

## CHILDREN'S UNDERSTANDING OF DISPLAY RULES: THE ROLE OF SECOND-ORDER INTENTIONS

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**Abstract:** The present study examined the hypothesis that children's understanding of display rules is associated with their ability to attribute second-order intentions. Seventy two 4- to 6-year-old children participated in the study. Children completed a task measuring their ability to understand prosocial and self-protective display rules as well as a task that assessed their ability to attribute second-order intentions to others. Results showed that performance on the display-rule task and on the second-order intention task improved significantly over the age range examined. Children who demonstrated a capacity to attribute second-order intentions to others were better at predicting prosocial and self-protective display rules than children who did not have this capacity. In contrast, children who failed the second-order intention task tended to fail the display-rule task. These results suggest that second-order reasoning about others' intentions is fundamental to children's understanding of display rules.

**Key words:** Display rules, Second-order intention, Theory of mind.

Display rules are social norms prescribing the appropriateness of expressing an emotion in specific situations (Saarni, 1999). They are implemented when an individual feels a particular emotion internally, which she or he does not wish to express externally (Gnepp & Hess, 1986). The implementation of display rules involves a number of different emotion modulation strategies, such as maintaining a neutral facial expression, increasing or decreasing the intensity of an emotional display, and masking real emotion by displaying a different emotional expression (Ekman & Friesen, 1975).

The ability to mask or alter emotional expressions in accordance with display rules emerges early in life. Existing research has established that

children as young as 4 years of age smile, for example, to hide their disappointment when receiving a gift that falls short their expectations (Cole, 1986; Josephs, 1994). The issue, however, remains of the extent to which young children's manipulation of their emotional displays reflects a "conscious" or "adult-like" understanding of display rules. Research has shown that 4-year-olds: (a) fail to take into account the different reasons motivating people to use display rules (Josephs, 1994); (b) do not appreciate the misleading impact of one's dissembled emotional expression on her or his relationship partners (Gross & Harris, 1988); and (c) are not able to articulate their knowledge of display rules, by describing, for example, prototypic situations where they would hide their real emotions from others (Saarni, 1979; Zeman & Garber, 1996; Zeman & Shipman, 1996). All these abilities emerge at around age 5 or 6 years suggesting that there occurs a profound change in children's understanding of display rules.

Some researchers maintain that the development observed in the ability to understand display rules at the end of the preschool years may reflect improvements in children's ability to interpret human behaviour by attributing mental states to themselves and to other people, what is commonly referred to as *theory of mind* (Broomfield, Robinson, & Robinson, 2002; Gross & Harris, 1988; Harris, 1989; Harris & Gross, 1989). From this point of view, an important prerequisite for understanding display rules is the ability to attribute second-order intentions to others (i.e., the ability to make attributions of the form "X *intends* that Y *believes*"). The present study tests this assumption by directly comparing preschool children's performance on a task assessing understanding of display rules and a task assessing understanding of second-order intentions.

### ***Understanding second-order intentions and display rules***

According to Harris and Gross (1989), the application of display rules is an intentional act that involves deliberately manipulating one's emotional expressions in order to mislead another person. More specifically, the intending individual tries to get another believe something other than what s/he really experiences emotionally (i.e., the individual, feeling *p*, tries to get another individual to *believe* that she or he feels *not-p*). Thus, in order to develop a conscious understanding of display rules, children must possess an awareness of others' second-order intentions and more specifically to understand an individual's intention to create a false belief in

others about her or his emotional state. A child who does not possess this understanding might implement display rules on the basis of purely behavioural generalizations, without being consciously aware of the intention underlying these generalizations.

In an attempt to determine the role of second-order intentions on the development of display rule knowledge, Gross and Harris (1988) presented 4- and 6-year-old children with stories describing an event that was likely to cause a specific emotion in the protagonist and a motive for the protagonist to hide her or his real emotion from other story characters. Children were asked to say how the protagonist really felt, what expression she or he would display on her or his face and why. Results showed that the 4-year-old participants judged accurately the story protagonists' real emotion, but had difficulty in judging what emotion these characters would express on their face. In contrast, 6-year-old children often attributed display rules, judging that protagonists would express an emotion that was different from what they really felt. Moreover, when asked to justify their responses, 4-year-old children typically referred to the precipitating event in the story, whereas the majority of the 6-year-olds concentrated on the protagonists' motive for dissemblance. In doing so, 6-year-old children frequently produced replies that contained recursively embedded clauses describing the protagonist's intention as being directed at the other story characters' beliefs (e.g. «She doesn't want her mommy to *know*», Harris & Gross, 1989, p. 311).

Gross and Harris (1988) interpreted their findings as evidence that a recursive awareness of intention makes possible an understanding of display rules. Six-year-olds, according to these authors, have a better grasp of display rules precisely because they are better at the kind of recursive reasoning involved in them. There are, however, reasons to question the validity of this conclusion. First, a substantial number of the 6-year-old participants failed to give any justifications for their responses and, thus, we do not know whether all children who succeeded on the task adopted second-order reasoning about the story protagonists' intentions. Second, even though many 6-year-olds produced recursively embedded clauses in order to justify their responses, it is not clear from Gross and Harris's analysis (1988; see also Harris & Gross, 1989) what proportion of these embedded conditions described the protagonists' second-order intentions. Third, as some authors (e.g., Perner, 1988) maintain, the ability to embed recursively propositions in language does not by itself signify an understanding of the higher-order mental states underlying these

propositions. Consequently, Gross and Harris's (1988) findings cannot be taken as conclusive evidence that mastery of second-order intentions has an effect on the development of children's ability to understand display rules.

*Is second-order intention important for all types of display rules?*

Harris and Gross (1989) propose that the ability to represent second-order intentions is the common denominator for understanding all types of display rules. In contrast, other authors (Banerjee & Yuill, 1999) have suggested that some types of display rules may not be dependent on a recursive awareness of mental states. According to Banerjee and Yuill (1999), understanding of prosocial display rules (that is, rules implemented to protect the feelings or well-being of other people) simply depends on the child's ability to understand that one's expressive behaviour affects others' emotions (e.g., by displaying a happy emotion, when one receives a disappointing gift, she or he makes the other person happy). Furthermore, the improvement in attributing prosocial display rules observed between the ages of 4 and 6 years is not related to advancements in theory of mind, but must be explained in terms of children's increasing experience with modulating their emotional expressions in order to spare others' feelings. Banerjee and Yuill (1999) contrasted children's understanding of prosocial display rules with their understanding of another type of display rule, self-presentational (that is, rules aimed at influencing the way the self is evaluated by others), which, as they argue, do involve an understanding of second-order intentions. In order to understand self-presentational display rules, the child needs to infer another's intention to manipulate the way she or he is perceived by others (e.g., by displaying a happy emotion, while being in a fearful situation, one *intends* others to *believe* that she or he is brave).

In their study, Banerjee and Yuill (1999) presented 4- and 6-year-old children with stories, similar to those of Gross and Harris (1988), in order to assess their ability to understand prosocial and self-presentational display rules. They also tested children on a task that assessed their understanding of second-order beliefs ("X *believes* that Y *believes*"), reasoning that second-order beliefs are a close analogue to second-order intentions in terms of structure ("X *intends* that Y *believes*"). The results supported Banerjee and Yuill's (1999) claim in showing a somewhat stronger relationship between children's understanding of second-order beliefs and self-presentational display rules compared to the relationship

between their understanding of second-order beliefs and prosocial display rules, at least after chronological age was statistically partialled out.

In sum, the research to date does not permit a definite conclusion as to whether understanding of second-order intentions is related to children's understanding of display rules. Also it is not clear whether the purported relationship between these two abilities is true for all types of display rules.

### THE PRESENT STUDY

The aim of the study reported here was to explore, more thoroughly, the developmental relationship between children's ability to make second-order intention attributions and their understanding of two types of display rules: prosocial and self-protective display rules. The former, as mentioned earlier, aim to protect the feelings and well-being of others; the latter, in contrast, are designed to protect the individual's self-esteem, create personal advantages or avoid negative consequences for the self (e.g., masking anger to avoid punishment or hiding embarrassment following an act of clumsiness to protect public self image). While a few early studies indicated that children understand prosocial display rules earlier and better than self-protective ones (Gnepp & Hess, 1986), more recent research has shown that understanding of these two types of display rules follows a parallel developmental pathway (Gosselin, Warren, & Diotte, 2002; Josephs, 1994).

We presented three groups of children aged 4-, 5- and 6-years with a task that examined their understanding of these two types of display rules. We then related display rule performance to performance on a task assessing their understanding of second-order intentions. The task employed to assess children's understanding of second-order intentions was adapted from Leekam (1988, Experiment 7; see also Leekam & Prior, 1994) and assessed children's ability to distinguish between two types of intentional falsehood: deceitful from joking lies. The ability to distinguish between lies and jokes is believed to depend on second-order reasoning about intentions (Leekam, 1988, 1991). As Leekam (1991) maintains, «The deceitful speaker *wants* the listener to *think* that the statement is true, while the joking speaker *wants* the listener to *know* that the statement is false» (p. 160, italics added). Hence, to avoid interpreting joke as a lie, an individual needs to ascribe second-order intentions. Using this task, Leekam (1988)

*Table 1. Group characteristics (M, SD, and Range in months)*

Groups	<i>n</i>	<i>M</i>	<i>SD</i>	Range
4-year-olds	24	55	3	50-60
5-year-olds	24	66	4	64-67
6-year-olds	24	78	4	73-86

found that children develop an understanding of second-order intentions between the ages of 4-6 years.

In line with earlier research on the development of children's understanding of display rules, we anticipated an age-related improvement in children's ability to understand display rules between the ages of 4 and 6 years. Moreover, given the evidence that understanding of prosocial and self-protective display rules develop concurrently, we hypothesized that children will perform similarly on the prosocial and self-protective display rule stories. Finally, in line with Banerjee and Yuill's (1999) findings indicating that prosocial display rules do not require recursive awareness of mental states whereas display rules that involve evaluations concerning the way the self is represented in the minds of others are strongly related with second-order reasoning about others' mental states, we hypothesized that a change in the ability to understand second-order intentions will be related to changes in children's ability to appreciate self-protective display rules but not to changes in the ability to understand prosocial display rules.

### **Method**

**Participants.** Seventy two children participated in the study. There were 24 children in each of three age groups: 4-, 5-, and 6-year-olds. Each group included equal number of boys and girls. Group characteristics are summarized in Table 1.

Children were recruited from four child care centers and two elementary schools, and represented a mix of socioeconomic backgrounds. Parents were informed about the aims of the study and had given written consent. Children gave oral consent prior to the experiment.

**Materials and procedure.** Each child was tested individually in a quiet room at their schools on two occasions approximately one week apart. Each session lasted about 20 minutes. In one session, children were given the display rules task and in the other session the second-order intention task. The order in which the two tasks were administered was counterbalanced across participants.

Table 2. Story themes

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Prosocial	Child receives an ugly sweater as a birthday present from grandmother. If child shows how she feels, her grandmother will get upset.
	Baby cousin breaks one of the child's favorite toys. If child shows how he feels, his cousin will get into trouble.
	Child's best friend spilt paint all over himself and looks silly. If child shows how he feels, his friend will get upset.
Self-Protective	Child plays with friends and one of them squirts him with a water gun. Child does not like to be wet. If child shows how he feels, his friends will say that he is a crybaby.
	Child is running a race with other friends and loses. If child shows how she feels, her friends won't play with her anymore.
	Child walks with mother on the street and sees an old lady wearing funny clothes. If child shows how she feels, her mother will say that she is rude.

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*Display rules task:* The display rules task included six short stories, selected or modeled from previous research on display rules (e.g., Gnepp & Hess, 1986; Gross & Harris, 1988; Josephs, 1994). Each story described a situation likely to provoke an emotion (happiness or sadness) in the story protagonist and gave a reason for the protagonist to hide her or his real emotion from other story characters. The reason in three of the stories was prosocial (the protagonist wanted to protect the feelings of the other story character) and in the remainder three self-protective (the protagonist wished to preserve his self-esteem or avoid negative consequences for the self). (See Table 2 for story themes.)

Each of the stories was accompanied by a black-and-white line drawing illustrating the emotion eliciting event, the story protagonist and a child or adult onlooker. The protagonist's facial features were blank in these pictures. In addition, the onlooker's face was turned away from the child's vantage point so that the child's attention would be focused on the protagonist. Besides these six pictures, there were two smaller black-and-white line drawings, one depicting a happy face and the other a sad face. These pictures were used to allow the children to indicate the story protagonist's real emotion and the expression s/he would display in response to the emotion-eliciting event.

Prior to hearing the stories, the children were asked to label the emotional expressions on the two facial drawings. All children accurately named the two emotions. The stories were presented next in a random order to each child. Following the presentation of each story, the experimenter asked the children to retell it in their own words. If they did

not recall the story accurately, the story was read again and children were tested again. The test questions followed (story examples and questions are shown in the Appendix). First, children were asked to indicate how the protagonist would feel with the event by choosing one of the facial drawings (real emotion question). Secondly, they were asked to indicate how the protagonist's face would look again by choosing one of the two facial drawings (display rule question). Finally, children were asked to justify their responses to the display rule questions. This last question was included to provide a more stringent test of children's understanding of the different motivations underlying display rules. As Banerjee and Yuill (1999) suggest, an understanding of the distinction between different types of display rules requires not only the selection of the appropriate facial expression (emotional display), «but also a corresponding justification that reflects the awareness of the motivation for the display» (p. 114).

*Second-order intention:* The "painting task" from Leekam (1988; see also Leekam & Prior, 1994) was adapted to assess children's understanding of second-order intentions. This task includes two stories, supported by four pictures each. The first story is about a boy who wants to play a joke on his mother and the second is about a boy who wants to deceive his mother. In the joking story the boy-protagonist showed his mother another child's beautiful painting that was on display in the school hall saying that he did the picture. But immediately the boy directed his mother's attention to the name on the picture so that the mother realised that in fact the painting was not that of her son's but that of a girl. The first story was followed by the deceitful story, which had exactly the same structure with the first, the only difference being that the boy-protagonist of this story did not direct his mother's attention to the girl's name on the picture. In contrast, his mother discovered the truth on her own the next day when she was waiting for her son at the school hall and looked more closely at the picture. (The order of the two stories was counterbalanced across children.)

At the end of the presentation of the stories, children were asked six control questions to ensure that they understood the stories: (i) "In both stories who really painted the picture?", (ii) "But at the beginning, what did the boy say in both the stories?", (iii & iv) "Does this mother still think that the boy painted the picture? (this question was repeated twice while the experimenter was pointing to each of the mothers in the stories)", (v) "Which mother knows that a girl painted the picture because the boy



showed her?", (vi) "Which mother found out that a girl painted the picture when she was on her own?" (see Leekam & Prior, 1994, p. 905). Following the presentation of the control questions, the test question was asked: (vii) "At the end of both of the stories, the mother knows that a girl really painted the picture. But one of these boys *didn't want* his mother to *know* that a girl really painted it. Which one?" The order of questions was fixed.

### *Scoring*

**Display rules:** Children's responses were coded as follows. Children received 1 point if they had answered: the real emotion and the display rule questions correctly and if they had justified appropriately their display rule response. As said before, the justification question was included to provide a more stringent test of children's ability to understand display rules (see Banerjee & Yuill, 1999) and, thus, those children who answered the display rule question correctly but did not justify it appropriately were scored with 0. The points from the 6 stories were summed to create the total display rule score, which could range from 0 to 6. This score was then separated into summed scores for the prosocial and the self-protective stories. Given that there were 3 prosocial and 3 self-protective stories, summed scores could range from 0 to 3.

Children's justifications for their responses to the display rule questions were coded as either appropriate or inappropriate following the taxonomy developed by Gross and Harris (1988). Justifications categorized as being appropriate made reference to the protagonists' reasons for hiding their true emotions. Some of the correct justifications children gave included: "Because she doesn't want to upset her grandmother"; "If he looks happy, his friend will think that he mocks him and will get upset"; "Because his friends will think that she acts like a cry-baby". Alternatively, inappropriate justifications involved references to the emotion-eliciting event (e.g., "Because his toy was broken", "Because she saw the funny-dressed lady") or to the felt emotion (e.g., "because he is sad"). All other responses (including "don't know") were also categorized as being inappropriate. An independent rater coded a random 25% of the justifications given by children. Interrater agreement for the coding of the justifications was 95%.

**Second-order intention:** Children received 1 point if they had answered all control questions (i to vi) through correctly and they had responded appropriately to the test question (vii).

**Table 3.** Mean number (and standard deviations) of correct prosocial and self-protective display rules (maximum = 3) as a function of age

Groups	n	Type of display rules	
		Prosocial M (SD)	Self-protective M (SD)
4-year-olds	24	.62 (.87)	.50 (.83)
5-year-olds	24	1.71 (1.30)	1.75 (1.22)
6-year-olds	24	2.67 (.76)	2.58 (.88)
Total	72	1.67 (1.30)	1.61 (1.31)

## Results

**Display rules task.** All the participants were able to recall the stories accurately after the second reading. The stories were read twice to a total of 8 children, of whom 4 were from the 4-year-old group, 2 were from the 5-year-old group and 2 were from the 6-year-old group.

Table 3 shows the mean number of correct responses in the prosocial and self-protective stories as a function of age.

A mixed-design analysis of variance (ANOVA), with age (4-, 5-, and 6-years) as the between-subjects factor and type of display rule (prosocial and self-protective) as the within-subjects factor was carried out. This analysis showed that the main effect of display rule type was not significant,  $F(1, 69) = .38, p = ns$ , indicating that children performed with similar accuracy in the prosocial and self-protective display rule stories. However, a significant main effect of age was found,  $F(2, 69) = 29.87, p < .001$ , suggesting that with increasing age children performed better on the task. Separate one-way ANOVAs using the prosocial and self-protective scores as the dependent measures confirmed that the 6-year-olds outperformed both the 5- and 4-year-olds in the prosocial,  $F(2, 69) = 24, 71, p = .001$  and self-protective display rule stories,  $F(2, 69) = 26.64, p < .001$ . Post hoc comparisons using Tukey's HSD test revealed that the 6-year-old group was significantly different from both the 5- and the 4-year-old group and also that the latter two groups were significantly different in both the prosocial and self-protective stories (all  $p < .05$ ).

**Second-order intention task.** Among the 72 participants, 30 children did not pass the second-order intention task and 42 did. This proportion is a little lower than that reported by Leekam (1988), still, however, the results clearly indicate a developmental change between the ages of 4 and 6 years. Table 4 shows the number of children in each age group who passed or

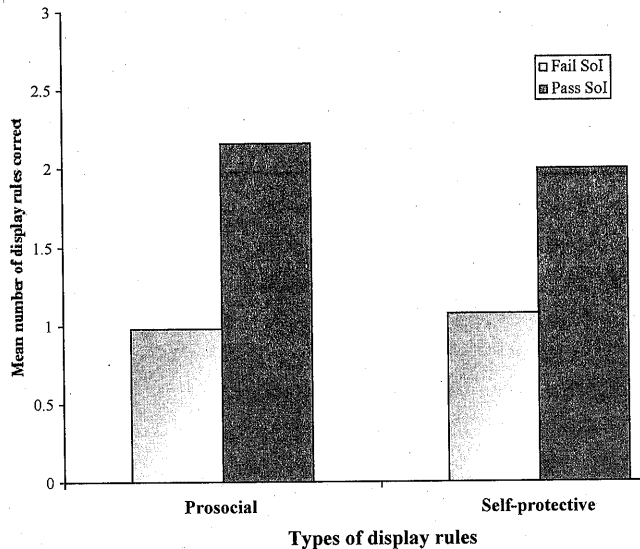
**Table 4.** Number of children in each group passing or failing the second-order intention task

Second-order intention	Groups		
	4-year-olds ( <i>n</i> = 24)	5-year-olds ( <i>n</i> = 24)	6-year-olds ( <i>n</i> = 24)
Pass	7	13	22
Fail	17	11	2

failed the task. A chi-square test confirmed that these differences between the three groups were significant,  $\chi^2(2, N = 72) = 19.54, p < .001$ .

**Between task comparisons.** An independent samples t-test (two tailed) was first used to compare the overall display rule scores of children who passed and those who failed the second-order intention task. The results showed that "passers" scored significantly higher ( $M = 4.64$ ) compared to "failers" ( $M = 1.36$ ),  $t(70) = 7.19, p < .001$ .

Next, two Pearson product moment correlations (two-tailed) were computed to examine the relationship between children's scores on the second-order intention task and their scores on the prosocial and self-protective display rules stories. The correlation between second-order intention and prosocial display rules was significant,  $r = .65, p < .01$ , as was the correlation between second order intention and self-protective display rules,  $r = .59, p < .01$  (see Figure 1).



**Figure 1.** Mean number of prosocial and self-protective display rules correct (minimum score = 0, maximum = 3) as a function of second-order intention (SoI) performance (pass or fail).

Since age was confounded with children's task performance, data were also analysed using a mixed design analysis of covariance (ANCOVA), where performance on the second-order intention task (pass vs. fail) and performance on the display rule task (prosocial vs. self-protective) were the between and within subjects factors respectively, and age (in months) was the covariate. The ANCOVA confirmed the results of the correlation analyses by showing that there was a significant main effect of second-order-intention performance on children's performance on the prosocial stories,  $F(1, 69) = 23.35, p < .001$ , as well as on the self-protective stories,  $F(1, 69) = 13.42, p < .001$ . The covariate, age, was also a significant factor in this analysis,  $F(2, 68) = 13.16, p < .001$ .

## DISCUSSION

The present study examined the role of the ability to attribute second-order intentions in the development of children's understanding of display rules. This was achieved by comparing 4-, 5-, and 6-year-old children's performance on a second-order intention task with their performance on a task assessing understanding of display rules. In addition, by varying the motivation underlying display rules, we assessed whether mastery of second-order intentions would similarly affect children's understanding of two different types of display rules: prosocial and self-protective display rules.

The results showed that understanding of second-order intentions did predict children's performance on the display rule task. Children, independently of age, who were able to construe another individual's second-order intention, were better at predicting that the story protagonists would display an emotion that was different from what they really felt. In contrast, participants who failed the second-order intention task tended to also fail the display rule task. This significant difference in display rule performance between children with and without the ability to attribute second-order intentions is consistent with Gross and Harris's (1988) claim that the ability to attribute second-order intentions is fundamental to children's understanding of display rules.

The results also showed that the ability to understand second-order intentions had a similar effect on participants' understanding of the two types of display rules under investigation. Contrary to our hypothesis, children who succeeded on the second-order intention task were as able to

understand prosocially motivated display rules as they were to understand display rules motivated by self-protective reasons. This finding speaks against Banerjee and Yuill's (1999) claim that children's understanding of prosocial display rules does not require an awareness of second-order intentions and simply develops as a result of increasing social experience.

It is possible that the task which Banerjee and Yuill (1999) used to formulate their claim that prosocial display rules do not require an understanding of second-order intentions is the reason for the discrepancy between their results and the findings of the present study. Recall that these researchers compared children's understanding of prosocial display rules with their ability to attribute second-order beliefs, reasoning that second-order beliefs and second-order intentions are structurally similar. However, despite structural similarity, second-order intentions and second-order beliefs are mental states with distinct representational contents and may, therefore, make independent contributions to children's capacity to understand display rules. Mastery of second-order beliefs could alert children about the effects of a display rule on others' mental states (A *believes* that by displaying an emotion *y*, will make B *believe y*), whereas mastery of second-order intentions could make children sensitive to the reasons behind display rules (A *intends* by displaying an emotion *y* that B will *believe y*). Based on this analysis, we propose that Banerjee and Yuill's (1999) study and the study reported here may have addressed related yet distinct aspects of the child's display rule understanding. This may account for the discrepancy in the findings.

This analysis is consistent with the results of a recent study (Broomfield et al., 2002) which tested children's understanding of the effects that white lies have on the listeners' beliefs and the relationship between this ability and the ability to attribute second-order beliefs. White lies are used in politeness situations in order to protect others' feelings and are thought to be a type of verbal display rules (Broomfield et al., 2002; Taylor & Lee, 2002). The results of Broomfield et al.'s study showed that second-order understanding about beliefs predicted children's performance on the white lie task. Children who attributed second-order beliefs were more competent at predicting the effects of white lies on the mental states of the listeners compared to children who were not able to attribute such higher-order mental states.

Taking into consideration the aforementioned finding, an interesting new topic for future investigation would be to compare children's

understanding of second-order intentions and second-order beliefs in relation to their ability to understand the intention behind and the effects of adopting a display rule. This could give us further evidence with regard to the complex interconnections between higher-order theory of mind skills and the development of display rule understanding in childhood.

The results of the present study are consistent with, and extend, previous findings of an age-related shift in children's competence at understanding display rules between the ages of 4 and 6 years. However, in contrast to earlier studies which tested children of 4- and 6-years of age (e.g., Gross & Harris, 1988), this study also incorporated a group of 5-year-olds and this helped to clarify the period of developmental progression. It appears, from our findings, that much of the developmental change takes place between the ages of 5 and 6 years. On the other hand, our results complement those of earlier studies (Gosselin et al., 2002; Josephs, 1994) in showing that the ability to understand prosocial display rules and the ability to understand self-protective display rules develop in tandem.

In summary, the results of this study indicate that changes in children's understanding of prosocial and self-protective display rules are related to changes in their ability to understand others' minds, and more specifically with the development of one key component of that theory, namely the ability to understand others' second-order intentions (Gross & Harris, 1988). Nonetheless, while second-order intention understanding seems necessary for the development of an understanding of display rules, it is surely not sufficient. Other experimental evidence suggests that the ability to distinguish real from apparent emotions and the ability to understand beliefs about emotions (Harris, Donnelly, Guz, & Pitt-Watson, 1986) also make significant contributions to the development of children's understanding of display rules. Social experiences also seem very important. Several studies have linked display rule understanding with variables such as individual differences in the way families express emotions (Garner & Power, 1996; Jones, Abbey, & Cumberland, 1998), the frequency of maternal discourse about emotions (Garner, 1999) and the degree of parental acceptance versus control of their children's expression of emotion (McDowel & Parke, 2000). The results reported here combined with the findings of the research reported above suggest that cognitive as well as social factors contribute to the development of an understanding of display rules.

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## APPENDIX

### Sample display rule stories

#### *Prosocial story*

This is Mary and this is her grandmother. See the ribbons and balloons, it's Mary's birthday today. Mary gets a horrible sweater as a birthday present from her grandmother.

- (i) How does Mary feel about getting this horrible sweater?

Now, the important thing is that even though Mary is sad about getting this horrible sweater as a present, she does not want her grandmother to get upset.

- (ii) So, how should Mary's face look? Why?

#### *Self-protective story*

This is George and these are his friends. George and his friends are playing together in the playground. One of the boys squirts George with a water gun. Everyone else laughs, but George does not think it's funny. He's all wet and cold.

- (i) How does George feel about getting squirted with a water gun?

Now, the important thing is that even though George is sad about getting squirted with a water gun, he does not want the other children to think he's a crybaby.

- (ii) So, how should George's face look like? Why?