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Early Understanding of Normativity and Freedom to Act in Turkish Toddlers

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Two studies investigated young 2- and 3-year-old Turkish children's developing understanding of normativity and freedom to act in games. As expected, children, especially 3-year-olds, protested more when there was a norm violation than when there was none. Surprisingly, however, no decrease in normative protest was observed even when the actor violated the norms due to a physical constraint, and not due to unwillingness. The increase in helping responses in this case lends support to the idea that at these ages, children could not yet incorporate an actor's freedom to act in line with his will as they respond to norm transgressions. The results of the two studies are discussed in the light of two general research issues: a) the importance of cross-cultural research, and b) the interaction of the cognitive system with the emotional-empathic system in development.

Children are born into a world full of institutional realities such as marriage, the use of money, and maybe the most salient among all, language. In children's worlds, rule-governed games, specifically pretense play, are the most closely linked representations of these institutional realities. This idea is based on the similarity of underlying structures of both institutional realities and children's games, in particular, that of constituting rules and status function ascriptions (Searle, 1995). Further, these two factors set the stage for normativity, because they not only define the correct and incorrect actions in a given context, but also allow demanding third parties to act according to the norms. Hence, children's conventionally rule-governed games can be used to assess their understanding of normativity.

Recent studies show that children comprehend and normatively apply status functions to objects starting from 2 years of age (Rakoczy, 2008; Rakoczy, Tomasello, & Striano, 2005). At 3 years, this understanding is enhanced by reacting to norm violations selectively (i.e., in relevant contexts only; Rakoczy, Brosche, Warneken, & Tomasello, 2009; Rakoczy & Tomasello, 2009;

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Wyman, Rakoczy, & Tomasello, 2009). For instance, Rakoczy, Warneken, and Tomasello (2008) found that children protested to a norm-violating actor more when the rules of a game were explicitly marked as ''correct'' and ''incorrect,'' as opposed to when the same actions were marked as two equally neutral ways of playing the game. Moreover, a developmental pattern was observed such that 3-year-olds' reactions were found to be more pronounced than those of 2-year-olds.

Although these findings reveal that children start developing an understanding of normativity at 2 years of age, they are confined to one cultural context—namely, German culture. By definition, the contents of norms are highly culture-dependent (Searle, 1995). Hence, there is a need to investigate any potential differences that may be observed in the developmental pattern across cultures. To the best of our knowledge, there are but a few studies investigating children's developing understanding of normativity in non-German cultures (e.g., U.S. sample: Casler, Terziyan, & Greene, 2009; Swedish sample: Kenward, 2012). Both of these studies reveal that similar to what is observed in German samples, normative understanding emerges in American and Swedish children at 2 to 3 years of age. To widen the scope of such cross-cultural investigations, we conducted two studies in a Middle Eastern culture (i.e., Turkish culture). Differently from the previously tested populations, Turkey may represent an interesting case in the sense of being a non-Western culture, having both ''collectivistic'' and ''individualistic'' properties (Göregenli, 1997; Oyserman, Coon, & Kemmelmeier, 2002). Due to stronger self-identification with the society in a collectivistic culture, one might expect increased commitment to others and group-related constructs. Moreover, Turkish culture has been marked with a high respect for authority (Kağıtçıbaşı, 1970), which may imply a stronger conformance to norms in adults and, developmentally, to an earlier sensitivity to the normative force of rules in young children. To test any potential effects that may arise from these cultural parameters, the first study adopted the aforementioned method applied by Rakoczy et al. (2008). In two contrasting conditions, children were either initially instructed about the correct and incorrect ways of playing a game (experimental condition), or the same actions were presented as two different and legitimate ways of playing the game (control condition). Children's responses to norm violations by a third party (i.e., a puppet) as it played the game were then investigated. It was expected that children would protest more when the puppet violated the norms of the game than when it performed the same action in the control condition, and that 3-year-olds would protest more than would 2-year-olds.

The second study investigated how normative understanding interacts with other aspects of social cognition. Do children take into consideration the actor's freedom to act as they protest against norm violations? From as early as 9 months old, infants infer whether an individual was the cause of an action or whether the action occurred accidentally (Behne, Carpenter, Call, & Tomasello, 2005). At 10 to 18 months of age, they further discern the specific intentions behind others' actions (Baldwin, Baird, Saylor, & Clark, 2001; Meltzoff, 1995). Through preschool ages, children gain an even more elaborate understanding of the link between intentions and consequential actions, as reflected in their differential responses to intended versus nonintended actions; they selectively imitate only the intended ones (Gardiner, Greif, & Bjorklund, 2011). Within the domain of the development of normative understanding, 3- and 4-year-old children are shown to distinguish between intentional and accidental norm violations (Nunez & Harris, 1998) and to acknowledge that the actor could not have done otherwise, regardless of his desires or intentions, when the action was physically impossible (Kushnir, Wellman, & Chernyak, 2009).

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Yet, we do not know whether children actually apply this reasoning in their own responses to norm violations as they partake in the interaction. Hence, in the second study, it was predicted that if normative understanding is integrated into the understanding of an actor's intentions and freedom to act in line with his will, children should respond differently to a norm transgression. To implement this idea, the same method as in the first study was applied, with the crucial difference being that the puppet lacked freedom to act in one condition. A physical constraint was imposed on the puppet by binding his hands such that he could not use them. The role of a physical constraint of an actor in the reasoning processes in children has also been studied in the context of rational imitation, which showed that children differentially infer the underlying intentions as people perform actions in physically constrained versus free to act conditions (Gergely, Bekkering, & Király, 2002). Thus, in our study, we hypothesized that when the puppet violated the norms in the physically constrained condition, there would be a decrease in the normative protests and, conversely, an increase in helping reactions.

In a broader perspective, the present study has two aims. First, in line with recent criticism of conducting behavioral research only with culturally and demographically restricted samples (Henrich, Heine, & Norenzayan, 2010), we broaden the empirical basis on early understanding of normativity in children by presenting cross-cultural data from a Turkish sample. Second, in line with the general criticism on narrowly constrained cognitivist and computationally centered accounts in cognitive development, we also broaden the explanatory basis of early understanding of normativity by relating it to other sociocognitive skills. Namely, we investigate how normative understanding relates to emotional-empathic skills by measuring children's helping tendencies in response to someone in need.

STUDY 1

Method

Participants. Twenty-six 2-year-olds (range = 1;8–2;3, $M_{age} = 2;1$, $SD = 2.16$ months; 12 boys, 14 girls), and twenty-seven 3-year-olds (range = 2;8–3;4, $M_{age} = 3;1$, $SD = 2.4$ months; 16 boys, 11 girls) participated in the study. For the sake of comparability with Rakoczy et al.'s (2008) results, it is important to note that their sample had a mean age of 2;2 for 2-year-olds, and a mean age of 3;1 for the older group. Four additional children were tested but excluded from the analysis either because they were uncooperative (1) or because they were too inattentive to complete the tasks (3). All participants were native Turkish speakers recruited from kindergartens in different regions of Ankara and were from mixed socioeconomic backgrounds.

Tasks. One session consisted of two phases: the warm-up phase and the target phase, each of which involved four games (see the Appendix). The difference between the warm-up and target tasks was that in the warm-up tasks, the incorrect ways of playing the games were due to some instrumental error such as forgetting to use a piece of the toy, whereas in the target tasks, it was due to violating the norms of the game. To highlight the normative aspect, only in the target tasks were the children informed about both the correct and incorrect ways of playing before they played the games themselves. Moreover, each target task had an arbitrary name, with no meaning in real life (e.g., ''daxing,'' ''daklama,'' as used in Turkish).

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Children were tested individually in a quiet room in their kindergartens. Every child was presented with all eight of the games during the session. Throughout the sessions, Experimenter 1 (E1) was the main person to communicate with the child and introduce the games, while Experimenter 2 (E2) was the person to control the puppet, whose name was ''Ali.''[1]

Rakoczy et al.'s (2008, Study 1) procedure was used. The sessions began with the warm-up tasks to familiarize children with the experimenters. Each warm-up game was introduced one by one, making the child get used to the sequential playing of E1 first, the child next, and Ali last. Importantly, in all but one game, Ali made some mistakes, which prompted children to feel more comfortable in interfering with his wrongdoings. Children were also encouraged to play and talk to Ali during this phase. In the target phase, each child was presented with both experimental and control conditions in alternating order. Game allocation to experimental and control conditions was done randomly. A within-subjects model was especially preferred, because it enabled us to see the change in the responses of every child in normative vs. neutral context. The games in the experimental condition had a normative structure with ''correct'' and ''incorrect'' ways of playing with them, whereas those in the control condition did not have any such rules and both ways of playing were introduced as equally legitimate. In the experimental condition, E1 first showed the child the correct way (A1) of playing, e.g., how to dax, while continuously saying: ''Now, I am daxing'' and ''I daxed'' to overtly mark the progress of her actions. Immediately after this, E1 displayed the incorrect way of playing with the toy (A2) and uttered, ''Oops! This is not how daxing goes.'' Both A1 and A2 were shown once more, and each child was shown the correct way of playing for the last time before it was her turn to play. After the child played with the toy two times, Ali asked if he could also dax, and started performing A2, while continuously saying that he daxed. To avoid children referring back to E1 to get support for further protest, E1 turned her back to the play setting and was occupied with some irrelevant task as Ali played.

In the control condition, E1 introduced both A1 and A2 in a neutral manner and marked both actions as equally acceptable ways of playing, with such expressions as, ''We can play with this toy in this way, or we can also play with it in that way.'' Later, the child was allowed to play. When it was Ali's turn, he performed A2 two times, which was an allowed action in this condition. To avoid a difference in terms of the amount of speech across conditions, Ali joyfully uttered such sentences as, ''I am playing with this toy now'' in the control condition.

Coding. The coding scheme was identical to the one used by Rakoczy et al. (2008). To assess children's reactions to the puppet's norm violations, each game in the experimental phase was initially divided into six subphases. Each subphase was then coded as one of the four hierarchical categories: normative protest, imperative protest, hints of protest, or no protest. For instance, normative protests consisted of attempts to teach Ali how to play with the toy correctly or statements such as, ''No, you do it wrongly. You must play it like this.'' Imperative protest was taken as a less normative form of protesting and was marked by expressions such as, ''(Do not) do this.'' All other cues indicating the beginning of a protest such as reaching for the correct objects, offering them to Ali, or seeking help from E1 were counted as hints of protest. After all of the subphases received a code, the one that was highest in the hierarchy was taken to be the code for the whole trial. Among approximately 20% of participants from

[1]''Ali'' is a common male name with no distinctive meaning in Turkish.

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each age group, interrater reliability for each protest category was assessed with a second person blind to conditions (*Kappa* = .82).

Results and Discussion

A 2 (age) × 2 (condition) analysis of variance (ANOVA) on the mean sum scores of normative protest revealed a main effect of age, $F(1, 51) = 8.75, p < .01, \eta_p^2 = .15$, a main effect of condition, $F(1, 51) = 28.36, p < .001, \eta_p^2 = .36$, and an interaction effect, $F(1, 51) = 6.18, p < .05, \eta_p^2 = .11$. Three-year-old children showed more normative protest ($M = 0.52$, $SD = 0.75$) than did 2-year-olds ($M = 0.18$, $SD = 0.43$). Children in the experimental condition showed more normative protest ($M = 0.60$, $SD = 0.74$) than did children in the control condition ($M = 0.09$, $SD = 0.35$). Planned comparisons revealed further that 3-year-olds, $F(1, 51) = 3.10, p < .001$, differed in experimental and control conditions and 2-year-olds, $F(1, 51) = 3.96, p = .052$, differed marginally. The mean sum scores of each protest category are provided in Figure 1.

Both age groups protested more in a normative context (experimental condition) than when the game rules were presented as equally legitimate (control condition). That the results were nearly significant for 2-year-olds points to the beginnings of normative understanding at this age. Considering the significant difference between experimental and control conditions only for the older age group, it can be concluded that 3-year-old children appreciated the normative dimension more than did the younger group.

A complementary analysis was conducted to assess the correlation between children's explicit or implicit protest in the warm-up trials, and their normative or imperative protest in the experimental trials ($r_s = .52, p < .01$). This correlation may indicate that children who refrained from protesting in the experimental tasks might have done so to some extent due to a general

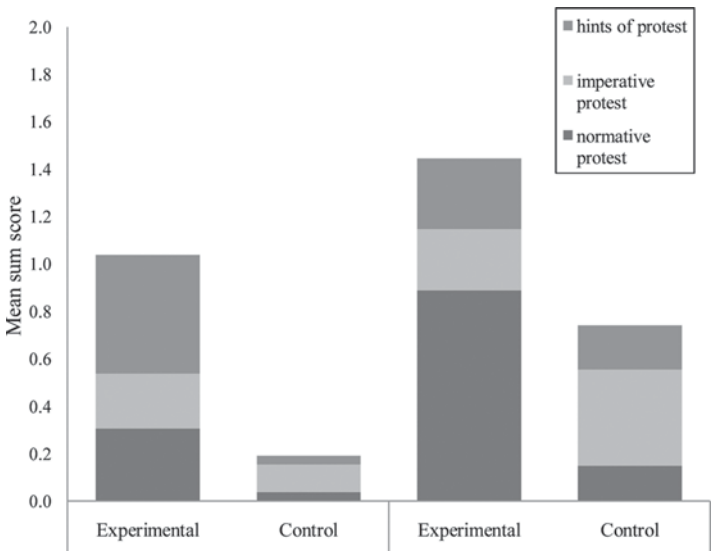

FIGURE 1 Mean sum scores (0–2) of all forms of protests in the target tasks of Study 1.

reluctance to intervene. Overall, the results of this study display an almost perfect fit to those of Rakoczy et al.'s (2008, Study 1).

STUDY 2

Building on the first study, we investigated whether children also appreciate the norm-violating actor's freedom to act when making evaluations about norm transgressions. Previous research suggests that by 2 years of age, children detect whether a norm violation is caused intentionally or due to another physical constraint (Nunez & Harris, 1998). It is yet to be seen, however, how they react to unwillingly caused norm violations as they actively take part in the interaction. It was hypothesized that children would protest less and help more in response to norm transgressions when the puppet was physically constrained as opposed to when he was free to act as he wished. No age effect with respect to helping was expected, because previous research demonstrates that children understand others' goals and attempt to help very early from infancy onward (Warneken & Tomasello, 2007).

Method

Participants. Twenty-seven 2-year-olds (range = 1;8–2;4, $M_{age} = 2;2$, $SD = 2.04$ months; 13 boys, 14 girls), and twenty-seven 3-year-olds (range = 2;8–3;4, $M_{age} = 3;0$, $SD = 1.92$ months; 14 boys, 13 girls) participated. Two additional children were tested but excluded from the analysis either because of experimenter error (1) or due to inattentiveness of the child (1). All participants were native Turkish speakers recruited from kindergartens in different regions of Ankara with mixed socioeconomic backgrounds.

Tasks and procedure. Children's recruitment, design, experimental setting, and the procedure of the warm-up phase were identical to those in Study 1. The rules of only two target tasks had to be altered for reasons of applicability to the manipulation implemented in the current study. Differently from Study 1, games in both experimental and control conditions had a normative structure, and the puppet was always violating those norms regardless of the condition. However, although it was violating the norms due to a physical constraint—lack of freedom to act—in the experimental condition, the violation took place solely due to unwillingness to conform to the norms in the control condition.

In the experimental condition of the target phase, E1 showed the child A1 and A2 in the same way as in Study 1. In the meantime, E2 took out a rope she had in her pocket and bound the hands of the puppet. Hence, when it was the time for Ali to dax, his hands were bound such that he could not hold anything with them. Despite this, Ali first attempted to perform A1 by trying to hold the stick to form the bat in the case of daxing, but failed to do so due to the physical constraint. While he attempted to do so, he repeatedly uttered, ''Oh! I can't do that. I cannot hold the stick.'' After two unsuccessful attempts, Ali gave up trying and performed A2, again saying, ''I daxed.''

For the control condition of the target phase, the same procedure as in the experimental condition of Study 1 was applied on this new sample of children. This was done to highlight the fact that the puppet's *ability to act in line with his will* is the distinguishing factor between the two

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conditions. Because it was shown in the previous study that children do discriminate between situations with and without normative rules, it was found redundant to repeat the control condition of Study 1.

Coding. In addition to the categories for normative protests described in Study 1, a category for helping reactions was included. This new category was composed of actions that expressed concern toward the needy person, attempts to help, or suggestions as to how the situation could be resolved (interrater reliability for helping category, $Kappa = .84$). All other categories and the coding protocol were the same as in Study 1. For all response categories, approximately 20% of all sessions were coded by a blind second coder; very high interrater reliability was reached ($Kappa = .84$).

Results and Discussion

A 2 (age) × 2 (condition) ANOVA on the mean sum scores of normative protest revealed a main effect of age, $F(1, 51) = 5.52$, $p < .05$, $\eta_p^2 = .10$, but not for condition, $F(1, 51) = 5.52$, $p = .08$ (see Figure 2). Three-year-old children protested more than did 2-year-olds. Yet, children of both ages seemed to protest against norm violations indiscriminately, regardless of whether the actor had freedom to act or whether he was physically constrained.

Further analyses were conducted to account for why the normative protests in the ''lack of freedom to act'' condition did not decrease. First, we ensured that children actually perceived the puppet's physical constraint, as evidenced by dramatically increased helping responses in the constrained condition (62% of all children) in contrast to the hands-free condition (3.7% of all children). Second, a game-by-game analysis was conducted on normative protests,

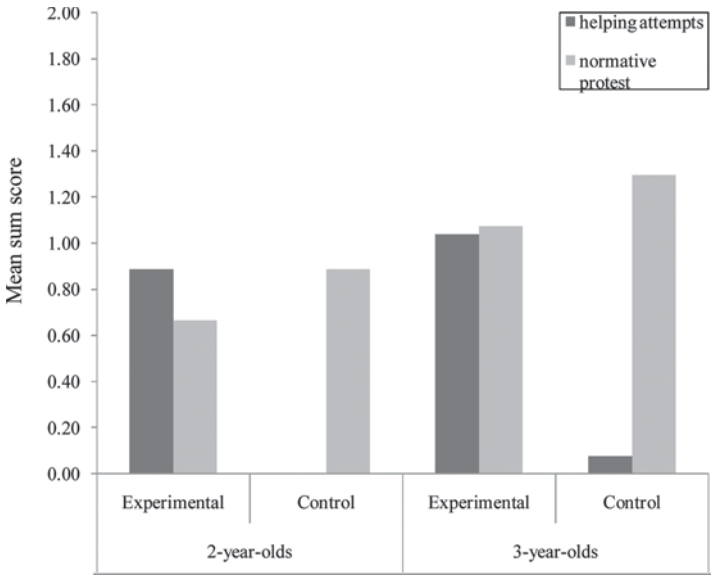

FIGURE 2 Mean sum scores (0–2) of normative protests and helping attempts in the target tasks of Study 2.

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revealing that it is not a game-specific factor, but a more general one that accounts for the lack of decrease in normative protests. Lastly, the comparison of the control condition of this study with the experimental condition of Study 1 revealed that children protested significantly more in Study 2, $t(105) = -3.05$, $p = .003$, even though the two conditions were identical in procedure. This might be due to the fact that the puppet was always performing the incorrect action in Study 2, either because of its physical constraint in the experimental condition or because of a deliberate intention to do so in the control condition. In essence, this could have increased the tension and made children more reactive in the present study. To see if this is the case, normative protests of children who received the target tasks in control-experimental-control-experimental (CECE) order as opposed to ECEC order were contrasted. Contrary to our expectations, children who first saw the puppet as being constrained reacted as normatively as those who first saw him unconstrained, $t(52) = -0.54$, $p = .59$, indicating that the overall increase in reactivity in Study 2 probably did not account for the null results with respect to normative protests.

To assess whether children helped more in the experimental condition than in the control condition, a 2 (age) $\times$ 2 (condition) ANOVA on the mean sum scores of help category was conducted. The results showed that there was only a significant main effect of condition, $F(1, 51) = 64.69$, $p < .001$, $\eta_p^2 = .56$. Children in the experimental condition helped more ($M = 0.96$, $SD = 0.81$) than did children in the control condition ($M = 0.04$, $SD = 0.19$). These findings are in line with previous research, which has shown that from 9 months old onward, infants distinguish between purposeful and accidental actions (Behne et al., 2005), and by 14 months of age, they help others to reach their goals when in need (Liszkowski, Carpenter, & Tomasello, 2008; Warneken & Tomasello, 2007). Also in accordance with this literature, no age effect was found for the helping reactions of children, $F(1, 51) = 0.00$, $p > .05$.

GENERAL DISCUSSION AND CONCLUSION

The development of normativity and the influence of freedom to act on it were examined in two studies. The first study revealed that normative understanding, though emergent in 2-year-olds, develops more fully by 3 years of age. This finding is in line with Carpenter's (2009) assertion that the necessary sociocognitive abilities for sharing intentions with others are already present by 2 years of age. However, only after 3 years old do children start showing full commitment to joint goals, which is a skill that ''sets the stage for some of the 'bigger' uniquely human joint activities like social institutions'' (Carpenter, 2009, p. 390).

Because the first study was a replication of the Rakoczy et al. (2008) study with a different cultural sample, it was important to see whether the current results were parallel to theirs. The developmental pattern in the current Turkish sample was very similar to that of the German sample. This suggests that even though the contents of norms may be highly culture-specific (Searle, 1995), some common characteristics are cross-cultural. These include the structure of norms including status function ascriptions and rule governance and the right to enforce norm-following by third parties. Moreover, the wordings as well as nonverbal behaviors used for indicating differential protest types seem to be quite similar in German and Turkish samples. To exemplify one of them, normative protest was evident by such expressions as ''Da mußt du das nehmen'' in German and ''Bunu almalısın'' in Turkish (''You must take that one'' in

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English). It seems that not only the normative structure, but also certain ways of expressing the understanding of it may be shared across cultures.

The relation of normativity with the understanding of others' freedom to act in line with their will was assessed in the second study. Consistent with our predictions, children of both ages equally helped the actor who lacked the freedom to act. However, no decrease in normative protests could be observed.

The fact that children helped the physically constrained actor while protesting at the same time might look like a contradiction. Yet, recent research shows that 3-year-olds still protest more when a physically constrained actor violates the conventional norms as opposed to when an unconstrained actor performs the correct action (Josephs, Kushnir, Gräfenhain, & Rakoczy, 2012). Indeed, a closer look into the broader sociocognitive developmental frame reveals that similar failure at integrating partly contradictory responses from different domains is no exception. As observed in the domain of language (Reilly & Seibert, 2003), young children's narratives are characterized by an inability to integrate paralinguistic emotional markers (vocal and facial expressions, prosody) and linguistic expressions of emotion. The two systems—emotion and cognition—seem to develop in parallel until they are integrated in the narrative (for a review, see Hohenberger, 2011). Similarly, in our study, children aged 2 and 3 years old may not be capable of integrating two distinct domains into their responses: the cognitive domain (protesting to norm violation) and the emotional/empathic domain (helping the constrained actor). Instead, both exist alongside each other, resulting in increased helping responses but not decreased normative protests. An integrative response would be the result of a compromise or trade-off between the outputs of each of the two separate systems such that the emotional assessment (compassion toward the constrained actor) would be brought to bear on the cognitive assessment (norm violation) and hence attenuate the normative protest.

Returning to our two broad aims, this study revealed strikingly similar behaviors of children across different cultures—a European culture (German) and a Middle Eastern culture (Turkish). Taken together with findings from Swedish and American cultures (Casler et al., 2009; Kenward, 2012), current results are consistent with the view that crucial properties of normativity, such as the structure of norms and norm enforcement, may be shared cross-culturally. Due to the strong social preadaptation of the human species (Herrmann, Call, Hernández-Lloreda, Hare, & Tomasello, 2007; Spelke & Kinzler, 2007), these properties may become available to children in their cognitive development at around the same time, regardless of the cultural input they receive. Subsequently, however, culture may craft this common potential in different ways, leading to the observed cultural diversity in the field of norms and social institutions (Searle, 1995). Only future research including more varied populations may answer this important developmental question.

The second broad aim of this research was to investigate how normative understanding interacts with skills in other domains. It can be concluded that—although the study of the development of normative understanding is still in its infancy—it is necessary and promising to look at the development of reasoning normatively in relation to other abilities that interact with it (e.g., emotional-empathic abilities), as we did in our analysis of helping responses in the second study (see also Köksal, 2012). It is also important to note for future research that the samples used in the current studies consisted of young 2- and 3-year-olds. It might be illuminating for future research to compare older groups of toddlers to reveal the precise developmental pattern in a period in which considerable changes take place (Brownell, 2013), as children acquire and integrate various sociocognitive skills.

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APPENDIX

TABLE 1
Games Used in the Experiments

		Procedure	
Tasks	*Materials*	*A1 (Correct Action)*	*A2 (Incorrect Action)*
Warm-Up Tasks			
Drawing	Blank paper, a red pen, and a broken pen	Draw on the paper with the red pen.	Draw on the paper with the broken pen.
House Building	Five little, wooden building blocks	Build a house with a roof using five blocks.	Build a house without a roof using four of the blocks.
Goal Game	A person-shaped toy, a little ball	Score a goal using the person-shaped toy and the ball.	None (the puppet plays this game correctly).
Bull Game	A clockwork bull-shaped toy	Make the bull walk by using its clockwork mechanism.	Take the bull and make it walk manually.
Target Tasks			
Daxing	A red, Styrofoam board with a yellow gutter, a yellow cube, a wooden stick, and a wooden square with a hole in it	Put the yellow cube on the board. Place the stick in the square's hole, push the cube with it and drop into the gutter.	Put the yellow cube on the board. Hold the board from two sides and lift until the cube drops into the gutter.
Duping	A paper box with a hole in the middle, yellow and black tubes attached to the sides of the box, yellow and black marbles	Throw the marbles from the tubes according to their colors.	Throw marbles of both colors from the hole in the middle of the box.
Baffing	One long and two cube wooden blocks, a horse nail-shaped doorstopper, a play dough-made ball	Build a bridge using the wooden materials, and throw the ball through it using the doorstopper.	Omit the long block and the ball; instead slide the doorstopper from between the two blocks.
Miecking	A paper box with black- and white-colored tubes attached, a yellow catapult-like tray attached on the front side	Throw the balls through the tubes with respective colors.	Put the balls on the tray one by one and catapult them away.