Young children's behavioral and emotional responses to different social norm violations

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ABSTRACT

From an early age, children can talk meaningfully about differences between moral and conventional norms. But does their understanding of these differences manifest itself in their actual behavioral and emotional reactions to norm violations? And do children discriminate between norm violations that affect either themselves or a third party? Two studies (N = 224) were conducted in which children observed conventional game rule violations and moral transgressions that either disadvantaged themselves directly or disadvantaged an absent third party. Results revealed that 3- and 5-year-olds evaluated both conventional and moral transgressions as normative breaches and protested against them. However, 5-year-olds also clearly discriminated these types of transgressions along further dimensions in that (a) they tattled largely on the moral violation and less on the conventional violation and (b) they showed stronger emotional reactions to moral violations compared to conventional violations. The 3-year-olds' responses to moral and conventional transgressions, however, were less discriminatory, and these younger children responded rather similarly to both kinds of violations. Importantly, most children intervened both as victims of the transgression and as unaffected third parties alike, providing strong evidence for their agent-neutral understanding of social norms.

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Introduction

Young children reliably differentiate between moral norm violations that result in harm for another person (e.g., hitting another child) and conventional norm transgressions that merely break a rule (e.g., eating in class). At 3 or 4 years of age, they will judge the former as more serious, more deserving of punishment, and less contingent on the presence of a rule or a specific context as compared with the latter (Smetana, 1981). According to social domain theory (Helwig & Turiel, 2010; Smetana, 2013; Smetana, Jambon, & Ball, 2014; Turiel, 1983), children's reasoning in these cases occurs in conceptually distinct domains; the moral domain refers to matters of harm, fairness, and rights, and the conventional domain concerns the coordination of social interactions. In addition to naturalistic observations (Much & Shweder, 1978; Nucci & Turiel, 1978; Smetana, 1984), a large body of research in the tradition of social domain theory is based on verbal interviews about transgression scenarios that are highly familiar to the children from their daily lives, for example, pushing another child or disobeying a teacher's order (e.g., Smetana, Schlagman, & Adams, 1993). Another line of research complements this approach with more active behavioral measures, specifically, children's spontaneous verbal and non-verbal reactions when directly faced with a norm transgressor. In an experimentally controlled situation, for example, Vaish, Missana, and Tomasello (2011) found that 3-year-olds already disapprove of and actively intervene against someone inflicting harm on someone else. Similarly, Rakoczy, Warneken, and Tomasello (2008) found that 3-year-olds also protest against someone violating simple game rules.

Given these findings, young children are clearly responsive to different kinds of norm violations. However, to our knowledge only two recent studies have systematically compared children's spontaneous responses to harm-based versus rule-based norm violations. First, Schmidt, Rakoczy, and Tomasello (2012) found that 3-year-olds protested equally strongly against an ingroup member and an outgroup member when witnessing them committing a harmful transgression but protested more against a simple game rule violation when it was performed by an ingroup member rather than an outgroup member. Second, in an observational study of children's daily kindergarten routines, Ingram and Bering (2010) found that children tattled on both harmful and conventional transgressions but did so more frequently in response to harm-related transgressions and almost always when the children were victims themselves rather than on behalf of a third party.

Despite the consistent finding in behavioral studies that young children protest, sometimes vigorously, against different norm violations, it has not been experimentally investigated whether they do so equally frequently and equally vigorously (i.e., emotionally) for different kinds of violations. Investigating the emotional intensity with which children respond to different norm violations might provide a more thorough understanding of the mechanisms of domain distinction during early childhood. In a similar vein, Nichols (2004) claimed that witnessing moral violations generally results in a strong affective reaction, which in turn leads to a harsher and stricter judgment of these transgressions. Similarly, Ingram and Bering (2010) suggested that children might primarily tattle on transgressions that evoke a strong affective response, which is why they might have reported more on harm-related violations than on classroom rule violations. Related to this suggestion, it has also been shown that when infants commit normative transgressions themselves, from around their first birthdays they experience qualitatively different emotional responses from their mothers toward their moral transgressions as compared to other types of transgressions, emphasizing the role of emotionality in norm differentiation (Dahl & Campos, 2013; Dahl, Sherlock, Campos, & Theunissen, 2014). Thus, children's own emotional responses to different norm violations might benefit from these early emotional experiences and reactions to harmful and non-harmful transgressions, which is why one focus of the current studies is the emotionality of children's responses.

Another important question with regard to young children's responses to norm transgressions concerns whether and how children differentiate between transgressions that affect themselves and transgressions that affect a third party. In moral philosophy as well as psychology, the principle of impartiality and agent neutrality of norms is crucial (e.g., Kohlberg, 1963; Nagel, 1986). As such, norms apply to anyone in the respective group, and transgressors are to be reprimanded regardless of who was directly affected by the transgression. The reasoning for this is that the group needs its mem-

bers to adhere to the norms and punish transgressors from an impartial, agent-neutral stance in order to maintain a stable cooperative system (e.g., Chudek & Henrich, 2011; Chudek, Zhao, & Henrich, 2013; Henrich et al., 2006). In this line of argument, responses to transgressions should occur regardless of who the victim of the transgression is. As we know from prior research, children are willing to intervene in moral transgressions on behalf of a third party (Vaish et al., 2011) and are concerned for the welfare of others (e.g., Hepach, Vaish, & Tomasello, 2013; Warneken & Tomasello, 2009; Zahn-Waxler, Radke-Yarrow, Wagner, & Chapman, 1992). However, it remains an open question whether children intervene in different kinds of transgressions to a similar degree depending on whether they are affected themselves or a third party. So far, we are aware of only one study in which children's responses to transgressions were compared in such a first-party versus third-party setting. In this study by Rossano, Rakoczy, and Tomasello (2011), 2- and 3-year-olds observed a puppet taking and throwing away either the children's own property or a third party's property. Both age groups protested more when their own property was affected compared to a third party's property. Interestingly, in a control condition where the puppet threw away her own property and, thus, did not violate a norm, only 3-year-olds protested more in the third-party condition compared to the control condition, whereas 2-year-olds did not discriminate and, thus, intervened only on their own behalf and not on behalf of a third party. It remains an open question, however, whether these findings also apply to various transgression contexts as well as to older preschool children.

Therefore, two studies were designed to address these questions by systematically comparing children's spontaneous normative evaluations of, and their emotional and behavioral responses to, norm violations that affected either themselves or a third party and that resulted either in harm (hereafter called *moral*) or a rule violation (hereafter called *conventional*). In Study 1, dyads of 5-year-olds played a game collecting marbles from a marble run together with a puppet. If children had collected enough marbles, they could win rewards either for themselves (first-party condition) or for unknown and absent children from another kindergarten (third-party condition). The puppet then put marbles into a container that was framed as having either harmful consequences (i.e., loss of rewards; moral condition) or coordination consequences (i.e., misplacing the marbles; conventional condition). By using the same neutral action of putting marbles into a container for both transgressions, we controlled for previous knowledge and familiarity with the transgression as well as for inherent harmfulness of the action; putting marbles into a container is not an obviously harmful action per se like physical violence, but the novel game context construed it as harmful. In Study 2, 3- and 5-year-olds individually played together with a puppet, and the puppet either stole a reward (moral transgression) or played the game in the wrong way (conventional transgression). The second study allowed us to investigate individual (instead of dyadic) children's responses to more familiar and prototypical norm transgressions (i.e., stealing; e.g., used in Smetana, 1985) and game rule violations (e.g., used in Rakoczy et al., 2008) in two age groups.

Based on prior research and theory (Kalish, 2005; Schmidt & Tomasello, 2012; Smetana, 1981; Turiel, 1983), we predicted that both 3- and 5-year-olds would view all transgressions (moral/conventional and first-party/third-party) as normative breaches leading to normative protest in all cases.

Crucially, however, we also predicted that children's tattling, interventions, and emotional arousal would be higher when witnessing a moral transgression as compared with a conventional transgression.

Based on the findings from Ingram and Bering (2010) and Rossano et al. (2011), we expected that children would protest, tattle, intervene, and be emotionally agitated when they were the victims themselves as well as when a third party was affected. However, we believed that these tendencies would be stronger in the first-party case as compared with the third-party case, especially for the younger children.

Study 1

Method

Participants

In total, 96 5-year-old children were recruited in urban day-care centers in a mid-size city and participated as same-sex dyads (48 boys, M_{age} = 5;3 [years;months], age range = 5;0–5;7). An additional 4

dyads of children were tested but excluded from data analyses due to experimenter or technical error. Children came from mixed socioeconomic backgrounds and were randomly chosen, with the exception that consent for testing was provided by their parents and that they were not best friends as reported by their kindergarten teachers.

Materials

We used a 4-m-long marble run that comprised three task locations and was filled with 10 marbles. Each of these task locations (e.g., turning a switch) needed to be operated by one participant in order for the marbles to roll into a red bucket near the end of the marble run. If a task was not done properly, the marbles would be lost and inaccessible to children. Approximately 0.50 m away from the end of the marble run, a vertical Plexiglass tube (''measuring tube'') was positioned and had a red marking at the height of seven marbles. Furthermore, two containers were put up left and right of the end of the marble run in equal distance to the red bucket (the position of the containers was counterbalanced). One of these containers was a small open container (conventional box) in which an object could be put and be easily retrieved again. The second container (moral box) was opaque and larger and had a small opening through which objects could be put in but then were not retrievable anymore.

Design and procedure

In our 2 × 2 design, we investigated the factors transgression (moral vs. conventional) and involvement (first-party vs. third-party). Dyads were randomly assigned to one of the four conditions such that 12 dyads (6 male and 6 female) were tested in each of the four factor combinations.

Two experimenters conducted the study. Experimenter 1 (E1) led the two children to the testing room, where they were introduced to a puppet that was operated by Experimenter 2 (E2). The marble run was already set up but covered with sheets, and children were initially asked to sit down on the floor. Two warm-up games were played during which the puppet behaved in a childlike way in order for children to regard the puppet as an equal, that is, not as an authority. When the warm-up games were finished, E1 pretended to discover the moral and conventional boxes and seemingly naively explored their features by demonstrating that an object put into the moral box does not come back out again and an object put into the conventional box does come back out (the order of demonstration was counterbalanced). Afterward, E1 moved the boxes away to either side of the marble run, telling children that these boxes were not part of the game that she was going to show them now. Then, she uncovered the marble run and explained how it worked and that the goal of the game was to get the marbles into the red bucket and then put them into the measuring tube. E1 then left the room and children could play with the marble run together with the puppet for four trials that were considered practice trials intended to familiarize children with the task. During all of the trials, the puppet was positioned at the last task position and performed her task accurately.

After these four trials, two test trials were conducted in which the puppet committed either a moral or conventional transgression depending on the condition. Right before the test trials, children were told that they could win a reward in the next trial either for themselves (first-party condition) or for other children in a different kindergarten (third-party condition). But they could win the reward only if they retrieved at least as many marbles as indicated by the red marking on the measuring tube (i.e., seven marbles). Children then played again, and after they had collected the marbles in the red bucket and were about to put them into the measuring tube, the puppet took the red bucket to the moral or conventional box and put four marbles into it. Because the containers were not part of the game and children did not use them during the previous practice trials, it constituted a conventional transgression to put marbles into the conventional box. It was an unusual action (i.e., it was not the way the game was supposed to be played), but it did not in any way affect children's probability to win a reward because the marbles could easily be retrieved and put into the measuring tube. In contrast, putting the marbles into the moral box constituted a moral transgression because these marbles were lost for the game and made the winning of rewards impossible, thereby causing harm to children or the third party.

Coding and reliability

Because the whole experiment was recorded on videotape, we were able to code for the language children used as well as for different behaviors. For determining reliability, approximately 20% of the data was coded by a second independent coder who was blind to the hypotheses of the study. The results of the reliability analyses are provided as Cohen's kappa in parentheses below.

Verbal protest. Each utterance of children addressed to the puppet that referred to the transgression was coded for the use of normative language (e.g., "That's not how it goes"; κ = .84). Importantly, for an utterance to be coded as normative protest, it needed to include one of the signal words *must, ought, may, right/wrong*, or *good/bad* or the normative phrase "That's [not] how one does it." We also coded imperative (e.g., "Put the marble here!"; κ = .72) and descriptive protest (e.g., "The marble is in here"; κ = .72). However, normative protest is most indicative of children's understanding of the transgression as wrong due to normative reasons and not individual preferences, which is why our analyses focused on normative protest. Note that this verbal protest was coded only for the period of time when children were alone in the room with the puppet. When E1 had entered the room and children protested, it was coded as tattling (see below).

Tattling. Because we were furthermore interested in additional behavioral reactions to the puppet's transgressions, we looked for occurrences of tattling that included any form of verbal report of the puppet's transgression addressed to E1 after the puppet had committed the transgression and before the new trial started (κ = .90).

Preventive measures. These were defined as any actions that were intended to physically prevent the puppet from putting the marbles into the box (e.g., covering the hole of the box, removing the box, trying to take the marbles from the puppet's hands; κ = .89).
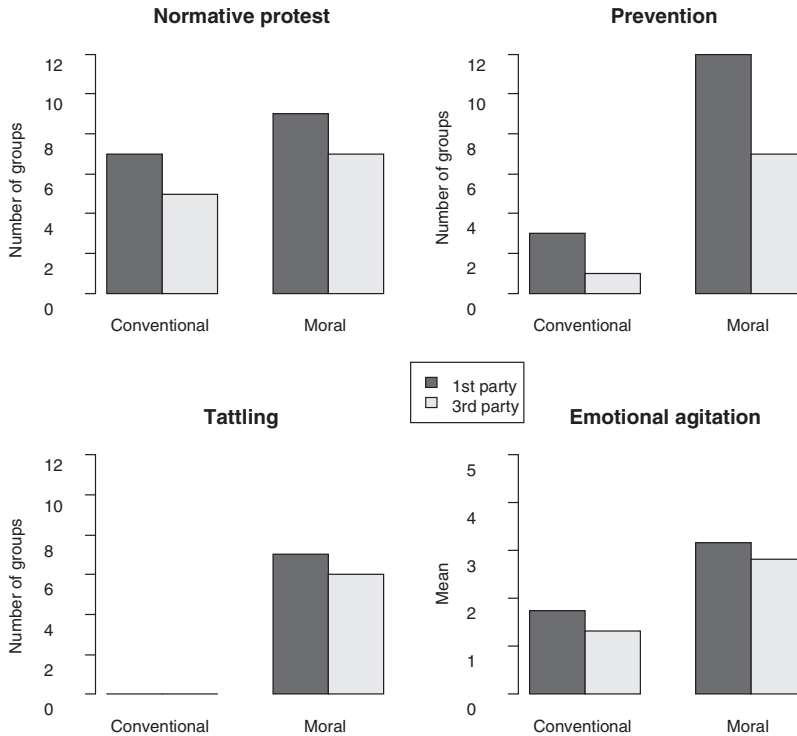
Emotional arousal. Children's emotional arousal was rated on a scale ranging from 1 (*very low*; i.e., no change in behavior) to 5 (*very high*; e.g., yelling at the puppet) and was judged by the maximum occurrence of screaming, running toward the puppet, and facial expressions of anger/annoyance within a dyad (weighted κ = .81).

Results

We fitted generalized linear mixed models (GLMMs; Baayen, 2008) using R (Version 3.2.2; R Core Team, 2015) including the random effects of dyad and child because each dyad and child provided several data points. As fixed factors, we included transgression (moral vs. conventional) and involvement (first-party vs. third-party) as well as their interaction and always added the counterbalanced factors of position and demonstration order of the moral and conventional boxes as well as trial number, sex, and the sum of marbles that children retrieved in their first four practice trials as a means to control for these factors. First, for each of our dependent variables, we compared the fit of a full model including all of these effects with a null model not comprising our factors of interest (transgression and involvement) in order to establish the significance of these factors. To test for the specific effects of transgression, involvement, and their interaction, we compared the fit of the full model with the fit of a reduced model not comprising the specific factor of interest (i.e., transgression, involvement, or their interaction) using a likelihood ratio test (Dobson, 2002). Models were fitted with a binomial error structure except for the model on emotional agitation, which was fitted with a Poisson error distribution.

For all of our response variables, we did not find a significant interaction effect of transgression and involvement, which means that the type of transgression did not influence children's behavior differently depending on whether children played for themselves or for a third party. Therefore, we investigated the main effects of transgression and involvement individually.

First of all, we analyzed normative protest and found that the full–null model comparison was not significant (χ^2 = 4.93, *df* = 3, *p* = .18), revealing that children used normative protest to a similar degree

Fig. 1. Numbers of groups in which normative protest, prevention, and tattling occurred at least once during the two test trials as well as mean emotional arousal in reaction to conventional/moral transgressions in a first-party/third-party situation (Study 1).

when they witnessed a moral transgression and a conventional transgression and regardless of whether they were the beneficiary of the game themselves or a third party (see Fig. 1).

In contrast, we found that the full–null model comparison for tattling was significant ($\chi^2 = 26.36$, $df = 3$, $p < .001$). Therefore, we investigated the effects of transgression and involvement and found that children tattled only on a moral transgression but never on a conventional transgression ($\chi^2 = 26.04$, $df = 1$, $p < .001$), and it did not matter whether they were affected themselves or a third party ($\chi^2 = 0.15$, $df = 1$, $p = .70$).[1] Emotional arousal was also influenced by our experimental factors (full–null model comparison: $\chi^2 = 38.84$, $df = 3$, $p < .001$) such that children were more emotionally agitated after moral transgressions as compared to conventional transgressions ($\chi^2 = 38.47$, $df = 1$, $p < .001$) but again were not differently affected by the first-party versus third-party manipulation ($\chi^2 = 0.11$, $df = 1$, $p = .74$). Finally, children's attempts to prevent the transgression was also influenced by our manipulation ($\chi^2 = 39.34$, $df = 3$, $p < .001$) such that children tried to prevent the puppet's transgression more often when the puppet committed a moral transgression as compared with a conventional transgression ($\chi^2 = 30.92$, $df = 1$, $p < .001$), and they intervened more often when they were playing for themselves as compared with playing for a third party ($\chi^2 = 12.09$, $df = 1$, $p < .001$).[2]

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[1] Note that due to complete separation (the tattling response occurred only in the moral condition and never in the conventional condition), estimates, standard errors, and confidence intervals could not be computed for this model and, therefore, are also not shown in Table 1.

[2] The stability of all the models was assessed by comparing the original models with corresponding models that were based on a reduced dataset excluding one group of children at a time. We found that all of our models were stable; therefore, we are confident that no influential cases were driving the effects reported above.

Table 1
Model summaries for Study 1.

Dependent variable	Term[a]	Estimate	SE	Lower CL	Upper CL	χ^2	p
Normative protest (full model)	Intercept	−1.56	0.57	−3.07	−0.64		
	Transgression	0.58	0.52	−0.44	1.87		
	Involvement	−0.67	0.61	−0.67	−2.32		
	Transgression * Involvement	0.04	0.81	−1.75	2.10		
	Sex	0.56	0.40	−0.17	1.45		
	Trial[b]	−0.37	0.20	−0.85	−0.02		
	Position of boxes	−0.16	0.40	−1.08	0.67		
	Order of demonstration	0.06	0.40	−0.78	0.86		
	Marbles in practice trials	0.30	0.22	−0.07	0.89		
Prevention	Intercept	−2.98	0.83	−22.55	−1.53		
	Transgression	3.49	0.74	2.10	23.48	30.92	<.001
	Involvement	−2.04	0.62	−20.49	−0.93	12.09	<.001
	Sex	0.79	0.58	−0.48	7.28		
	Trial[b]	1.09	0.27	0.59	10.31		
	Position of boxes	−0.79	0.58	−7.95	0.44		
	Order of demonstration	−0.39	0.57	−5.16	0.92		
	Marbles in practice trials	0.05	0.29	−0.72	1.52		
Emotional agitation	Intercept	-1.37	0.33	−2.07	−0.91		
	Transgression	1.86	0.28	1.48	2.53	38.47	<.001
	Involvement	−0.07	0.22	−0.53	0.40		
	Sex	0.22	0.22	−0.14	0.59		
	Trial[b]	0.29	0.09	0.13	0.47		
	Position of boxes	−0.49	0.22	−0.92	−0.09		
	Order of demonstration	−0.57	0.22	−0.97	−0.23		
	Marbles in practice trials	0.18	0.12	−0.03	0.41		

Note. CL, confidence limit.
[a] Note that all estimates in the models refer to the estimated values for specific dimensions of the variables such that condition always refers to the *moral* condition, involvement always refers to *third party,* and sex always refers to *female* participants.
[b] Trial was *z*-transformed.

Discussion

In the current study, we investigated children's spontaneous responses toward moral (harm-related) and conventional (coordination-related) norm violations in a first-party versus third-party context. In line with our expectations, we found that children protested normatively in the same way whether the transgression concerned a moral issue or a conventional issue and whether children were affected themselves or a third party, indicating that they viewed *all* of the presented transgression scenarios as a general normative misconduct in the sense that it is something "one must not do." However, children also differentiated between the transgressions given that we found a very strong difference for their tattling behavior that occurred solely in the case of a moral transgression but never in the case of a conventional transgression. Furthermore, children were much more emotionally aroused when the puppet committed a moral transgression (i.e., they yelled at the puppet, ran toward her, and showed serious disapproval of the behavior), whereas in the conventional case they remained rather calm. In addition, children more often tried to actively prevent the puppet from committing the moral transgression compared to the conventional transgression, and they did so even more when they were the victims themselves as compared with an absent third party. Interestingly, and against our predictions, children's protest behavior, emotional arousal, and tattling behavior did not differ depending on whether they were affected themselves or a third party.

Most important, these findings indicate that children react differently to norm violations based solely on their different consequences. Whereas prior studies have focused mostly on prototypical norm violations and on moral norms that are inherently harmful (i.e., violence or destruction), the current study controlled for these aspects, with the moral and conventional transgressions involving the

identical and inherently neutral action of putting marbles into a box, which children most likely had no prior experience with as being a transgression at all. However, it remains an open question how these transgressions actually relate to and reflect responses to more prototypical norm violations that children are more familiar with from their daily lives.

Interestingly, we obtained two findings that are seemingly in contrast to Ingram and Bering's (2010) observations on tattling. We did not find any tattling on a conventional norm breach, but we did find tattling on behalf of a third party, which was extremely rare in their study. There are several possible explanations for these discrepancies. First of all, the conventional transgression in our study (putting marbles in a different box) was not explicitly prohibited by an adult but simply was not part of the game. Potentially, a distinctly expressed rule not allowing one to put marbles in the box might have led to tattling for the conventional condition as well. In addition, a crucial difference between Ingram and Bering's naturalistic observations and our experimental setup is that in our third-party condition the victims of the transgressions (i.e., anonymous children from another kindergarten) were absent and, therefore, had no opportunity to speak up for themselves. It is possible that children in Ingram and Bering's case did not tattle on behalf of a third party because they anticipated that the victims, who were typically present, would do so themselves, as the authors also noted when discussing their results.

Finally, an alternative explanation for children's differential responses to the moral and conventional transgressions might be that only the conventional transgression, but not the moral transgression, could be rectified by children themselves. Thus, because they were able to resolve the conventional situation but not the moral situation, they might have simply been more agitated and tattled more in response to the moral transgression not because they regarded it as more condemnable than the conventional transgression but rather because they could not address it themselves. To control for these issues and also investigate whether younger children (3-year-olds) also show similar responses, a second study was conducted.

Study 2

In a second experiment, we presented children with a familiar prototypical moral transgression (i.e., stealing) and conventional transgression (i.e., wrong sorting) and gave them the opportunity to correct and resolve *both* of these transgressions. This time, children were tested individually as opposed to in dyads in order to provide a more controlled context. Finally, we also investigated younger children to reveal potential developmental changes in children's responses. In particular, we hypothesized that especially younger children might respond more intensely and frequently to transgressions that affect themselves as compared to a third party.

Method

Participants

In total, 64 3-year-old children (M_{age} = 3;5, age range = 3;3–3;8) and 64 5-year-old children (M_{age} = 5;5, age range = 5;3–5;8) from mixed socioeconomic backgrounds were recruited in their urban day-care centers and participated in the study (N = 128). An additional 7 children were tested but excluded from data analyses due to experimenter error (n = 6) or uncooperativeness (n = 1). Consent for testing was provided by the parents.

Materials

A life-sized hand puppet was used as in Study 1 to interact with the children. The test game was a fishing game that consisted of a plastic aquarium box with paper fish inside that had a magnetic tip and two fishing rods with magnetic hooks. After catching the fish, the players needed to sort them into a cardboard tower with four compartments and a drawer where a silver ball and a silver cube were placed. Finally, the silver ball and cube needed to be sorted into a cardboard box that was divided into two compartments, one colored yellow and one colored green.

Design and procedure

The design was similar to that in Study 1 but included an additional age group; thus, it was a 2 (moral vs. conventional) × 2 (first-party vs. third-party) × 2 (3-year-olds vs. 5-year-olds) between-participants design in which children were randomly assigned such that 16 children of each age group (8 girls and 8 boys) received one of the four factor combinations. Each child received two test trials in the respective condition, but due to experimenter error four individual trials from 4 children needed to be excluded from data analyses.

The study was again conducted by two experimenters. E1 took the participant to the testing room, where the child met the puppet played by E2. Two warm-up games were conducted (rolling a ball and completing a puzzle together) in order to familiarize the child with the puppet. During these games, the puppet committed two instrumental mistakes while E1 was turned away, giving the child an opportunity to correct the puppet. Afterward, E1 gave both the puppet and child a little sticker as a gift and a small paper bag in which to put the sticker. E1 emphasized to the puppet and child that these bags belonged to them and that they could take the bags home after they were done playing. In the third-party condition, a third bag was introduced that was lying on the floor and had a simple line drawing of a child's head on it. E1 explained that this bag belonged to Max/Lola (the sex of the child was matched to the participant), who was a child from another kindergarten. Then, E1 took out the testing game and introduced it step by step. First, the fishing game was introduced, and the child and puppet were given a fishing rod to fish by taking turns and put their fish into the compartments of the cardboard tower until they reached the top compartment. Then, E1 instructed the child to pull the flap of the drawer of the tower which released one silver cube and one silver ball that fell out of the drawer. E1 explained that it is a rule in the game that these objects need to be sorted into the cardboard box such that the balls always go into the yellow compartment and the cubes always to into the green compartment. She opened the lid and instructed the child to sort the objects accordingly. As a reminder of the rule, she then gave the puppet a ball and cube and asked her to sort them, which she did correctly. This was intended to establish that the puppet knew the rules of the game. The child was also given another ball and cube to sort again to make sure that the child knew the rule and could perform the sorting. Afterward, the game was reset by E1; the fish were put back into the aquarium and E1 refilled a silver ball and cube into the drawer while the previous balls and cubes remained sorted in the box as a reminder of which object goes where. The child could then play the game together with the puppet again as a practice trial while E1 was waiting outside. The goal was to make sure that the child understood the game and could perform each step, including the sorting of the objects at the end, which was always the child's task.

After these two practice trials, two test trials followed. E1 came back into the room and reset the game again. Now, she told the child that she would put a small surprise into a silver cube (which was actually a small container and had a lock) and that the reward was either for the child (first-party condition) or for the absent child from another kindergarten whose bag was still lying visibly on the floor next to the child's and puppet's bags (third-party condition). Then, E1 left the child with the puppet alone to play, and after the child had sorted the ball and cube, the puppet would commit the transgression. In the conventional condition, the puppet opened the box and said, "Hmm, I am going to put this in here and this in here" while she put a silver ball into the green compartment and put the cube with the reward in the yellow compartment and closed the box. In the moral condition, the puppet opened the box, took out the cube with the reward, and put it down in front of her and within reach of the child and said, "Hmm, there is your/Max's/Lola's reward in here. I am going to take it and put it in my bag. I am going to take it home later." Then, she slowly took out the reward, put it on the ground, closed the cube, put the reward in her bag, and put the silver cube back into the green compartment. The bag of the puppet was put within reach of the child and in the third-party condition was put next to the third party's bag to allow the child to easily take it. After approximately 20 s, E1 came back into the room and asked the child how the game went. Afterward, the game was reset and a second test trial started that proceeded exactly as the previous trial.

Coding and reliability

As in Study 1, a second independent coder coded 20% of the data for reliability, and Cohen's kappas are provided in parentheses. The same measures were coded as in Study 1 using the same coding

schemes with one modification. Because children now had the opportunity to rectify both types of transgressions, we collapsed children's preventive measures and their rectifications into one new variable termed *intervention*. Thus, children's normative protest (κ = .84), tattling (κ = .91), emotional arousal (κ = .80), and interventions (κ = .91) were coded. For interventions, we coded every behavior that was directed either at preventing the puppet from committing the transgression (e.g., holding down the lid of the box, taking the cube/reward from the puppet) or at rectifying the transgression by either resorting the objects in the box or taking the reward and putting it back into the cube or into the respective bag (child's/third party's).

Results

As in Study 1, we fitted GLMMs with a binomial error structure (Baayen, 2008) using R (Version 3.2.2; R Core Team, 2015) including the random effect of children because each child received two test trials. The fixed effects of interest were transgression (moral vs. conventional), involvement (first-party vs. third-party), and age (3-year-olds vs. 5-year-olds) as well as their three-way interaction and all two-way interactions. Trial number and sex were added as fixed effects in order to control for them. The method of analysis was the same as in Study 1. For descriptive data on each dependent variable, see Figs. 2 and 3.

First of all, we analyzed children's tendency to protest normatively against the transgressions. The full–null model comparison revealed no significant difference such that normative protest (Table 1)
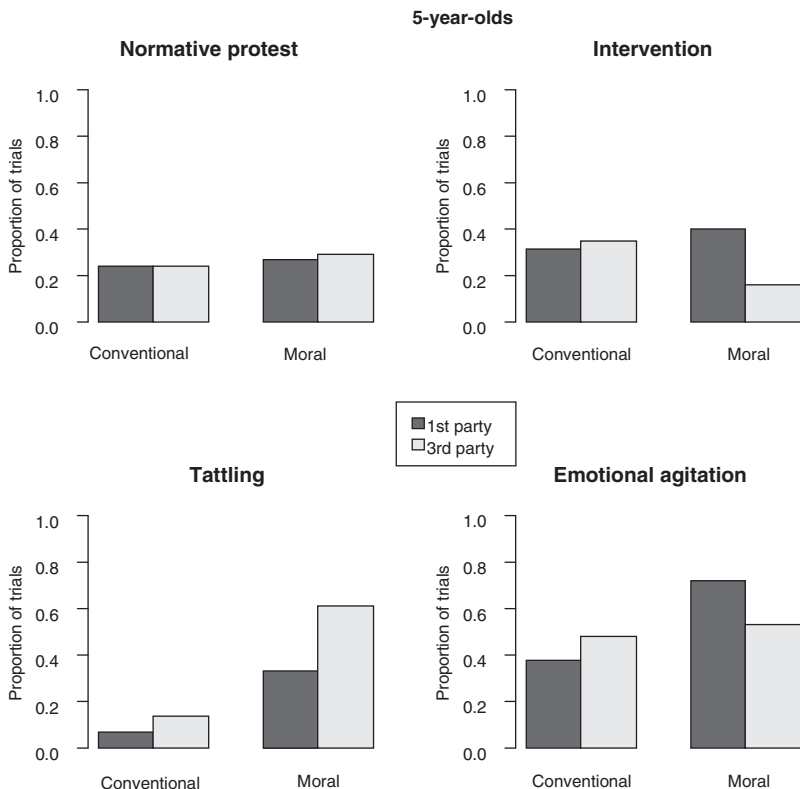
Fig. 2. Proportions of trials in which 5-year-old children showed normative protest, tattling, and intervention as well as changes in their emotional arousal in reaction to conventional/moral transgressions in a first-party/third-party situation (Study 2).
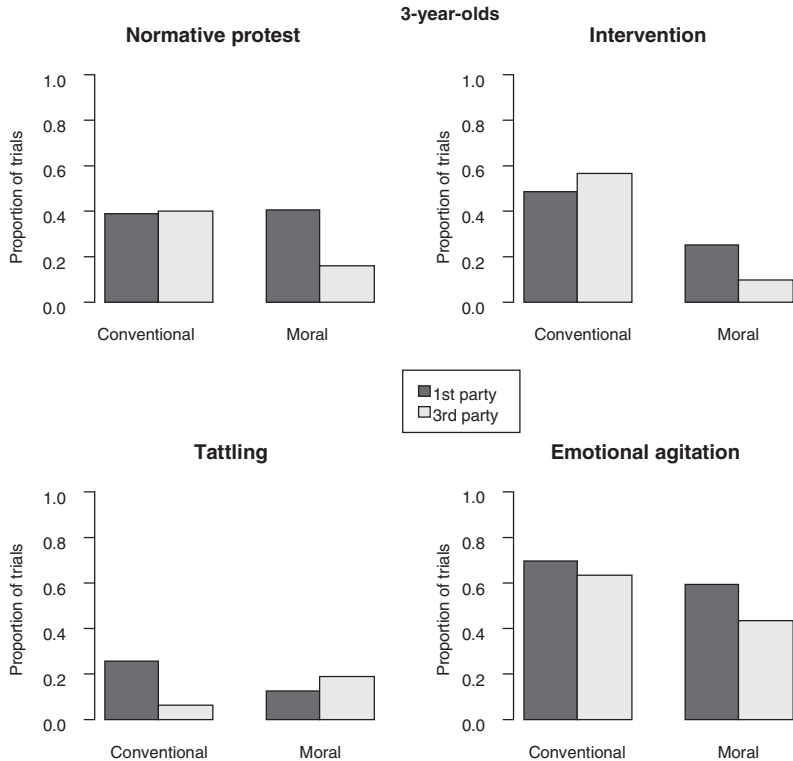
Fig. 3. Proportions of trials in which 3-year-old children showed normative protest, tattling, and intervention as well as changes in their emotional arousal in reaction to conventional/moral transgressions in a first-party/third-party situation (Study 2).

against transgressions occurred to the same degree unaffected by children's age, their involvement, and the type of transgression ($\chi^2 = 7.58$, $df = 7$, $p = .37$) (see Table 2). This finding replicates the results from Study 1 and extends them to younger preschoolers.

For tattling behavior, the full–null model comparison revealed significance ($\chi^2 = 20.81$, $df = 7$, $p < .01$); thus, we first tested the effect of the three-way interaction of age, transgression, and involvement, which did not have a significant effect ($\chi^2 = 2.06$, $df = 1$, $p = .15$). However, against our predictions, we found a significant effect for the interaction of age and involvement ($\chi^2 = 16.59$, $df = 1$, $p < .001$) such that 5-year-olds tattled more on transgressions that affected a third party as compared with transgressions that affected themselves, whereas 3-year-olds did not tattle differently depending on who was affected. In addition, transgression and age had a significant interaction effect on tattling ($\chi^2 = 16.89$, $df = 1$, $p < .001$) such that 5-year-olds tattled more on moral transgressions than on conventional transgressions, whereas 3-year-olds did not discriminate in their tattling between transgressions. In contrast to Study 1, the full–null model comparison for children's interventions into the transgression was not significant ($\chi^2 = 0.69$, $df = 7$, $p = .99$) such that 3- and 5-year-olds did not intervene to different extents depending on type of transgression or who was affected by the transgression.

A GLMM with a Poisson error structure was fitted for emotional agitation (as in Study 1), but it led to a heavily underdispersed model, which is why we decided to recode emotional agitation in a binary fashion. Children who did not change their emotional arousal (i.e., who originally received a score of 1) now received a code of 0, and children who did change in their arousal (i.e., who originally received a score between 2 and 5) received a code of 1. The full–null model comparison revealed a significant

Table 2
Model summaries for Study 2.

Dependent variable	Term[a]	Estimate	SE	Lower CL	Upper CL	χ^2	p
Tattling	Intercept	−12.31	2.75	−21.90	−8.32		
	Transgression	0.10	2.68	−8.29	8.57		
	Age	−22.36	4.84	−38.56	−12.90		
	Involvement	−0.35	2.72	−10.46	7.05		
	Sex	−0.08	1.74	−4.30	4.15		
	Trial[b]	−0.22	0.82	−2.25	1.64		
	Transgression * Age	23.37	4.68	14.32	39.45	16.89	<.001
	Involvement * Age	22.60	4.33	14.50	35.32	16.59	<.001
Normative protest (full model)	Intercept	−0.50	0.63	−10.78	1.27		
	Transgression	0.14	0.82	−1.55	1.70		
	Involvement	0.11	0.83	−1.52	1.65		
	Age	−0.98	0.89	−1.91	1.56		
	Sex	−0.38	0.44	−0.88	0.87		
	Trial[b]	−0.19	0.17	−0.40	0.34		
	Transgression * Involvement	−1.93	1.25	−2.89	2.25		
	Transgression * Age	0.02	1.22	−2.56	2.48		
	Involvement * Age	0.14	1.24	−2.52	2.35		
	Transgression * Involvement * Age	2.17	1.79	−3.19	3.88		
Intervention (full model)	Intercept	−17.25	3.13	−18.87	−15.55		
	Transgression	−1.26	3.85	−2.14	1.97		
	Involvement	0.44	3.43	−1.92	2.12		
	Age	−0.98	3.86	−1.23	1.07		
	Sex	−0.05	2.07	−1.23	1.07		
	Trial[b]	6.06	0.89	5.59	6.05		
	Transgression * Involvement	−1.71	6.43	−2.89	2.81		
	Transgression * Age	1.78	5.55	−3.08	2.70		
	Involvement * Age	−0.25	5.34	−2.99	3.19		
	Transgression * Involvement * Age	0.33	8.80	−4.76	4.84		
Emotional agitation	Intercept	17.55	3.15	15.38	18.41		
	Transgression	−0.19	3.32	−1.73	1.68		
	Involvement	−0.02	3.32	−1.77	1.61		
	Age	−34.93	4.66	−36.16	−32.14		
	Sex	−0.16	1.95	−1.04	0.99		
	Trial[b]	5.66	0.88	5.55	6.16		
	Transgression * Involvement	−34.89	4.91	−36.32	−31.97	10.88	<.001
	Transgression * Age	35.36	4.91	31.97	36.50	47.25	<.001
	Age * Involvement	34.06	4.99	32.03	36.55	4.57	<.05

Note. CL, confidence limit.
  [a] Note that all estimates in the models refer to the estimated values for specific dimensions of the terms such that condition always refers to the *moral* condition, involvement always refers to *third party,* age always refers to *5-year-olds,* and sex always refers to *female* participants. The respective estimates for interactions also refer to these levels; for example, Condition × Age is the estimate for 5-year-olds in the moral condition.
  [b] Trial was *z*-transformed.

effect of the fixed effects (χ^2 = 48.57, *df* = 7, *p* < .001), so the effect of the three-way interaction was tested but was not significant (χ^2 = 0.00, *df* = 1, *p* = 1). The interaction of transgression and involvement revealed that children were more emotionally agitated when they were affected by the transgression themselves compared to a third party, but this was the case only for moral transgressions (χ^2 = 10.88, *df* = 1, *p* < .001). However, as we had predicted, age and involvement also had a significant interaction effect on emotional agitation (χ^2 = 4.57, *df* = 1, *p* < .05) such that both 3- and 5-year-olds were more agitated when they were affected themselves as compared to a third party, but this effect was stronger for 3-year-olds than for 5-year-olds. Finally, the type of transgression also had a significant interaction effect with age such that 5-year-olds were more agitated after a moral transgression compared to a conventional transgression, which replicated the findings from Study 1. However, against our predictions, for 3-year-olds it was the opposite pattern (χ^2 = 47.25, *df* = 1, *p* < .001).

Discussion

Study 2 investigated spontaneous responses to a prototypical moral transgression (i.e., stealing) and conventional transgression (i.e., wrong sorting) in 3- and 5-year-old children. As was found in Study 1, 5-year-olds protested equally normatively against both types of transgressions and regardless of their involvement. This finding extended to 3-year-olds, showing that they also conceived of all types of these transgression scenarios as normative breaches that needed to be reprimanded. As predicted, 5-year-olds tattled more and tended to be more emotionally agitated after the moral transgression as compared with the conventional transgression. However, 3-year-olds did not differentiate significantly between the moral and conventional transgressions in any of the responses we measured. This was not what we had predicted, and it might be the case that the moral transgression of stealing might not have been apparent enough to trigger a more emotional response in 3-year-olds. Indeed, research on children's understanding of ownership shows a significant development between 3 and 5 years of age, and 3-year-olds base their understanding of who owns an object mainly on who takes first possession of it (Blake & Harris, 2009; Nancekivell, Van de Vondervoort, & Friedman, 2013). In the current study, the experimenter explained who the reward belonged to, but it was still the puppet who took first possession of it and not the rightful owner (child or third party). It might be the case that for 3-year-olds the question of ownership was unclear in that situation and, thus, not leading to a differentiation between moral and conventional transgressions. In addition, we predicted that especially 3-year-olds would tattle, protest, intervene, and be more emotionally agitated on their own behalf as compared to a third-party's behalf. However, 3-year-olds as well as 5-year-olds mostly behaved in the same way regardless of who was affected by the transgression. The only exceptions were that children of both age groups were overall more emotionally agitated when they were affected themselves as compared to a third party, but this effect was stronger for 3-year-olds than for 5-year-olds. Interestingly, 5-year-olds showed a tendency to tattle more on behalf of a third party than on their own behalf. This is the opposite pattern of what we predicted and contrary to Study 1, in which there was no difference in tattling, and even more in contrast to the findings from natural observations by Ingram and Bering (2010), in which children rarely tattled on behalf of third parties. One possible reason might be the subtly different operationalization of the third-party manipulation in Study 2 in order to make the study more appropriate for 3-year-olds as compared with Study 1. In Study 2, the transgression affected a particular and personalized child of the same sex that was named by the experimenter as Lola/Max, and there was an illustrative drawing of that child on his or her bag in contrast to Study 1, where the third party was merely "absent other children from another kindergarten." These factors might have spurred children's empathic concern for that other child and increased their motivation to report the transgression. It might also be the case that children thought that E1 and the third party were friends or had some other significant relationship and, thus, that E1 might care and want to know about what happened to the third party's reward. Contrary to our predictions, children's attempts to either prevent or correct the transgression were not affected by the type of transgression or children's involvement. A possible explanation might be the fact that children were now able to rectify both transgressions, whereas before they could correct only the conventional transgression and not the moral transgression. Thus, intervening by preventive measures in Study 1 was especially urgent in the moral case because children had no chance to rectify the transgression, whereas preventing the conventional transgression was not as pressing because it could be rectified later. Therefore, it seems that children are indeed motivated to intervene in both moral and conventional transgressions to a similar degree if there is an opportunity for them to do so (Rossano et al., 2011).

General discussion

A large body of research has established that children from 3 years of age onward distinguish different kinds of social wrongdoings when observed in their natural interactions and when asked explicitly about them (Turiel, 1983). However, less research has actually investigated children's spontaneous responses, particularly normative evaluations and emotional responses, to such transgressions in

more controlled settings. In addition, it remains unclear whether children's responses to norm transgressions also differ between situations in which children are directly affected and disadvantaged by the transgressions or a third party. Hence, it is an open question whether and how children's early abilities of differentiation translate into their behavioral and emotional responses to actual transgressions.

Therefore, two studies were conducted investigating children's spontaneous responses to moral and conventional norm violations that either affected children themselves or affected a third party. Specifically, Study 1 looked at transgressions that either had harmful consequences or affected the smooth coordination of the game. In this case, the moral transgression was not inherently harmful as such but only constituted a moral violation in that game context. Study 2 investigated 3- and 5-year-olds' responses to more prototypical transgressions within a different game context in which the transgressor either stole a reward or clearly played the game wrongly.

These studies found that by 3 years of age, young children protested normatively against both types of transgressions to a similar degree, thereby recognizing both as breaches of "what should be done," which was the case regardless of whether they were affected by the transgression themselves or an absent third party. This corroborates previous research and theory (Rakoczy et al., 2008; Schmidt & Tomasello, 2012), suggesting that young children are sensitive toward general normative expectations not just for familiar rules but also for novel rules and understand the force and collective nature of social norms already beyond the realm of their personal involvement.

Importantly, however, 5-year-olds also differentiated between moral and conventional transgressions. They expressed more emotional agitation toward the moral transgressor than toward the conventional transgressor and also tattled more on the former. Again, this was the case for prototypical as well as unfamiliar transgressions, suggesting that children seemed to consider whether an action has harmful or merely disruptive consequences. In line with social domain theory (Turiel, 1983), children seemed to differentiate whether a transgression pertains to moral or conventional issues, which in the case of the unfamiliar transgressions was neither evident in the action itself nor directly deducible from prior knowledge.

The 5-year-olds' differential patterns of response also suggest that they attribute a higher severity to moral transgressions than to conventional transgressions, thereby reacting more emotionally agitated, which is consistent with findings from prior studies in which children were asked about their explicit moral judgments (e.g., Smetana, 1981). In addition, these findings fit well with Nichols' (2004) argument that emotions play a major role in distinguishing moral transgressions from conventional transgressions because moral (in particular harm-related) transgressions, as opposed to conventional transgressions, usually elicit a stronger aversive response, which in turn leads to a more severe and universal condemnation. However, the current studies did not investigate the causal relationship of emotional and cognitive appraisals of normative transgressions. Therefore, we cannot draw any conclusions from these studies about whether emotional agitation leads to the cognitive assessment of moral and conventional transgressions or the other way around (assuming that these are actually separable phenomena). This will remain the subject of future investigations. Nevertheless, emotional agitation and understanding of normative transgressions seem to be linked in children's responses to these transgressions.

Overall, children intervened both on their own behalf and on behalf of an absent third party. Interestingly, however, in most of their responses they did so to similar degrees, thereby investing as much effort when their own interests were at stake as when someone else's interests were at stake. One exception to this pattern was that when the moral violation was irreversible (Study 1), 5-year-olds tried to actively prevent the moral transgression more often than the reversible conventional one and took such preventive measures more on their own than on an absent third party's behalf. However, when both transgressions could be rectified and reversed by children (Study 2), this difference disappeared and children equally prevented and corrected both types of transgressions regardless of who the victim was, providing evidence that they are motivated to intervene on behalf of themselves and others alike. Interestingly, it seems that 5-year-olds' tattling behavior on behalf of third parties is contextually quite flexible given that previous research, as well as our research, suggests that the absence or presence of the victim (cf. Ingram & Bering, 2010) and the knowledge of the victim's identity might be factors influencing whether and how much they intervene on behalf of a third party.

Study 2 particularly suggests that children's concern for the welfare of an absent other might be spurred such that children tended to tattle a bit more for the third party's sake than for their own. This fits with previous research showing young children's concern for other's welfare (e.g., Hepach, Vaish, & Tomasello, 2012) and adds to these findings that children's motivations to intervene on their own behalf seem to be similarly strong as their motivations to intervene on another's behalf provided that this other person is absent and cannot intervene himself or herself.

Overall, an interesting finding lies in the divergence between 5-year-old children's spontaneous normative evaluations and their behavioral responses toward moral and conventional transgressions. Although the verbal normative protest in both cases is basically indistinguishable, children's reactions regarding emotionality and tattling are distinctively different for the conventional and moral transgressions. This supports previous findings that children understand both transgressions as normative breaches that should not be committed by anyone but at the same time reveals that children differentiate these types of transgressions such that a moral transgression leads to heightened emotional arousal and needs to be reported to an authority more than a conventional transgression does.

As for the younger age group of 3-year-olds, Study 2 revealed that children's responses did not significantly differ for moral and conventional violations; thus, younger children seem to differentiate both kinds of transgressions to a lesser degree in their behavioral responses than 5-year-olds. Although in previous studies using observation and interview methods 3-year-olds did differentiate these kinds of transgressions, it seems that this might not translate as straightforwardly into their actual behavioral responses. However, it is unclear whether the lack of differentiation in 3-year-olds might be due to task demands of this particular study (e.g., stealing might be more difficult to understand than other moral violations; see Smetana, 1981) and future studies are needed using different transgressions to draw any strong conclusions for 3-year-olds' responses.

Overall, the current studies provide evidence that by 5 years of age, children's abilities to discriminate different social norm violations are also reflected in their spontaneous responses to actual transgressions. Moral transgressions have been followed mostly by more tattling behavior and higher emotional agitation as compared with conventional transgressions. However, both transgressions were met with normative protest by children and interventions to resolve the situation. Importantly, children intervened to a similar degree as victims of a transgression as well as on behalf of an absent third party, showing their impersonal perspective concerning social norms that already reaches beyond the realm of their personal involvement.

Acknowledgments

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