

Young Children's Understanding of Beliefs About Moral and Conventional Rule Violations

Clare Conry-Murray *Saint Joseph's University*

Children of ages 3–5 ($N = 62$) were assessed by using standard theory-of-mind tasks and unusual belief tasks related to false information and beliefs endorsing violations of moral (welfare and fairness) and social conventional (school rules) domains. Younger children (under 5 years) did not accurately attribute unusual factual beliefs or beliefs endorsing rule violations whether or not they passed the standard theory-of-mind tasks. Only participants over age 5 performed above chance in attributions of unusual beliefs. Domain differences indicated that beliefs endorsing harm were often most difficult for children, perhaps because the beliefs were the least plausible and most obligatory.

Both theory-of-mind (Wellman & Liu, 2004) and moral development research (Smetana, 2006; Turiel, 1983, 2006) show important changes in children's social understanding during the preschool years. Recent research shows that development in each area can inform the other (Smetana, Jambon, Conry-Murray, & Sturge-Apple, 2012), and there have been calls for more research into their connections (Conry-Murray & Smetana, 2008; Wellman & Miller, 2008). The current research examines whether children have difficulty understanding beliefs that differ from their own in prescriptive sociomoral contexts where there are rules about how to behave. For example, do children find it hard to understand that someone could have a belief that is inconsistent with a social rule, such as a belief that it is OK to hit?

Clare Conry-Murray, Department of Psychology.

I thank the anonymous reviews and acknowledge the support of Judi Smetana, who provided valuable feedback on earlier drafts of this article.

Address correspondence to Clare Conry-Murray, Department of Psychology, Saint Joseph's University, 134 Post Hall, 5600 City Avenue, Philadelphia, PA 19131–1395. Phone: (610) 660-1803. Fax: (610) 660-1819. E-mail: cconrymu@sju.edu.

Merrill-Palmer Quarterly, October 2013, Vol. 59, No. 4, pp. 489–510. Copyright © 2013 by Wayne State University Press, Detroit, MI 48201.

This question is important for understanding the development of understanding of false beliefs because it examines whether children have a mental representation of other minds that transcends different types of beliefs (Flavell, Mumme, Green, & Flavell, 1992). In addition, sociomoral domain differences in this understanding would shed light onto the specific characteristics of unusual beliefs that make them difficult. It is also important to examine whether young children are able to understand that people sometimes endorse rule violations because this knowledge can help them make sense of unusual or unexpected social behaviors. If young children have difficulty understanding that others sometimes hold unusual beliefs about social rules, it may affect their understanding of intentions (Killen, Mulvey, Richardson, Jampol, & Woodward, 2011). For example, young children may not judge actions based on the actor's intentions or beliefs about the rule, but on the outcomes of the action (Leslie, Knobe, & Cohen, 2006). However, it remains to be seen whether young children understand that others sometimes endorse unusual beliefs like that a rule violation is acceptable.

Theory of Mind and Social Rules

Theory-of-mind research shows that different types of mental states are understood at different ages. Very young children understand that others may have different preferences, but until around age 4 or 5, they have difficulty providing explicit verbal predictions of behavior that is based on a false belief (Wellman, Cross, & Watson, 2001; Wellman & Liu, 2004). For example, in a story about a child who puts his chocolate in one location, but whose chocolate is moved unbeknownst to him, young children most often say that the child will look for the chocolate in its new location and not where the child left it. Children over about age 4 or 5 can predict that the child will act on his false belief and look for his chocolate where he left it (Wimmer & Perner, 1983). In false-contents tasks, there are unexpected items in a container (e.g., toys in a Band-Aid box). To pass this task, children must predict that someone who has never seen inside the box would think it contains Band-Aids.

Some research that investigates young children's ability to understand false beliefs within the context of a moral issue shows that introducing a moral component makes the tasks more difficult for children. Killen et al. (2011) investigated children's understanding of false beliefs when the effect of the belief was a loss for another child. (For example, a child believes that a crumpled paper bag is trash and should be thrown out when in fact it holds a cupcake.) They found that preschool-aged

children had more difficulty with this false-contents task (e.g., did the accidental transgressor know there was a cupcake in the bag?) when the effect of the false belief was a moral violation (e.g., throwing out someone's cupcake).

Both of the standard false-belief tasks and the aforementioned Killen et al. (2011) task assess children's understandings of false beliefs about the physical world (e.g., whether there is a cupcake in the paper bag), and therefore the beliefs are verifiably false. However, it is not unusual to have a belief about the physical world that is mistaken. Beliefs about social rules may be more difficult to understand than false beliefs about reality because a belief endorsing a rule violation implies more than a simple mistake. For example, it could imply that someone believes that it is acceptable to treat others badly.

Some research indicates that children have particular difficulty understanding a belief that is contrary to rules because they expect people to hold beliefs that are consistent with norms and obligations. Kalish and Cornelius (2007) found that young children use obligations as a heuristic to predict mental states. For example, young children predict that a character who had not been told a rule about where to put the toys away will still think that she should put the toys away in the correct location. Young children rely on this heuristic more than do older children and adults, who recognize that our obligations are separate from our beliefs about our obligations. Thus, young children may have more difficulty accurately attributing a belief that differs from an obligation than older children or than plausible mistaken beliefs, as in standard false-belief tasks.

Studies that have investigated children's understanding of unusual sociomoral beliefs (Flavell et al., 1992; Wainryb & Ford, 1998) have shown inconsistent results. Wainryb and Ford (1998) investigated whether children can attribute an unusual belief about fairness to a teacher. They described a teacher who holds an unusual moral belief (e.g., that it is OK to give a big snack to girls but not boys because you like girls better). In this study, children were asked to attribute the unusual moral belief after having the very same information presented to them. Only 35% of 5-year-olds accurately attributed the unusual moral belief.

In contrast, Flavell et al. (1992) conducted a series of studies and found that most children could accurately attribute unusual moral and conventional beliefs at age 4. Flavell et al. used simpler moral beliefs that did not involve an authority figure, and, in one study, the unusual beliefs were repeated twice and followed immediately with the assessment (For example, "Suzy thinks it is okay to kick another child. She thinks it is okay to do that. Does Suzy think it is okay or not okay to kick another child?" [p. 968].) They found that most 4-year-olds accurately attributed unusual sociomoral beliefs.

In response to these mixed findings, the first goal of the present research is to examine whether children understand that someone can have an unusual sociomoral belief and to determine whether this understanding occurs at the same time as false beliefs about reality. This was done by using interview protocols similar to those used by both Flavell et al. (1992) and Wainryb and Ford (1998), where a character is portrayed as having an unusual belief endorsing a rule violation, followed immediately by a question asking what the character believes. While this assessment appears to be a simple task that only requires repeating back information, children sometimes have difficulty with it.

The current study differs from some previous research (Flavell et al., 1992; Wainryb & Ford, 1998), which examined differences in responses across ages. This study compared understanding of unusual beliefs among children in the same age range who either passed or failed standard false-belief tasks (Blair, 1996; Killen et al., 2011), and an older group who had all passed standard false-belief tasks. This allowed for two important comparisons: (a) children who were the same age but differed in their ability to pass standard false-belief tasks and (b) children who all passed standard theory-of-mind tasks but who differed in age. This method allows for investigation into whether understanding of sociomoral beliefs develops with age or with false-belief ability or both.

The current study also differs from previous research in the use of a second assessment of children's ability to understand unusual sociomoral beliefs. This required children to predict a belief, given evidence that someone holds a belief that endorses a rule violation. Kalish and Shiverick (2004) found that young children predicted that characters would want to follow rules even when their stated preferences were contrary to the rule. If young children use social norms to predict desires even when a preference is given, they may believe that the desire to violate a rule is not a true reflection of the protagonists' perspective, and they may predict that a character will think violation of rules are not OK, even if he has not been told the rule and it is clear that he wants to violate it. Thus, the second assessment tested whether children predict a character's belief to be consistent with a rule, even given evidence that the character might hold a different belief.

In both assessments—children's *understanding* of unusual beliefs that were explicitly stated and their *predictions* of characters' unusual beliefs—it was expected that traditional false-belief understanding would be relevant. Both tasks involve understanding another person's mental state when it is not in line with one's own beliefs. However, it was also expected that unusual sociomoral beliefs would be more difficult than false beliefs.

Domains of Sociomoral Understanding

The second major goal of this study was to examine domain differences in children's understanding of unusual sociomoral beliefs. The study examines children's understanding and prediction of social-rule beliefs in both the moral and conventional domains, with the expectation that understanding of beliefs endorsing moral violations could be more difficult than understanding beliefs endorsing conventional violations. Extensive research shows that children distinguish between the moral and conventional domains at a young age (e.g., see Smetana, 2006; Turiel, 1983), and the criteria they use indicate that conventional rules are judged to be more flexible than moral rules. Research has shown that even young children recognize that moral issues are generalizable, most often based on intrinsic consequences that cannot be changed (e.g., hitting is wrong because it hurts), whereas conventional regulations depend on the context and can be altered (e.g., wearing pajamas to school is wrong because you could get in trouble, unless the school is having a pajama day [Turiel, 1983]). Because conventions are more alterable, children may be more familiar with cases where conventional rules are altered and violations can become acceptable. Straightforward moral violations are generally not seen as acceptable in any context. In fact, past research (Smetana, 1981) has shown that children condemn violations in the moral domain even when the perpetrator does not know the rule, whereas conventional violations are not condemned when the violator does not know the rule. Therefore, beliefs endorsing moral violations may be more difficult to understand than beliefs endorsing conventional rule violations.

Multifaceted issues involve more than one domain. In the current research, the issue of sharing was examined. Sharing involves the moral domain because of the element of fairness, but it also involves an additional domain called the *personal domain*, which includes issues that are at the discretion of each person to decide. Sharing can involve an element of the personal prerogative of the owner of the items. Thus, sharing could be seen as either a moral or a personal issue or an issue that involves both. Past research has indicated that young children are more likely to understand others' beliefs about moral situations when there is more ambiguity about the right way to behave. For example, when the children in the Flavell et al. (1992) study were faced with a dispute over ownership where ownership was unclear, even the 3-year-olds understood the different beliefs of the parties involved. However, the disputes over ownership in that study did not provide information about who actually owned the disputed object. With only differences in opinion about who has ownership, it was unclear what the normative belief was. In the current study, all the stories were

designed to make it clear that a child held a belief that endorsed a moral or conventional violation, and so the sharing stories included a clear element of unfairness—a child brought items to school that were shared with all but one child. In this case, the unusual belief was that it is OK to share with all but one child.

Finally, this study also examined an informational domain. Following Flavell et al. (1992), the current study examined the understanding that people can hold unusual informational beliefs (e.g., that dogs can fly). This was done to determine whether endorsements of moral or conventional violations are more difficult than false informational beliefs even when both are unusual. Although Flavell et al. did not find domain differences, these are investigated because there is a theoretical reason to expect differences and because of the mixed findings from past research.

Given the different characteristics of the domains, it was expected that endorsements of clear informational inaccuracies and moral violations would be most difficult for young children to understand. Beliefs endorsing sharing and conventional violations were expected to be easier to understand because a variety of beliefs about these issues are more common.

Given that Flavell et al. (1992) and Wainryb and Ford (1998) had different protagonists (teachers and children, respectively), and because authority figures are seen as the source of some rules (Laupa, 1995), the current study included both types of protagonists: teachers and children. However, the study was not designed to compare protagonists, and they are analyzed separately.

Method

Participants

The original sample included 67 children from lower-middle-class to upper-middle-class communities between the ages of 3.67 years and 5.58 years from four different preschools. The children were divided into three groups based on their age and whether they passed standard theory-of-mind tasks at the time of the interview (described in the theory-of-mind tasks section that follows). The first group was composed of children who had not yet passed the majority of the false-belief tasks. There were 20 children (9 girls and 11 boys, $M_{\text{age}} = 4.20$ years, $SD = .38$, range = 3.67–4.92 years) in this group, referred to as *young/no FB*. The next group encompassed 23 children under 5 years of age who passed the majority of the false-belief tasks (15 girls and 8 boys, $M_{\text{age}} = 4.33$ years, $SD = .39$, range = 3.58–4.92 years), referred to as *young/FB*. The last group was composed of children who had passed the majority of the false-belief tasks and were over 5 years of age,

referred to as *older/FB*: 19 children fell into this category (10 girls and 9 boys, $M_{\text{age}} = 5.30$ years, $SD = .16$, range = 5.00–5.58 years). A one-way analysis of variance (ANOVA) was conducted on the ages of participants in each group. There was a main effect for group, $F(2, 46) = 4.86$, $p < .001$, $\eta^2 = .64$, and Bonferroni post hoc comparisons indicated that the mean age of the young/no FB group was not significantly different from that of the young/FB group ($p = .50$), but the older/FB group differed in age from that of each of the younger groups (both comparisons, $p < .001$).

The 5-year-old cutoff was used because it enabled us to have adequate numbers of children in each group without having a significant age difference between the two younger groups. Five children were excluded from the study because they were over 5 years but failed the majority of the theory-of-mind tasks. Mean scores for each group on the standard theory-of-mind tasks are located in Table 1. The final sample size was 62 children.

All children finished both interviews in either one or two sessions held in an empty classroom. Children who appeared to be attentive and expressed a wish to continue were interviewed in one session. More often, children were interviewed in two sessions held within 1 week of each other. All interviews began with the standard false-belief tasks that were used to divide the children into groups, but all other portions of the two interviews were administered in random order to diminish any carryover effects.

Measures

Theory-of-mind tasks. A diverse desire task was used as a warm-up because it has been shown to be relatively easy for children this age (Wellman & Lui, 2004). This task asked children whether they preferred a cookie or a carrot. A doll was portrayed as preferring the opposite, and the child was asked which the doll preferred. The results were not included in the

Table 1. Proportion of participants who passed the standard theory-of-mind tasks by group

	False belief			Total out of 3
	Location change	False contents	Belief-emotion	
Young/no FB	.45	.05	.15	.65
Young/FB	1.00	.61	.70	2.30
Older/FB	.90	.68	.68	2.26

Note. FB = false belief.

data analysis. The standard theory-of-mind tasks included two false-belief tasks (contents and location) and an emotion-prediction false-belief task, all based on tasks used by Wellman and Liu.

The standard false-belief change-of-location task, "Maxi and the chocolate" (Wimmer & Perner, 1983), started with a sex-matched doll that puts some chocolate in a drawer. The task was modified to state that a neighbor steals the chocolate and puts it in his or her (opposite sex of the child) backpack. The drawer, chocolate, and backpack were represented with cutout pictures. To be scored as correct on this task, the child had to respond correctly to two questions: "Where will Maxi look for the chocolate?" (in the drawer) and the informational check "Where is the chocolate now?" (in the backpack). Children who answered both questions correctly were given a code of 1 for this task; children who were incorrect on either question were coded as 0 for this task.

A second false-belief task was an unexpected-contents task using a Band-Aid box that had Legos but no Band-Aids inside. After the child had examined the contents of the Band-Aid box, it was closed. A small doll was produced, and the experimenter then stated, "Now here's Pat. Pat has never seen inside the Band-Aid box. So what does Pat think is inside the box?" Children who responded "Band-Aids" and who correctly answered the informational question "Did Pat see inside the box?" were given a score of 1, and children who were incorrect on one or both of these questions were given a score of 0.

Finally, the last theory-of-mind task involved belief-emotion understanding. In this task, the sex-matched doll saw a Goldfish crackers box and exclaimed his or her love for Goldfish crackers. After the doll was put away, the child opened the Goldfish box and saw that there were rocks but no crackers inside. Information checks confirmed that the child understood that the box contained rocks and no crackers, and that the doll's favorite snack was Goldfish. Next, the doll came back for snack time. The child was asked how the doll would feel when he or she gets the box, and how the doll would feel when he or she sees what is inside. Children who answered that the doll would feel happy before and sad after looking in the box were coded 1; all other responses were coded 0. Children who gave a different answer were probed with the question "So would the doll feel happy or sad?"

Children who gave incorrect responses to information checks were corrected; however, the coding was based on their initial responses before correction. Children who passed two or more tasks were coded as having passed the standard theory-of-mind tasks. The belief-emotion task has been found to be particularly difficult for children at these ages (Wellman & Liu, 2004) and so children were not expected to pass all three tasks.

Moral, conventional, and factual belief tasks. The assessments of unusual beliefs in different domains were based on stories that corresponded to simple pictures (see Table 2 for examples). There were two types of stories: one with teacher protagonists and one with child protagonists. Each type of story assessed different domains and included different assessments, as Table 2 shows, so they were not compared. The teacher-protagonist stories included stories regarding violations of a conventional

Table 2. Interview script and drawings

Picture	Interview script	Question purpose
	Teacher protagonist	Initial assessment
	Is it not OK or OK to bite someone?	
	Well in one school there is a teacher who thinks it's OK for kids to bite each other.	Unusual false belief attribution
	She tells the kids, "OK, today biting is OK in our class."	
	Now, Dennis bites Kim.	
	Does the teacher think it's OK or not OK for Dennis to bite Kim?	
	If the teacher says biting is OK, is biting really OK or not OK?	Domain distinction
	Child protagonist	Initial assessment of violation
	Sam and Sara are outside where no teachers can see them.	
	Sam wants to kick Sara.	
	Is it OK for Sam to kick Sara?	
	If no one told him the rule against kicking, does Sam think it is OK or not OK to kick?	Predicting a norm-violating belief

Continued

Table 2. Interview script and drawings (*Continued*)

Picture	Interview script	Question purpose
	<p>Actually Sam does think it's OK to kick other kids. He thinks it's OK to kick and he kicks Sara.</p> <p>Does Sam think it's OK to kick?</p>	Unusual belief attribution

rule (standing during story time and wearing pajamas to school), violations of moral prescriptions against physical harm (pushing and biting) and unfairness (giving cookies to girls but not boys, and blocks to boys but not girls), and incorrect information (stating that dogs can fly and cats can read). The child-protagonist stories described unusual beliefs held by a child related to moral violations, including welfare (hitting and kicking) and sharing (sharing cupcakes or balloons with all but one child), and conventional violations (eating in the hallway, putting feet on the table). All children responded to all stories. Thus, each child heard all eight teacher-protagonist stories (two each of welfare, fairness, conventional, and informational), and all six child-protagonist stories (two each of welfare, sharing, and conventional), but the order of the stories was mixed.

The teacher-protagonist stories began with an assessment of the participants' own belief about the issue—that is, whether the violation was OK or the inaccuracy was true (e.g., “Is it OK or not OK to hit?” and “Do cats know how to read?”). Next a teacher was described who endorses the violation or inaccuracy. For example, here is the pajama story: “Well, here is a teacher who thinks it's OK for kids to wear PJs to school. She tells the kids, ‘Today is pajama day and it is OK to wear pajamas today.’ Jamie wears pajamas to school.” To assess unusual-belief understanding, the children were asked whether the teacher endorses the violation or inaccuracy (e.g., “Does the teacher think it is OK or not OK to wear pajamas?”). Finally, to assess whether children made distinctions between morality and social convention, the alterability of the rule (Turiel, 1983) was assessed by asking children whether the rule or fact can be changed. For example, they were asked, “If the teacher says wearing pajamas is OK, is wearing pajamas really OK or not OK?”

In the child-protagonist stories, each story was set up so that a violation takes place in a location where there are no teachers to see it (e.g., the lunchroom or the hallway). The interviewer first described a child who wanted to

violate a rule. Participants were then asked to evaluate the violations (For example, "Sam and Sara are outside where no teachers can see them. Sam wants to kick Sara. Is it OK for Sam to kick Sara?")

Next was an assessment of participants' predictions of beliefs. The goal with this question was to determine whether young children predict a belief about a rule from the norm or rule itself, or from a character's stated desire. Therefore, the character is described as wanting to commit a violation and not knowing the rule against it. (Table 2 shows an example of the exact wording of this question within the context of the interview.) Participants were asked whether this character thinks that the violation is OK or not OK. In the unusual-belief task for the child-protagonist stories, the character is described as endorsing the violation. Participants were then asked whether the character endorses the violation or not.

Responses were coded as 0 = not OK and 1 = OK, or 0 = incorrect and 1 = correct.

Procedures

Interviews were conducted at several preschools in western Pennsylvania. Interviewers were trained undergraduates and the author. One person conducted the interview, and one person coded the children's answers at the time of the interview.

Results

All judgments and understandings of rule-violation beliefs were analyzed by using mixed-measures ANOVA, with belief type and stories as repeated measures.¹ Significant main effects were analyzed by using Bonferroni matched-pair *t* tests. Interactions were followed up with ANOVAs using restricted samples, and Bonferroni corrected significance levels. Note that teacher and child-protagonist data were analyzed separately because the domains, assessments, and the protagonists differed.

First, we examined our assumption that children saw the rule violations as not OK and the inaccuracies as false, as expected. In judgments of whether social-rule violations are OK, most children in both types of stories (teacher protagonist, 89%; child protagonist, 89%) responded as expected

1. All responses were coded dichotomously, and Lunney (1970) found that ANOVAs are appropriate for dichotomous data as long as the proportion of the responses in the smaller category is over .20 or the degrees of freedom are over 40. The ANOVAs with dichotomous data here all meet at least one of these conditions.

that the violations were not OK (or not true in the case of unusual beliefs about facts), indicating that the beliefs presented were indeed unusual. In the teacher-protagonist stories, a 4 (Belief Type: welfare, fairness, conventional, factual) \times 2 (Stories) \times 3 (False-Belief Group: young/no FB, young/ FB, older children/FB) mixed-measures ANOVA showed that there was a significant main effect for Belief Type, $F(3, 168) = 14.49, p < .001, \eta^2 = .21$, which indicated that moral violations pertaining to welfare and incorrect factual beliefs did not differ but that both were seen as more unacceptable ($ps < .01$) than the fairness or conventional violations, which themselves did not differ (welfare: $M = .03, SD = .14$; fairness: $M = .25, SD = .34$; conventional: $M = .15, SD = .26$; factual: $M = .02, SD = .09$).

A similar pattern was found in the child-protagonist stories, where 3 (Belief Type: welfare, sharing, conventional) \times 2 (Stories) \times 3 (False-Belief Group: young/no FB, young/ FB, older children/FB) mixed-measures ANOVA indicated that there was again a main effect for Belief Type, $F(2, 112) = 14.63, p < .001, \eta^2 = .21$. This indicated that not sharing was more likely to be judged OK ($M = .24, SD = .34$) than violations of welfare ($M = .04, SD = .12, p < .001$) or conventions ($M = .05, SD = .17, p = .001$). There were no differences between any of the age/FB groups in these judgments.

A second check on assumptions confirmed that participants made social domain distinctions. This was assessed only in the stories with the teacher as the protagonist. Most children (75%) judged that the violations were wrong even if a teacher said they were OK or true. However, as expected, in a 4 (Belief Type: welfare, fairness, conventional, factual) \times 2 (Stories) \times 3 (False-Belief Group: young/no FB, young/ FB, older children/FB) mixed-measures ANOVA, there was a main effect for Belief Type, $F(3, 165) = 20.55, p < .001, \eta^2 = .27$, which indicated that conventional violations ($M = .47, SD = .43$) were seen as alterable by the teacher more than the other domains ($p < .001$ for welfare, $M = .19, SD = .34, p < .001$ for factual $M = .06, SD = .22$, and $p = .018$ fairness, $M = .28, SD = .38$). Factual beliefs were also seen as less alterable than beliefs about fairness ($p < .001$).

Understanding That Others Hold Unusual Beliefs

In the examination of understanding that teachers can hold an unusual belief, 57% of the children answered correctly that the teacher held an unusual belief about the social rule or fact. A 4 (Belief Type: welfare, fairness, conventional, factual) \times 2 (Stories) \times 3 (False-Belief Group: young/no FB, young/ FB, older children/FB) mixed-measures ANOVA showed a main effect for the False-Belief Group, $F(2, 56) = 8.40, p < .001, \eta^2 = .23$, which indicated that older/FB children were more likely to answer correctly that the teacher held

an unusual belief than the young group/no FB ($p < .001$) or the young/FB group ($p = .030$) (see Table 3 for means). The difference between the young groups was not significant. A one-sample t test indicated that the older/FB children were the only group to perform above chance (.50), $t(17) = 4.55$, $p < .001$. See Figure 1 for a visual display of these data. There were no effects for belief type, indicating that unusual moral and conventional beliefs and false informational beliefs were about equally difficult for young children. See Table 3 for the means for each domain within each group.

In the examination of participants' understanding of a child's unusual beliefs, participants frequently (52%) thought that a child, who was described in the story as approving of a rule violation, did not approve of the rule violation. A 3 (for child-protagonist Belief Type: welfare, sharing, conventional) \times 2 (Stories) \times 3 (False-Belief Group: young/no FB, young/ FB, older children/FB) mixed-measures ANOVA showed a main effect for Belief Type, $F(2, 102) = 5.35$, $p = .006$, $\eta^2 = .10$, which indicated that participants had more difficulty understanding that a child would approve of harming someone (welfare) ($M = .42$, $SD = .43$) than that a child would approve of breaking a conventional school rule ($M = .57$, $SD = .43$, $p = .017$) or an unusual sharing belief ($M = .57$, $SD = .37$, $p = .030$). A main effect for False-Belief Group, $F(2, 51) = 8.44$, $p = .001$, $\eta^2 = .25$, indicated that the young/no FB

Table 3. Proportions (and SDs) of participants who correctly attribute the unusual belief by domains

		Young/no FB	Young/FB	Older/FB
<i>Teacher protagonist</i>				
Moral	Welfare	.45 (.39)	.57 (.45)	.81* (.30)
	Fairness	.45 (.36)	.43 (.43)	.72* (.35)
Social conventional		.48 (.44)	.62 (.39)	.83* (.34)
Informational		.25* (.34)	.52 (.37)	.75* (.35)
Total		.41 _a (.28)	.54 _a (.31)	.78 _b * (.26)
<i>Child protagonist</i>				
Moral	Welfare	.20* (.34)	.41 (.43)	.64 (.41)
	Sharing	.44 (.36)	.54 (.37)	.72* (.31)
Social conventional		.32 (.41)	.59 (.44)	.81* (.34)
Total		.32 _a * (.28)	.51 _{a,b} (.32)	.72 _b * (.30)

Note. Subscripts that differ indicate that means differ at $p < .01$.

*Means differ from chance (.5) at $p < .05$. FB = false belief.

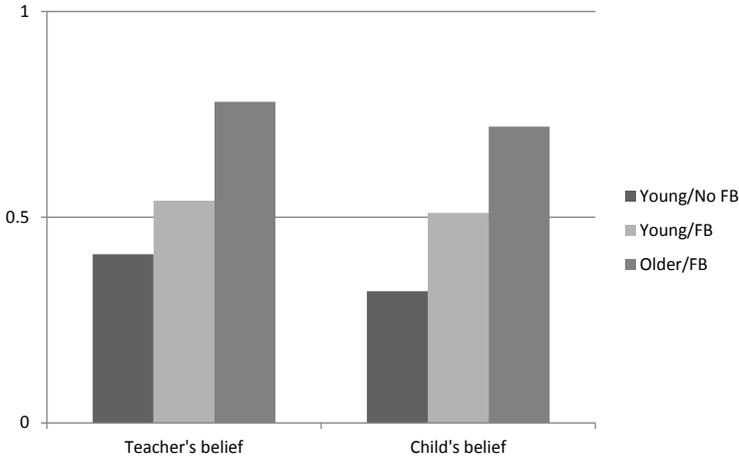


Figure 1. Proportion of participants who correctly attribute the unusual belief over all domains. FB = false belief.

children were less likely than the older/FB children to answer correctly that the character believed the violation was OK, as stated in the story ($p < .001$). The young/FB group did not differ from the other groups. Means for these comparisons are listed in Table 3. A one-sample t test indicated that only the older/FB children, $t(17) = 3.17, p = .006$, performed above chance (.50), although the young/no FB group performed more poorly than would be expected by chance, $t(19) = -2.81, p = .011$. Table 3 also lists these means, and displays the group differences.

Prediction of a Belief Accepting a Rule Violation

The second assessment of unusual belief understanding was examined in the child-protagonist stories by asking participants to predict a child's belief about the rule when the child has not been told the rule and has a desire to violate it: 58% stated that the character thought the violation was not OK. In a 3 (Belief Type: welfare, sharing, conventional) \times 2 (Stories) \times 3 (False-Belief Group: young/no FB, young/FB, older children/FB) mixed-measures ANOVA, a main effect for False-Belief Group, $F(2, 53) = 9.14, p < .001, \eta^2 = .26$, indicated that the older/FB group expected the character to judge the violation as OK more than did the young/FB group ($p = .011$) or young/no FB group ($p < .001$), as Table 4 shows.

This main effect was qualified by a marginally significant Belief type \times False-Belief Group interaction, $F(4, 106) = 2.46, p = .061, \eta^2 = .09$. This effect was examined further because it is central to our investigation. Follow-up analyses (with standard Bonferroni corrections so that

Table 4. Proportions (and *SDs*) of predictions of a belief that rule violations is acceptable

		Young/no FB	Young/FB	Older/FB
Moral	Welfare	.20* _a (.34)	.23* _a (.38)	.63 _b (.37)
	Sharing	.41 _a (.45)	.49 _a (.44)	.58 _a (.38)
Social conventional		.16* _a (.29)	.34 _a (.43)	.71* _b (.35)
Total		.26* _a (.25)	.39 _a (.33)	.64 _b (.31)

Note. Subscripts that differ indicate that means differ at $p < .01$.

*Means differ from chance (.5) at $p < .05$. FB = false belief.<

the alpha was set at .017) indicated that, within the welfare issues and the conventional domain, the older/FB children were significantly more likely than both younger groups ($p < .01$) to say that the character believed that the violation was OK. However, the older group performed above chance for only the conventional issues, as Table 4 shows. There were no differences between the two younger groups and there were no differences by the False-Belief Group at all within the belief type of sharing. Table 4 lists the means and mean comparisons for each group across domains. Overall, the ability to predict an unusual belief endorsing a violation of social rules increases with age for moral and conventional domains, but predicting this belief is more likely for the most plausible topic: sharing.

Discussion

The study was designed to test whether children who are capable of standard false-belief understanding also understand that people can hold unusual beliefs in the moral, conventional, multifaceted, and factual domains. The results showed that all of the tasks assessing understanding of unusual beliefs about social rules were difficult for children under age 5, including those who passed standard false-belief tasks. Younger children around age 4 who passed standard false-belief tasks did not correctly attribute the unusual beliefs tested here significantly more than chance or more than children who did not pass standard false-belief tasks. This is even though the protocol involved a statement of the character's unusual belief immediately followed by a request for a restatement of what the character believed. Some research (Jaswal, Croft, Setia, & Cole, 2010) suggests that young children have a bias toward trusting what others tell them, but in this case the children did not appear to accept the interviewer's testimony about the unusual belief of the character. Only the older group over age 5 performed

above chance in understanding that people can hold unusual beliefs about social rules. This seems to indicate that children find beliefs that endorse rule violations to be more difficult to comprehend than plausible mistakes in knowledge.

Thus, consistent with the findings by Wainryb and Ford (1998), passing standard false-belief tasks appears insufficient to understand that people can hold unusual beliefs. These findings differ from those reported by Flavell et al. (1992), where the sample of 4-year-olds may have included children who could have passed standard false-belief tasks. The current study improves on Flavell et al.'s methods by comparing children at the same age who both do and do not pass standard false-belief tasks.

Still, the means in the current study seem to indicate that understanding standard false beliefs is helpful in understanding false beliefs about moral and conventional events, but that further development is required for children to respond to these questions at a level that is above chance. The social rules that were tested may seem to young children to be relatively agreed upon, and therefore it may seem implausible to children that someone could be ignorant of the rule. They may need more social experiences to understand that people have different perspectives on rules. However, the variability of opinions children have encountered about these rules could differ depending on the domain. The next section examines whether children's understanding of the subjective nature of social rules differs depending on the domain.

Understanding Unusual Beliefs in Different Social Domains

Consistent with past research (Smetana, 2006), children made domain distinctions in their own judgments of the acceptability of the violations, in that they saw moral violations involving physical harm as unacceptable more than other types of rule violations. They also made domain distinctions in terms of alterability: They often judged that a teacher can alter a conventional rule, but moral rules protecting the welfare of others were very rarely seen as alterable by teachers. Thus, the children did reason about the domains differently in terms of their judgments about the acceptability and alterability of social rules. One central question of this research is whether these domain distinctions in their judgments would also be reflected in their ability to understand unusual beliefs about different types of social rules.

Young children were expected to have more difficulty understanding a belief that a moral violation was acceptable than that a conventional violation was acceptable, because the alterability of conventional beliefs would seem to make diverse conventional beliefs more plausible. This difference

was found in children's judgments about a child's beliefs but not in their judgments of a teacher's beliefs. When a teacher was described as holding the unusual belief, participants did not differentiate among the domains: The younger children did not perform above chance in their understanding of any of a teacher's unusual beliefs. Although both the child and the teacher stories did not involve any explanation of the reason for the endorsement of a rule violation, children may have inferred that a teacher would have a good reason for changing either type of rule for the whole class. Young children without false-belief understanding performed *worse* than chance in their attributions of unusual informational beliefs to a teacher. This may be because the young/ no FB children had the most difficulty appreciating that a teacher could hold an inaccurate belief when teachers are often the source of such knowledge, especially given that this group was also unable to pass standard false-belief tasks that require understanding a more plausible mistaken belief.

When it was a child who held the unusual beliefs, children across all age/FB groups had more difficulty understanding the child's endorsement of the welfare issues (hitting and kicking) than the conventional or sharing issues. Research in moral development (Smetana, 2006; Turiel, 2006) shows that moral judgments about harm are constructed from interactions with the world, where the consequences for harm are inherent in the act and do not depend on the context for the consequence (since harm causes pain in all cultures). Even young children recognize the generalizability of moral beliefs (Smetana, 2006), which is an indication that they see moral beliefs, such as prohibitions against harming others, as applying across situations. Therefore, children may infer that these beliefs are widely held. The results of current research are consistent with those findings, showing that children find it more difficult to attribute an unusual moral belief to a child than unusual conventional or sharing beliefs.

Conventional and sharing beliefs may be more easily seen as subjective since disputes over sharing are common (Ramsey, 1987), and conventional rules change in different contexts, making differences in those beliefs more plausible. When beliefs that are not in line with rules are more plausible, they may be easier for children to understand perhaps because children construct an idea of the beliefs in the domain as being either subjective or universal. With moral issues involving inherent, universal consequences, and with little exposure to ideas that endorse harm, children may not judge these beliefs to be as subjective as conventional or sharing beliefs.

Children had just as much difficulty understanding unusual informational beliefs as they did unusual sociomoral beliefs, perhaps because the informational beliefs presented to the children were implausible. Children may make judgments about how plausible a belief is

based on their own experience with different beliefs in that domain. Research on moral reasoning has shown that more familiar scenarios are easier for children (Davidson, Turiel, & Black, 1983), and familiar beliefs may also be seen as more plausible, making the tasks less cognitively demanding (Flavell et al., 1992).

Predicting Beliefs

Age and domain differences were also found in young children's predictions of beliefs endorsing rule violations. Beginning with the age differences, the results showed that young children, but not older children, often predict that a character's belief will be consistent with the social rule. These results are consistent with Kalish and colleagues' view that young children conflate obligations and mental states (Kalish & Cornelius, 2007; Kalish & Shiverick, 2004). In the current study, the children were presented with evidence that a character had a desire that was contrary to the norm and was ignorant of the norm, and yet the young children used the norm to predict the character's belief. The young children's responses were not, strictly speaking, incorrect. The character could be ignorant of the rule and have a wicked desire but still believe the violation was wrong. However, the younger children in the current study understood the characters' beliefs differently than did the older children, who were more likely to state that the character would believe that the violation was acceptable.

Children were expected to make different predictions about beliefs in different domains. In past research, children judged that moral violations are wrong regardless of whether the perpetrator knew the rule (Smetana, 1981). It may be a sign of advanced thinking to anticipate that the character would know not to hurt others even without being told. Although the older children predicted that the character believed that a moral violation was acceptable more than did younger children, the means for both welfare and the multifaceted issue of sharing (which involved injustice and personal preferences) were not above chance. Yuill, Perner, Pearson, Peerbhoy, and van den Ende (1996) found that 5-year-olds can appreciate that a character with a wicked desire could feel either happy or remorseful after engaging in a violation, depending on the salience of the morality of the issue. This may be reflected in the inconsistent responses of the 5-year-olds to the moral situations in the current study, where some children may have focused on the inherent harm involved and others may have focused on the character's wicked desire and lack of knowledge of the rule. The ability to balance these elements of the question may require further development. Several studies have shown that children do not understand mixed

or conflicting emotions until after age 7 (Choe, Kiel, & Bloom, 2005; Harter & Buddin, 1987). Understanding the conflict between the desire to violate a rule and a belief that the violation is unacceptable may have been similarly difficult for the 5-year-olds in the current study.

Predicting unusual beliefs about conventional rules was expected to be easier. Past research has shown that children do not expect others to know about conventional rules without being told (Smetana, 1981). The results confirm that the only domain where predictions rose above chance, and only among the older children, was the conventional domain in which children predicted the belief that conventional violations were acceptable. This is in contrast to the child-protagonist stories, where, across all ages, unusual convention beliefs were easier for children to accept than unusual moral beliefs.

The sharing stories differed from the other domains for the younger children. Children's familiarity with the issues involved in sharing may have led them to consider beliefs that endorse a violation of fairness. Sharing also involves the issue of ownership. Despite the explicit unfairness of a child sharing with all but one person, the child is described as owning the balloons or cupcakes, and therefore children may have judged that the child did not have an obligation to share. Thus, they may have seen the issues of sharing as involving both the moral and the personal domains, making these issues more ambiguous. Some research shows that, with increasing age, children are more capable of appreciating that an owner holds the rights to make decisions about the property (Kim & Kalish, 2009), which may indicate that the age trend reflected the older participants' belief that owners were not required to share.

The obligatory characteristics of social rules may make unusual beliefs that involve social rules difficult, and this difficulty was particularly true for the issues that were most implausible: the welfare issues and conventional issues. In regard to these two issues, but not sharing issues, both of the younger groups predicted that someone with a desire to violate a rule who did not know the rule would still endorse the rule. Thus, in the terms of Kalish and Cornelius (2007), young children seem to have difficulty incorporating subjectivity in terms of the desires and knowledge of the actor with the objectivity of the reality of the rule. Previous researchers (Yuill et al., 1996) have suggested that young children are more oriented toward the objective rules, and they focus less on the subjective desire of the perpetrator, and these results support that explanation. Yuill et al. (1996) have also suggested that the ability to understand mixed emotions may play a part in understanding wicked desires.

Overall, the difficulty in understanding unusual beliefs for the young children may be attributed to several possible explanations. Children do seem to consider the lack of plausibility of some types of unusual

social-rule beliefs, with more ambiguous issues like sharing being easier to accept than less plausible beliefs endorsing harm or clearly inaccurate facts. The characteristics of obligatory rules, where children may resort to norms to predict beliefs about some social rules, may have also had an effect. At times, the different characteristics of different domains, including the flexibility of conventional as compared to moral rules, also seemed to be relevant. In particular, older children were more capable of predicting and understanding a child protagonist's belief of unusual conventional beliefs than unusual moral beliefs entailing an endorsement of harm. Thus, for older children, using norms to predict beliefs may be more common for moral than conventional beliefs perhaps because moral norms are based on inherent consequences. However, young children had difficulty predicting both social conventional and welfare beliefs, and, judging by the means, predicting was also more difficult than understanding unusual beliefs perhaps because understanding requires repeating back information that is provided, whereas predicting requires more speculation.

The current study could not identify definitively the specific reasons why understanding unusual beliefs is difficult, and future research should examine the reasons children give for attributing norm-consistent beliefs to characters who have just endorsed a violation. In their predictions of beliefs, children may be assuming that a character would know that welfare violations cause harm to others, or they may assume that sociomoral beliefs are usually consistent with norms. In fact, some research (Boseovski & Lee, 2008) shows that preschool-aged children may have a positivity bias that inclines them to think everyone is nice, even in the face of contrary evidence. Asking children for justifications might help to clarify whether they truly lack the understanding that nonnormative beliefs about rules are possible or whether they assume that the evidence for nonnormative beliefs is not sufficient or is inaccurate. Future research should test these possibilities.

Social conflicts often occur because people have different beliefs about what they ought to do. An important part of development is understanding that people can legitimately differ in their views about their obligations. Children need to understand that someone who appears to be acting wrongly may have a different belief about how to act—that is, they may have a different belief about what the right thing to do is. Alternately, a person who appears to be acting wrongly may be acting in concert or in opposition to their own belief. Understanding unusual sociomoral beliefs is part of the nuanced understandings required for children to appreciate differences in beliefs about social rules across different people, as well as differences between beliefs and desires within each person.

References

- Blair, R. J. R. (1996). Brief report: Morality in the autistic child. *Journal of Autism and Developmental Disorders*, *26*, 571–579. doi:10.1007/BF02172277
- Boseovski, J. J., & Lee, K. (2008). Seeing the world through rose-colored glasses? Neglect of consensus information in young children's personality judgments. *Social Development*, *17*, 399–416. doi:10.1111/j.1467-9507.2007.00431.x
- Choe, K. S., Kiel, F. C., & Bloom, P. (2005). Children's understanding of the Ulysses conflict. *Developmental Science*, *8*, 387–392. doi:10.1111/j.1467-7687.2005.00426.x
- Conry-Murray, C., & Smetana, J. (2008). Going out of your mind: Broadening the social in social reasoning. *Human Development*, *51*, 136–142. doi:10.1159/000115959
- Davidson, P., Turiel, E., & Black, A. (1983). The effect of stimulus familiarity of criteria and justifications in children's social reasoning. *British Journal of Developmental Psychology*, *1*, 49–65. doi:10.1111/j.2044-835X.1983.tb00543.x
- Flavell, J. H., Mumme, D. L., Green, F. L., & Flavell, E. R. (1992). Young children's understanding of different types of beliefs. *Child Development*, *63*, 960–977. doi:10.2307/1131247
- Harter, S., & Buddin, B. J. (1987). Children's understanding of the simultaneity of two emotions: A five-stage developmental acquisition sequence. *Developmental Psychology*, *23*, 388–399. doi:10.1037/0012-1649.23.3.388
- Jaswal, V. K., Croft, C. A., Setia, A. R., & Cole, C. A. (2010). Young children have a specific, highly robust bias to trust testimony. *Psychological Science*, *21*, 1541–1547. doi:10.1177/0956797610383438
- Kalish, C. W., & Cornelius, R. (2007). What is to be done? Children's ascriptions of conventional obligations. *Child Development*, *78*, 859–878. doi:10.1111/j.1467-8624.2007.01037.x
- Kalish, C. W., & Shiverick, S. M. (2004). Children's reasoning about norms and traits as motives for behavior. *Cognitive Development*, *19*, 401–416. doi:10.1016/j.cogdev.2004.05.004
- Killen, M., Mulvey, K. L., Richardson, C. B., Jampol, N., & Woodward, A. (2011). The “accidental transgressor”: Morally-relevant theory of mind. *Cognition*, *119*, 197–215. doi:10.1016/j.cognition.2011.01.006
- Kim, S., & Kalish, C. W. (2009). Children's ascriptions of property rights with changes of ownership. *Cognitive Development*, *24*, 322–336. doi:10.1016/j.cogdev.2009.03.004
- Laupa, M. (1995). Children reasoning about authority in home and school contexts. *Social Development*, *4*, 1–16. doi:10.1111/j.1467-9507.1995.tb00047.x
- Leslie, A. M., Knobe, J., & Cohen, A. (2006). Acting intentionally and the side-effect effect: Theory of mind and moral judgment. *Psychological Science*, *17*, 421–427. doi:10.1111/j.1467-9280.2006.01722.x

- Lunney, G. H. (1970). Using analysis of variance with a dichotomous dependent variable: An empirical study. *Journal of Educational Measurement, 7*, 263–269. doi:10.1111/j.1745-3984.1970.tb00727.x
- Ramsey, P. G. (1987). Possession episodes in young children's social interactions. *Journal of Genetic Psychology: Research and Theory on Human Development, 148*, 315–324. doi:10.1080/00221325.1987.9914561
- Smetana, J. (1981). Preschool children's conceptions of moral and social rules. *Child Development, 52*, 1333–1336. doi:10.2307/1129527
- Smetana, J. (2006). Social-cognitive domain theory: Consistencies and variations in children's moral and social judgments. In M. Killen & J. Smetana (Eds.), *Handbook of moral development* (pp. 119–153). Mahwah, NJ: Erlbaum.
- Smetana, J., Jambon, M., Conry-Murray, C., & Sturge-Apple, M. (2012). Reciprocal associations between young children's moral judgments and their developing theory of mind. *Developmental Psychology, 48*, 1133–1144 doi:10.1037/a0025
- Turiel, E. (1983). *The development of social knowledge: Morality and convention*. Cambridge: Cambridge University Press.
- Turiel, E. (2006). The development of morality. In W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (6th ed., pp. 789–857). New York: Wiley.
- Wainryb, C., & Ford, S. (1998). Young children's evaluations of acts based on beliefs different from their own. *Merrill-Palmer Quarterly, 44*, 484–503.
- Wellman, H. M., Cross, D., & Watson, J. (2001). Meta-analysis of theory-of-mind development: The truth about false belief. *Child Development, 72*, 655–684. doi:10.1111/1467-8624.00304
- Wellman, H. M., & Liu, D. (2004). Scaling of theory-of-mind tasks. *Child Development, 75*, 523–541. doi:10.1159/000115958
- Wellman, H. M., & Miller, J. G. (2008). Including deontic reasoning as fundamental to theory of mind. *Human Development, 51*, 136–142. doi:10.1159/000115958
- Wimmer, H., & Perner, J. (1983). Beliefs about beliefs: Representation and constraining function of wrong beliefs in young children's understanding of deception. *Cognition, 13*, 103–128. doi:10.1016/0010-0277(83)90004-5
- Yuill, N., Perner, J., Pearson, A., Peerbhoy, D., & van den Ende, J. (1996). Children's changing understanding of wicked desires: From objective to subjective and moral. *British Journal of Developmental Psychology, 14*, 457–475. doi:10.1111/j.2044-835X.1996.tb00718.x

Copyright of Merrill-Palmer Quarterly is the property of Wayne State University Press and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.