenarios, but in a commenting and not an intervening or reproaching way. For example, "There are some more carrots over there." A code of 5 was given if there was *no relevant response*: The child did not produce any relevant response falling in any of the above categories.

As the focus was on the most sophisticated forms of protest children produced, for each task a given child got as a score the highest category score that appeared in that task (e.g., if the child produced an action qualifying for Category 1 and an action qualifying for Category 3 on one and the same trial, this trial got a score of 1). Interrater reliability computed over the task scores was excellent (weighted $\kappa = .93$). Over the two tasks in each condition, for each child sum scores (0–2) for explicit protest, implicit negative protest, and implicit protest other were computed, as well as for neutral pretence acts/statements. These were the basis for statistical analyses.

Results

The mean sum scores for the three different protest categories are depicted in Figure 1, as well as the mean sum scores of neutral pretence acts/statements (Category 4). On average, the 3-year-olds showed forms of protest in 50% of the experimental trials and in 8% of the control trials,[2] the 2-year-olds in 21% of the experimental trials and never in any of the control trials. On an individual level, 17 of the 3-year-olds (71%) and 8 of the 2-year-olds (33%) protested in at least one experimental trial. As the first exploratory analyses found no effects of gender or task order on the number of experimental trials with protests (Mann–Whitney U tests, $p > .60$), these factors were not considered further in subsequent analyses.

First, on a more liberal analysis with the mean number of trials (0–2) with any of the three forms of protest as measure in each condition, Wilcoxon tests revealed that both age groups performed more protest responses in the experimental compared to the control condition (2-year-olds, $Z = 2.64$, $p = .008$; 3-year-olds, $Z = 3.46$, $p = .001$). The 3-year-olds protested more than the 2-year-olds in the experimental condition (Mann–Whitney U test, $Z = 2.75$, $p = .006$).

Second, a more stringent analysis of the mean number of trials with the two highest forms of protest only (explicit or implicit negative) revealed analogous results: Both the 2-year-olds (Wilcoxon test, $Z = 2.12$, $p = .034$) and the 3-year-olds (Wilcoxon test, $Z = 3.42$, $p = .001$) performed more (explicit or implicit negative) protest responses in the experimental compared to the control condition, again with the 3-year-olds protesting more than the 2-year-olds in the experimental condition (Mann–Whitney U test, $Z = 2.98$, $p = .003$).

With regard to the neutral pretence acts/statements, 3-year-olds' (but not 2-year-olds') sum scores were higher in the control than in the experimental condition (Wilcoxon test, $Z = 2.92$, $p = .004$), and in the control condition the sum scores were higher in the 3-year-olds than in the 2-year-olds (Mann–Whitney U test, $Z = 2.29$, $p = .022$), with no difference between the age groups in the experimental condition (Mann–Whitney U test, $Z = 1.40$, $p = .161$).

Discussion

Much research has shown that children from around 2 years old are proficient at acting according to jointly set-up fictional stipulations in the context of shared pretend play scenarios. Beyond looking at children acting correctly in such scenarios themselves, the present study is the first to look at stronger indicators of their grasp of joint pretence games as normative, governed by implicit rules. The 3-year-

[2] Upon closer inspection, it turned out that all the instances of protest in the control condition were such that they were not directly related to the focal action and in fact appropriate in both conditions: For example, in the control condition of the carrot and knife scenario, when Max took a carrot and pretended to eat it, the child objected "No! You have to cook it first!" A separate analysis where these cases (four in the control condition, two in the experimental condition) were taken out yielded the same results as reported in the main analysis.

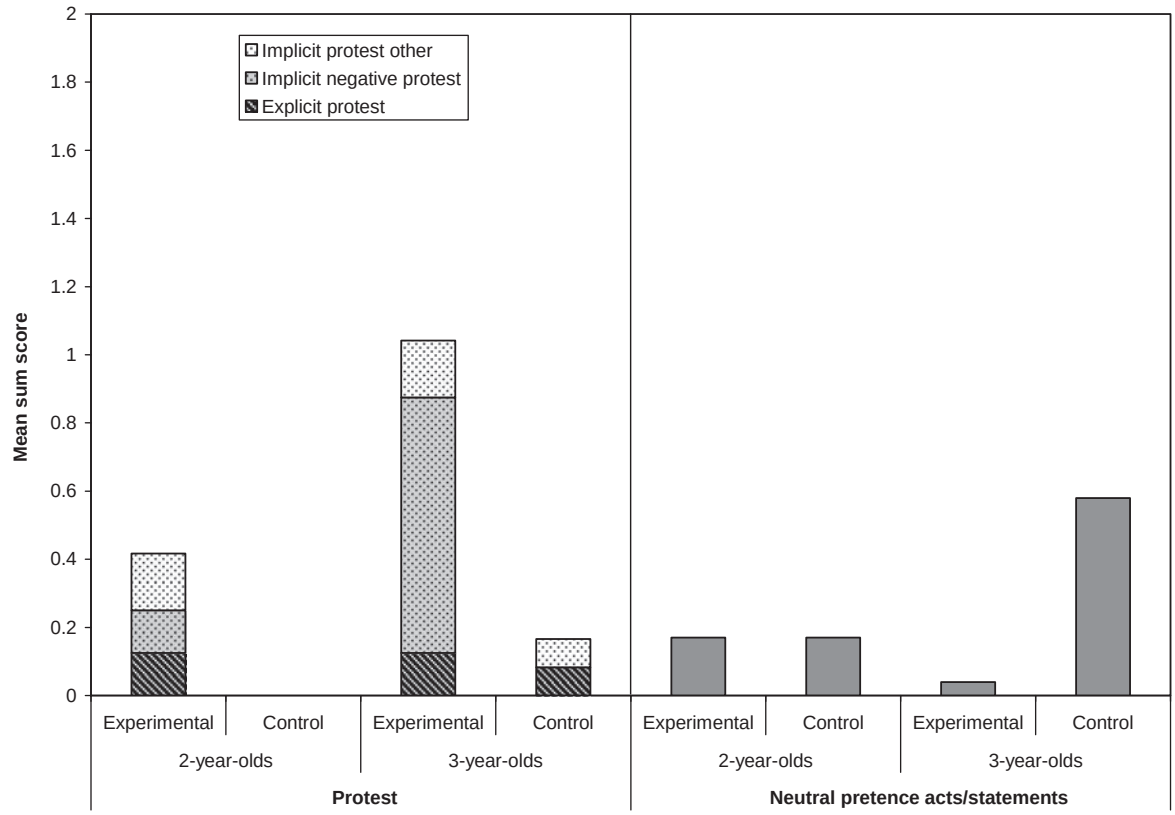

Figure 1. Mean sum scores for the different forms of protest and for neutral pretence acts/statements.

olds, and to some lesser degree the 2-year-olds, in this study indicated, in fact, that they did not only act in accordance with the fictional stipulations of joint pretence games but grasped their normative structure: When a third party confused pretence identities and thus made mistakes, children leveled protest and critique.[3] Although both age groups protested significantly more in the experimental than in the control condition, this pattern was much clearer for the 3-year-olds (with over two thirds of the children protesting in the experimental condition) than for the 2-year-olds (of whom one third protested in the experimental condition).

On the one hand, this fits with other research suggesting that during the 3rd year children develop a firmer grasp on the nature of unfolding pretence scenarios, as indicated in their appropriate inferential pretence responses in joint games (e.g., Harris & Kavanaugh, 1993; Rakoczy et al., 2004). And it fits with recent findings in the domain of explicit rule games that have shown comparable increase in normative protest behavior in the course of the 3rd year (Rakoczy et al., 2008).

On the other hand, it should be noted with caution that spontaneous intervention is a rather demanding and conservative measure. Children were not trained or encouraged to intervene in any way but did so utterly spontaneously, and so the absence of intervention does not necessarily license negative conclusions (such as that children who did not intervene did not understand the mistake). First, the older children might have been simply more engaged and active in the game than the younger ones. The fact that the 3-year-olds did not only intervene more in response to the puppet's mistakes in the experimental condition but also produced more neutral, appropriate pretence responses to the puppet's correct pretence act in the control condition seems to be compatible with such a possibility. Second, many children, above all younger ones, might have well noticed the puppet's mistake as such, but refrained from intervening due to temperamental factors (e.g., shyness). It thus cannot be ruled out that part of the variance between the age groups might be accounted for by the 3-year-olds' generally increased willingness or ability to intervene in response to others' acts.[4]

[3] One potential objection to the validity of the present findings might be that the four pretence scenarios used here were all relatively similar, centered around pretending to eat or pretending to feed and thus that we do not know whether the results would generalize to other pretence themes. However, as much research has shown that young children's pretence competence is similarly solid across varied pretence topics (e.g., Harris & Kavanaugh, 1993; Leslie, 1994; Walker-Andrews & Harris, 1993), it seems safe to take the results as representative for children's more general competence in dealing with pretence topics.

[4] Such a possibility, again, is compatible with recent findings in the area of nonpretend games (Rakoczy et al., 2008) where 3-year-olds showed solid intervention behavior, whereas 2-year-olds did so only on a much lower level (comparable to the level found here). It is difficult to test more directly whether the 2-year-olds grasped the normative implications of the present games but refrained from intervening due to other reasons: The obvious option, asking them whether the puppet had pretended rightly or wrongly, or whether he or she has made a mistake, would probably be verbally too demanding for such an age group.

Generally, the children in the present study behaved very similarly to same-aged children in a recent study (Rakoczy et al., 2008) who spontaneously protested in response to mistakes in the context of simple explicitly introduced rule games. Crucially, however, the present findings show a similar pattern of normative responses not only in the domain of joint pretence games. Children in the present study showed this pattern of spontaneous normative responses, such as protest and teaching, even in the absence of any kind of normative introduction of the shared game—the pretence game was just played and not taught or explained at all. The present study is thus the first to show that young children derive normative conclusions and enforce them toward a third party even from an only implicitly normative premise (the joint playing).

We see here the roots of normative understanding of joint pretend games in young children. From the age children become proficient at inferential comprehension of pretence scenarios (around 2 years), they indicate some awareness of the normative implications of the implicit pretence game rules. And in the 3rd year this awareness develops in parallel with consolidating pretence comprehension. An interesting question in this context then concerns subsequent developments. In parallel to developments in rule-following (e.g., Cepeda, Kramer, & Gonzalez de Sather, 2001) and moral reasoning (e.g., Chandler, Sokol, & Wainryb, 2000), it is quite likely that children's developing normative awareness of pretend games might be characterized by growing flexibility and appreciation of relativity. Even 3-year-olds, far from mastering false belief and other classical theory of mind tasks, are flexible in the sense that they do understand that different people can have different incompatible pretence perspectives on one and the same object when they play different games with it (Berguno & Bowler, 2004; Bruell & Woolley, 1998; Hickling, Wellman, & Gottfried, 1997), and even 2-year-olds understand that one and the same object can have different pretence identities in different subsequent games (Harris & Kavanaugh, 1993, Experiment 3). However, when one common game is played, as in the present study (where the puppet explicitly joined the game and was invited by the first experimenter to do so), actions disrespecting the joint stipulations are not viewed as based on just a differing subjective perspective but marked as (objective) mistakes. Probably older children become more flexible in the sense that they can increasingly combine critique of mistakes given the stipulations ("In our game, this act is inappropriate—this is not a carrot!") with negotiation of the game premises themselves ("Okay, that is a mistake in our game, but we can change the game—let's pretend these are all carrots now").[5] Such a possibility is suggested, for example, by studies that have shown children have increasing flexibility during the preschool years in the coordination and role assignment in setting up joint pretence scenarios when differing preferences and proposals of the participants have to be smoothly integrated (e.g., Garvey & Kramer, 1989; Lloyd & Goodwin, 1995). And such a possibility is consistent with a recent proposal regarding the development of general normative understanding (Kalish, 2005): Although children in the toddler years indicated some awareness of the normative implications of status functions, a flexible understanding of the negotiability of such ascriptions develops subsequently through to middle childhood.

In the broader context of social–cognitive and cultural development, it remains an interesting question as to how the awareness of the normativity in pretend games found here relates to children's developing understanding of the logical and normative structure of institutional reality more generally. Children understood that what in brute reality was a clothespin could count as a knife or carrot in a joint fictional game and ought to be treated accordingly in the context of the game. Now, how does their analogous understanding develop that what in brute reality is a piece of paper by virtue of a certain practice counts as money in certain contexts and ought to be treated accordingly, or that what in brute reality is just a human being by virtue of a certain practice counts as a teacher in a certain context and ought to be treated accordingly? Research into children's understanding of such areas of institutional reality has usually not revealed much competence until later in middle childhood (e.g., Brook, 1970; Hook, 1993; Kalish, Weissman, & Bernstein, 2000; Piaget, 1929).

One interesting possibility is thus that joint games, in particular games of make-believe, present a cradle for children's development into institutional life, among other things, because these games are concrete, action-based, and have local, transient contexts often made up on the spot and thus easily allow children's active participation (Kalish, 2005; Rakoczy & Tomasello, 2007; Walton, 1990).

Relatedly, it might even be that children come to understand collective practices that create institutional facts on the model of playing joint pretend games. Such a possibility is suggested, for example, by a recent study that found that young children initially did not distinguish jointly pretending from jointly deciding about institutional matters (e.g., about names or property), assimilating serious decisions to "mere pretence" (Kalish et al., 2000). Future research hopefully will further explore these possibilities.

[5] Formally speaking, the norms governing joint pretend games are hypothetical imperatives: "If we play this game (if we are in context *C*), then *X* counts as *Y* and ought to be treated accordingly." Although young children at the ages tested here recognize when the premise is fulfilled and then criticize if the consequent is not (i.e., a mistake committed), older children probably become more flexible in negotiating and adapting the whole rule (and thereby the whole game) in the service of the intersubjective coordination of unfolding pretence activities.

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Appendix

Task Structure in Experimental and Control Conditions

Task	Objects	Pretence scenario set up by 1st experimenter and child	Max's announcement	Max's act: Experimental condition	Max's act: Control condition
Soap & sandwiches	■ Wooden blocks, 1 yellow, several green ones ■ Bowl	Yellow block is soap, green blocks are sandwiches. Wash hands with soap and bowl, then eat sandwiches (repeat several times).	"I'm gonna eat something as well."	Takes yellow block and pretends to eat it.	Takes one green block and pretends to eat it.
Carrots & knife	■ Clothespins, 1 wooden, several purple ones. ■ Replica frying pan	Wooden pin is a knife, purple pins are carrots. Peel carrots with knife, fry in pan, then eat (repeat several times).	"I'm gonna eat something as well."	Takes wooden pin and pretends to eat it.	Takes one purple pin and pretends to eat it.
Feeding ape & sheep	■ Pieces of play-dough, some yellow, some green ■ Ape puppet + sheep puppet	Yellow pieces of play-dough are bananas, green pieces are grass. Apes likes bananas, but hates grass, sheep likes grass but hates bananas. Feed grass to sheep and bananas to ape (repeat several times).	"I'm gonna feed the sheep."	Takes a yellow piece of play-dough and pretends to feed it to the sheep.	Takes a green piece of play-dough and pretends to feed it to the sheep.
Feeding puppet[a]	■ 2 long objects, 1 silver, 1 purple ■ Puppet	Silver object is a toothbrush, purple one is a sausage. Brush puppet's teeth, feed her sausage (repeat several times).	(a) "I'm gonna feed the puppet." (b) "I'm gonna brush the puppet's teeth."	Takes silver object and pretends to feed it to the puppet. Takes purple object and pretends to brush the puppet's teeth.	Takes purple object and pretends to feed it to the puppet. Takes silver object and pretends to brush the puppet's teeth.

[a] The announcement and action of Max for this scenario (a or b) was varied across children.

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