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Preschoolers’ Compliance With Others’ Violations of Fairness Norms: The Roles of Intentionality and Affective Perspective Taking

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\textbf{ABSTRACT}

Young children are remarkably compliant with social norms, especially those governing fairness and equality. Yet children also frequently observe and face opportunities to violate those social norms, particularly in situations in which doing so is self-beneficial. In 3 studies, we investigated the conditions under which children adhere to social norms using a novel resource distribution paradigm in which children met an experimenter who expressed either a norm-consistent (equal distribution) or norm-inconsistent (unequal distribution) intention. In Experiment 1, we found that preschoolers generally complied with an experimenter’s intention, regardless of its norm consistency. In Experiment 2, the experimenter again expressed a norm-consistent or norm-inconsistent intention but accidentally placed resources in the opposite distribution of that intended. Preschoolers mostly defaulted to the social norm of fairness. However, they were less likely to do so (and more likely to comply with the norm-violating experimenter) when the inequality was self-benefitting. The likelihood of norm defiance in the face of self-benefit appeared to relate to children’s affective perspective taking. In Experiment 3, we found that training preschoolers in affective perspective taking increased the likelihood children would defy a norm-violating experimenter’s unfair intention. Thus, although preschoolers were generally compliant, both fairness norms and affective perspective taking served as important mechanisms to help children selectively defy adults’ instructions and intentions.

Young children show a remarkable understanding of equality in third-party contexts. During the 2nd year of life, toddlers expect that resources will be distributed equally among others, and they prefer people who create such equal allocations (e.g., Brownell, Svetlova, & Nichols, 2009; Geraci & Surian, 2011; Schmidt & Sommerville, 2011; Sloane, Baillargeon, & Premack, 2012). When asked to divide resources among others, preschoolers divide them equally (e.g., Olson & Spelke, 2008). Around age 6 years, children display costly behaviors to enforce equalities: They pay to punish those who create inequities (McAuliffe, Jordan, & Warneken, 2015) and discard resources to avoid creating unequal distributions (Shaw & Olson, 2012). Many have argued that these data suggest young...
children have a clear understanding of a social norm of fairness, particularly when they observe resources divided among third parties (e.g., Blake, McAuliffe, & Warneken, 2014; Sheskin, Chevallier, Lambert, & Baumard, 2014; Smith, Blake, & Harris, 2013).

Despite this early-developing appreciation of equality, children do not act fairly in all contexts, and children frequently observe others violating the social norm of fairness in their daily lives. At a macro level, this fact is evident in the wealth distribution of the United States, where the top 0.1% of the population holds more than 22% of the country’s total wealth. Moreover, the total wealth amassed by the top 0.1% has more than tripled during the past 40 years (Saez & Zucman, 2014). Middle-class children in elementary school recognize such income inequity based on profession, suggesting that by this age, children can recognize that not all resources are distributed equally (e.g., Burgard, Cheyne, & Jahoda, 1989; Emler & Dickinson, 1985).

At a finer-grained level, children encounter violations of social norms daily through their own and their peers’ selfish or deceptive behavior. Indeed, preschool-aged children frequently distribute resources in ways that perpetuate existing inequalities, rather than in ways that actively rectify them (e.g., Schmidt, Svetlova, Johe, & Tomasello, 2016). Preschool-aged children have also been documented to prefer giving themselves advantages in resource distribution (Blake et al., 2015; Sheskin et al., 2016) and to prefer others who have those advantages (Ahl & Dunham, 2017).

Other research has suggested even older children may still allocate and perpetuate inequalities as long as they can appear fair while doing so. Indeed, 5- to 8-year-olds showed a developing appreciation for procedural justice and valued resource distribution methods that were impartial (e.g., Grocke, Rossano, & Tomasello, 2015; Shaw & Olson, 2014) but not necessarily outcomes that were equal. Moreover, older children even opted for situations leading to inequity as long as the method for assigning inequity was unbiased (Shaw & Olson, 2014), and even when using unbiased methods, children still chose to benefit themselves as long as they appeared fair. For instance, when given an opportunity to assign resources between themselves and others, older children chose to flip a coin but reported the coin flip being in their favor at rates higher than chance (Shaw et al., 2014).

In sum, although young children might have an expectation of fairness, they also frequently encounter violations of that principle and engage in equity violations themselves (e.g., Fehr, Bernhard, & Rockenbach, 2008; Smith et al., 2013). Thus, of critical interest is when—and under what circumstances—children are motivated to comply with social norms of fairness and when they might instead comply with others’ violations of these norms.

In general, the ability to comply with an adult informant’s instruction selectively (rather than indiscriminately) has a prolonged developmental trajectory. Toddlers aged 2 years to 3 years old showed a strong tendency toward normativity by enforcing and protesting against those who did not follow conventions and social norms, even when social norms were clearly arbitrary (e.g., Koenig & Echols, 2003; Rakoczy, Kaufmann, & Lohse, 2016; Rakoczy, Warneken, & Tomasello, 2008; Schmidt, Butler, Heinz, & Tomasello, 2016). During the preschool years, preschool-aged children actively enforced norms of equal sharing but failed to appreciate legitimate reasons to violate these norms until 8 years of age (Schmidt, Svetlova et al., 2016). By the early elementary school years, children begin to tolerate and endorse violations of equal sharing when reasons (e.g., merit, desire, need) are provided. Children also develop expectations about the contexts under which equal sharing is not always appropriate; for instance, children recognize and follow norms around charity (Malti et al., 2015; Wörle & Paulus, 2018).
In the present studies, we investigated the situations under which children complied with or defied others’ norm violations. We developed a novel resource-distribution paradigm in which an experimenter stated an intention to divide a specified set of resources in either a norm-consistent (equal) or norm-inconsistent (unequal) manner. Children were then given those resources and asked to generate the distribution themselves; thus, they were provided with an opportunity to either comply with or defy the experimenter’s intent. Each child made distributions in both a first-party scenario (in which the child participant was a potential beneficiary of the resources) and a third-party scenario (in which the child was not a beneficiary).

Critically, children who encountered a norm-inconsistent adult were faced with a conflict, which they could resolve either by following the adult’s instruction while defying the social norm of fairness or by following the social norm of fairness while defying the adult’s intent. We reasoned, based on previous work, that children might differentially resolve this conflict when they stand to benefit from a resulting inequity (i.e., first-party context) versus when they do not (i.e., third-party context).

Research on children’s willingness to reject inequities in first-party scenarios has shown a related dissociation between children’s behaviors when they are disadvantaged by inequity compared with when they are advantaged by it. When children receive fewer resources than others (i.e., a disadvantageous inequity), they show the same preference for equality as they do in third-party contexts. In these cases, even very young children across many cultures recognized, avoided, protested, and attempted to rectify situations in which someone else received more than they did (i.e., disadvantageous inequity aversion; see Blake et al., 2015). In contrast, when children benefitted from inequity (i.e., they received more than others; an advantageous inequity), their behaviors showed a more prolonged developmental trajectory among Western samples, with a preference for equality (i.e., advantageous inequity aversion) emerging only around age 7 years (e.g., Blake & McAuliffe, 2011; Fehr et al., 2008; LoBue, Nishida, Chiong, DeLoache, & Haidt, 2011). Critically, such advantageous inequity aversion appears separable from children’s abstract understanding of social norms (Smith et al., 2013). Despite children’s early preference for equality in third-party contexts and their ability to articulate norms of fairness, their behaviors in first-party situations in which they are directly involved require children’s discounting of the social norms they know and otherwise uphold.

In the present studies, we thus predicted that children might be more likely to discount social norms and comply with norm-violating informants when doing so advantaged them compared to when it did not. Notably, some recent research has suggested that children are equally likely to protest against inequities that do and do not involve them (e.g., Rakocy, Kaufmann, & Lohse, 2016). Such studies, however, have involved disadvantageous inequity scenarios with markedly different setups and have also involved an element of merit. Here, we licensed children to act unfairly and predicted that children would be more likely to do so when this act was self-benefitting (i.e., created an advantageous inequity).

Before testing this prediction, we first demonstrated in Experiment 1 that preschool-aged children prioritized compliance even when doing so violated a social norm that is widely known by this age group (Chernyak, Harris, & Cordes, 2018; Rakocy et al., 2016; Schmidt, Svetlova et al., 2016; Smith et al., 2013). Here, we demonstrated that children in this age group willingly overrode social norms of fairness when told to do so by an informant. We found that when an experimenter expressed an intention to distribute resources in a given way, young children complied with this request, regardless of whether the intent was consistent or inconsistent with social norms.
In Experiment 2, we slightly altered the procedure used in Experiment 1 to test the conditions under which children might be more willing to defy the experimenter’s intent. We did so by creating a conflict between the experimenter’s intention and her action. Rather than placing the resources on the table in a spatial configuration consistent with her stated intention (e.g., two stickers for each recipient), the experimenter hurried out of the room after accidentally placing the resources on the table in a manner in opposition to her intention (e.g., three stickers for the first recipient and one for the other). In the fair intention condition, the experimenter expressed an intention to be fair, but she left the resources on the table in an unequal configuration (favoring the child in the first-party trial). In the unfair intention condition, the experimenter expressed an intention to be unfair (beneficial to the child in the first-party trial), but the resources were placed accidentally in an even distribution. Thus, in both cases, children were faced with a decision between rearranging the resources to comply with the experimenter’s intent or accepting the accidental placement and defying the experimenter’s intent. In both conditions, we measured children’s ultimate resource allocation.

Notably, in the fair intention condition, the choice to rearrange the resources complied with both the experimenter’s stated intention and the social norm of fairness. Given the combination of these factors, we expected children in this condition to rearrange the resources. In contrast, children in the unfair intention condition could either comply with the experimenter’s stated intention or comply with the social norm of fairness, but not both. Given the added cost involved in rearranging the stickers, we expected children to be more likely to undergo this cost when the experimenter’s licensed inequity was self-benefitting than when it benefitted someone else. Thus, in this condition, we predicted that children would be more likely to comply with a norm-violating other in first-party situations compared to third-party situations.

In Experiment 2, we also considered two potential factors that might influence children’s resource distribution behaviors. First, we administered an independent measure of inhibitory control for two main reasons. Children might struggle to comply with an experimenter’s intention when the intention conflicts with the experimenter’s action because they lack the cognitive control to simultaneously coordinate two inconsistent pieces of information. Moreover, children who lack inhibitory control might have a harder time rejecting the opportunity for themselves to receive more resources in first-party scenarios, therefore making it harder for them to follow norms in these cases. We also administered a measure of affective perspective taking. Children who lack the ability to recognize that others will be hurt by an unfair intention and particularly that others’ emotional responses to a circumstance might be different from their own might be more likely to comply with that intention, and such a relation might be particularly strong when children themselves are recipients of the resources as opposed to when they are neutral to the distribution.

In Experiment 3, we followed up on a suggested relation between affective perspective taking and compliance through a training study. In particular, we asked children to explain stories that required them to take the affective perspective of another person when the emotional reaction was different from their own. If children with lower affective perspective-taking abilities are more likely to comply with an experimenter’s unfair intentions willingly, then training children on affective perspective-taking capacities—particularly the capacity to recognize when others will have different reactions than themselves—should reduce their likelihood of complying with others’ violations of fairness norms.
Experiment 1

Participants

Thirty-two children (15 female, 17 male) aged 3 years to 5 years old ($M_{\text{age}} = 4;8$, range = 3;5–5;11) participated. Children were tested in the laboratory, at a local preschool, or in a quiet room at a local children’s museum. Formal measures of socioeconomic status were not collected, but participants were predominantly Caucasian and from middle- to upper-class families.

Materials

In the Compliance task, children were shown five plush animals: a cat (15.5 cm tall), dog (14.5 cm tall), penguin (18 cm tall), koala (16.5 cm tall), and bird (24 cm tall). Two opaque, rectangular cardboard boxes (14 cm × 8.5 cm × 6.5 cm), four flat glass marbles, and eight sparkly smiley-face stickers (3.5 cm × 3.5 cm) were also used. The boxes were spray-painted gold, and slits were cut into the top (5.5 cm × 1.5 cm slit) and bottom (5.5 cm × 2.5 cm slit) of each box. Removable foam stoppers (5.5 cm × 2.5 cm) were fit into the bottom slits.

Procedure

Children were brought into a quiet testing room with a table and chairs. As a warm-up, children were introduced to two animals, “Kitty” and “Doggy” (order counterbalanced). Two opaque boxes were placed in front of the animals. Children were told that Kitty and Doggy both really like marbles and really like getting marbles and that the boxes were intended for holding marbles that would be given to the two animals. Then, the experimenter expressed a desire to make both of the animals happy and told the child that to make both happy, she wanted to give one marble to each animal. The experimenter placed the marbles in front of the boxes to ensure that children could see the distribution of marbles and then placed the marbles into the animals’ respective boxes. Then, children were told that the experimenter would give each animal one more marble, and after placing the marbles in front of the boxes, the experimenter asked the children to place the marbles into the boxes for her. The warm-up trial was intended to familiarize children with the experimental setup and particularly with placing objects into the boxes.

After completing the warm-up, children were presented with two test trials: a first-party trial and a third-party trial (order of presentation of the two trials was counterbalanced across children). In the first-party trial, children were tasked with splitting stickers between themselves and one other recipient (a stuffed animal named “Birdie”). In the third-party trial, children were tasked with splitting stickers between two third parties (two stuffed animals named “Penguin” and “Koala”). After children were introduced to the animal(s), two boxes were placed in front of the child and Birdie (first-party trial) or in front of Penguin and Koala (third-party trial). On both trials, children were told that the animal(s) really like(s) stickers and really like(s) getting stickers and that the boxes were for holding stickers that were going to be given to the animal and child (first-party trial) or the two animals (third-party trial).
The experimenter then stated an intention regarding how she wanted to distribute four stickers. Children were randomly assigned to one of two conditions: the *fair intention* condition or the *unfair intention* condition. In the *fair intention* condition, the experimenter expressed an intention to create an equal/fair distribution by stating that she wanted to give the puppet and the child each two stickers (first-party trial) and that she wanted to give each of the puppets two stickers (third-party trial). In the *unfair intention* condition, the experimenter expressed an intention to create an unequal/unfair distribution by stating that she wanted to distribute the stickers in a three-to-one distribution in favor of the child over the puppet (first-party trial) or one puppet over the other (third-party trial), with the puppet that was preferred counterbalanced across participants.

After the experimenter stated her intended distribution, a confederate experimenter entered the room and told the experimenter that she needed her help. The experimenter then told the children she was going to leave to help her friend. While exiting the room, the experimenter dropped the stickers onto the table and placed them into a configuration matching the distribution she intended (i.e., if the experimenter stated that she wanted to distribute the stickers equally, she placed two stickers in front of each box; if she stated that she wanted to distribute the stickers unequally, she placed three stickers in front of one box and one sticker in front of the other). Before leaving the room, the experimenter asked children to put the stickers into the boxes for her. The experimenter surreptitiously watched to see when children had put the stickers into the boxes before reentering the room. Upon reentering, the experimenter thanked the child for helping her.

**Results and discussion**

For each trial in the compliance measure, we coded children’s final allocation of the four stickers. Preliminary analyses revealed no significant effects of gender or the order in which children were given the first- and third-party trials, so these variables were not considered further. Figure 1 shows the frequency with which children complied with the experimenter’s intention (i.e., created a fair distribution between the two recipients in the *fair intention* condition and the specific unfair distribution in the *unfair intention* condition). Critically, children complied with the experimenter’s intention (which we define as *compliance*) more often than chance (50%) on all trials (all binomial tests, *p* < .022). Children overwhelmingly generated a fair distribution on the two *fair intention* trials and overwhelmingly did not generate a fair distribution on the *unfair intention* trials (Fisher’s exact tests, both *p* values < .001, Phi = .875 and .882 for the third- and first-party trials, respectively). There were no significant differences between compliance on the first-party and third-party trials in either condition (both *p* values ≥ .50). There were no significant correlations between compliance and age on either trial in either condition.

When instructed to create a fair distribution, children were likely to comply with the experimenter’s instruction, regardless of whether they themselves were a recipient of the resources or if the distribution was between two third parties. Critically, when instructed to create an unfair distribution, children also were likely to comply with the experimenter’s instruction. Children rarely generated a fair distribution in this condition, and between the two trials, they responded with the unfair distribution stated by the experimenter 88% of the time. These data suggest that when instructed to create an unfair distribution, young children favor the direct instruction of an adult and create this unfair
allocation. Thus, direct instruction from an experimenter can override preexisting social norms of fairness. These data are consistent with data from previous studies on advantageous inequity aversion (Blake et al., 2015), which have shown that preschool-aged children accept unequal distributions when they are self-benefitting.

Moreover, these data also suggest that children do not simply respond based on the norm of equality. When the experimenter’s intentions and outcomes matched (even if unfair), children followed the intentions. The fact that children complied with an unfair intention here might suggest that they simply misunderstood or discounted the social norm of fairness. However, given the wealth of work (reviewed in our Introduction) suggesting that equality is highly valued by this age group, we considered this possibility to be unlikely. Instead, we interpreted these data to suggest that young children also treat verbal instructions as salient and reliable (e.g., Jaswal, 2010; Rakoczy et al., 2008). Thus, when equality is pitted against another constraint (namely, an adult who requests otherwise), children may opt to comply with an adult’s unfair intentions unless there are other cues that might remind them of the social norm or that allow them to defy the unfair intention. Given these high rates of experimenter compliance, we aimed in Experiment 2 to create a situation that justified children’s decisions to defy the experimenter in cases in which she had an unfair intention. At the same time, we also examined whether children would be willing to expend additional effort to comply with an experimenter with fair intentions.

In Experiment 2, rather than place the stickers in her intended distribution, the experimenter placed the stickers in a hurried, haphazard manner and gave the appearance that she accidentally placed a different distribution on the table than her intended distribution. Thus, the experimenter either intended to place the resources fairly but

Figure 1. Percentage of children complying with the experimenter’s intention in Experiment 1 across conditions and trial types. Fifteen of 16 children complied with the experimenter’s intention in the fair intention condition, first-party trial; 16 of 16 children complied in the fair intention condition, third-party trial; 15 of 16 children complied in the unfair intention condition, first-party trial; and 13 of 16 complied in the unfair intention condition, third-party trial.
accidentally placed them in an unequal configuration or she intended to place the resources unfairly but accidentally placed them in an equal configuration.

We included this manipulation given work suggesting that even very young children attend to intentions when following social norms (e.g., Josephs, Kushnir, Gräfenhain, & Rakoczy, 2016; Pesowski, Denison, & Friedman, 2016). Critically, to comply with the fair experimenter in Experiment 2 and follow fairness norms, children had to opt to rearrange the stickers before placing them into the boxes, thus providing a test of the extent of children’s willingness to comply with the matching intention and norm. In contrast, in Experiment 2, children were provided with an option through which they could defy the experimenter’s intention by accepting the accidental placement. We reasoned that the accidental placement in this second case may nudge even young children, who show some trouble with defying experimenters, toward defaulting to the social norm of fairness.

In both cases, we examined whether children rearranged the distribution on the table to comply with the experimenter’s stated intention or chose to keep the accidental distribution and defy the experimenter’s intention. We also examined whether children’s actions differed between first- and third-party scenarios—that is, when children themselves did and did not hold a stake in the outcome. We predicted that children would be more likely to expend effort to comply with a norm-violating experimenter in cases in which the child faced the potential for self-benefit (i.e., first-party scenarios).

We also included two measures that would allow us to test for mechanisms underlying children’s defiance of social norms. The first was children’s developing inhibitory control. Unlike in Experiment 1, to comply with the experimenter’s intention, children had to inhibit the placement that was on the table to follow the stated intention. It is possible that inhibitory control capacities relate to whether children generate the intended distribution in light of the accidental placement.

The second measure—and one we were particularly interested in exploring—was children’s affective perspective taking, an ability that involves children successfully considering multiple conflicting emotions about the same situation at the same time. In third-party scenarios that do not directly involve the child allocator, children can more readily follow abstract fairness norms. In contrast, first-party scenarios introduce the child’s own perspective and own benefit (i.e., taking more of the stickers), which conflicts directly with abstract norms of fairness (i.e., splitting the stickers evenly) and with the perspective of another. If young children lack the ability to balance conflicting perspectives, then their own perspective in first-party scenarios might dominate over the perspective of the other recipient. For instance, in a scenario involving resource allocations, children with weaker affective perspective taking might use their own perspective in isolation and respond based on the fact that receiving more resources will benefit them and make them happy. Such a situation might stand in contrast to third-party situations in which children do not hold a personal stake in the allocation and can apply more abstract rules about allocations and fairness. In contrast, children with stronger affective perspective taking might instead consider both their own perspective and that of the other resource recipient; these children recognize that although receiving an unfairly large number of the resources might make them happy, it is likely at the same time to make the other recipient sad. Thus, fair behavior in first-party situations is likely to emerge from recognizing that although acting selfishly will satisfy one’s own desires, doing so will also negatively impact the other person. In sum, we predicted that poor affective perspective-taking capacities
might result in a particular differential compliance behavior—an increased likelihood of expending effort to comply with an unfair experimenter when the child is a recipient of the resources compared with when the distribution is between two third parties.

**Experiment 2**

**Methods**

**Participants**

Seventy-nine preschool-aged children were included in the study (37 female; \( M_{\text{age}} = 4;6, SD = 10.23 \) months, range = 2;11–5;11). Thirty-nine children were randomly assigned to the *fair intention* condition (16 female; \( M_{\text{age}} = 4;5, SD = 9.78 \) months, range = 2;11–5;11) and 40 children were randomly assigned to the *unfair intention* condition (21 female; \( M_{\text{age}} = 4;6, SD = 10.77 \) months, range = 3;0–5;11). This sample size was chosen to be intentionally higher than that in Experiment 1 to consider correlations among the administered measures. Children were tested in the laboratory, at a local preschool, or in a quiet room at a local children’s museum. Formal measures of socioeconomic status were not collected, but participants were predominantly Caucasian and from middle- to upper-class families. Ten additional children were tested but excluded due to inability to finish the trials (\( N = 4 \)), parental interference (\( N = 1 \)), and experimental error/video malfunction (\( N = 5 \)).

**Materials**

The same materials were used in the compliance task as in Experiment 1. In the affective perspective-taking procedure, children saw one laminated drawing of a yellow smiley face (23 cm × 14 cm) and one laminated drawing of a yellow frowny face (23 cm × 14 cm).

**Procedure**

Children were brought into a quiet testing room with a table and chairs and were presented with three tasks in a fixed order: 1) the Compliance task, 2) the Affective Perspective-Taking (APT) task, and 3) the Head-Toes-Knees-Shoulders (HTKS) task.

**Compliance task.** The Compliance task was the same as in Experiment 1, except that when the experimenter left, she placed the stickers down on the table in an obviously haphazard manner and accidentally did so in a different configuration than her stated intention. In the *fair intention* condition, in which she stated that she wanted to distribute the stickers equally, she made an accidental unfair placement of the stickers (i.e., three stickers in front of one box and one sticker in front of the other). This accidental unfair placement favored the child in the first-person trial. In the *unfair intention* condition, in which she stated that she wanted to distribute the stickers unequally, she made an accidental fair placement of the stickers (i.e., two stickers in front of one box and two stickers in front of the other).

**Affective Perspective-Taking task.** The APT task was modeled based on Harwood and Farrar (2006). Children were presented with two drawings, one of a smiley face and one of a frowny face. Children were asked to identify which one of the faces was happy and which one of the faces was sad. If children responded incorrectly, they were provided with corrective feedback and the questions were subsequently asked again.
Children were then asked to identify their best friend or someone with whom they like to play. Then, the experimenter read children 12 vignettes about themselves and their identified playmate. After each story, children were asked how they would feel and how their friend would feel in the hypothetical situation. Children were told that they could either state the emotion (happy or sad) or point to the provided drawings to identify which of the two emotions each of the two characters would feel. In each story, the expected answers regarding the child’s and the friend’s emotions were either the same (e.g., “While playing tag, you and [identified friend] both fall down and cut your knees.”) or different (e.g., “One of your other friends is having a birthday party. [Identified friend] is invited, but you are not invited to go.”). The stories were read in a fixed order, and the order of the two questions (resulting emotions of self and of friend) was counterbalanced across the stories.

**Head-Toes-Knees-Shoulders task.** The HTKS task was adopted from Ponitz, McClelland, Matthews, and Morrison (2009). Children were first asked to stand up and face the experimenter. The experimenter then told children they were going to play a game in which they should follow the experimenter’s commands (i.e., “Touch your head” and “Touch your toes”). After being introduced to this game, children were told they were going to play a new game, in which they should complete the action of the opposite command when given each command (i.e., when the experimenter said, “Touch your toes,” children should have touched their heads, and when the experimenter said, “Touch your head,” children should have touched their toes). Children received 2 practice trials and 10 test trials, which were first randomized and then presented in a consistent order.

After completing the set of 10 test trials, children were introduced to a new set of rules (i.e., “Touch your shoulders” and “Touch your knees”), and they were also told to complete the action associated with the opposite command (e.g., when the experimenter said, “Touch your knees,” children should have touched their shoulders, and when the experimenter said, “Touch your shoulders,” children should have touched their knees). Children received 2 practice trials with the second set of rules and 10 test trials with all four rules combined.

**Coding**

For each trial in the compliance measure, we coded children’s final allocation of the four stickers. The first author coded the compliance measure. An undergraduate research assistant then double-checked all the codes. Agreement was 99%. The one disagreement was resolved by the first author.

The coding for the APT measure was based on the system used by Harwood and Farrar (2006). Children received 1 point for each question they answered with the correct emotion. Overall scores ranged from 0 to 24. Because we were specifically interested in children’s ability to take another’s perspective when it conflicted with their own, we divided these scores into two subscores: a score for questions when the child’s and other’s emotions were the same (APT_{same}) and a score for questions when those emotions differed (APT_{different}). Each score ranged from 0 to 12. An undergraduate research assistant coded the APT measure. The first author coded a subset of the data (20%). Agreement was 98%, and disagreements were resolved by the first author.
The coding for the HTKS measure was based on the system used by Ponitz et al. (2009). Children received 2 points for each correct response and 0 points for each incorrect response. If children physically motioned toward the incorrect response but corrected themselves and finished with their hands in the correct location, they received 1 point. These scores ranged from 0 to 40. An undergraduate research assistant coded the HTKS measure. A second undergraduate research assistant coded 15% of the data. Agreement was 92%, and disagreements were resolved by the first author.

Results

Preliminary analyses revealed no significant effects of gender or the order in which children were given the first- and third-party trials, so these variables were not considered further. Figure 2 shows the extent to which children complied with the experimenter’s intention (i.e., generated an equal distribution in the fair intention condition and the stated unequal distribution in the unfair intention condition).

Unlike Experiment 1, in which the intention was unambiguous and children mostly complied with the experimenter in the unfair intention condition, children were significantly more likely to comply in the fair intention condition than in the unfair intention condition in both the third-party and first-party trials (both Fisher’s exact tests, \( p < .001 \), Phi = .65 and .50, respectively). Also unlike in Experiment 1, children in the unfair intention condition generally generated a fair distribution (75% and 70% of the time in the third- and first-party trials, respectively), which was no different from performance in the fair intention condition (both Fisher’s exact tests, \( p > .43 \)).

To investigate children’s compliance between the first-party and third-party trials, we treated performance in the two trials in a within-subject manner and ran a generalized

\[ \text{Figure 2. Percentage of children complying with the experimenter’s intention in Experiment 2.} \]

Thirty-one of 39 children complied in the fair intention condition, first-party trial; 30 of 39 children complied in the fair intention condition, third-party trial; 12 of 40 children complied in the unfair intention condition, first-party trial; and 5 of 40 children complied in the unfair intention condition, third-party trial.
estimating equation analysis using a binomial logistic model. Whether children complied was compared based on trial type (first or third party, within-subjects), condition (fair vs. unfair intention, between-subjects), and age (in months), while considering all possible main effects and interactions. This analysis showed a main effect of trial type, Wald $\chi^2(1, N = 79) = 6.74, p = .009$, a main effect of condition, Wald $\chi^2(1, N = 79) = 4.64, p = .031$, and a main effect of age, Wald $\chi^2(1, N = 79) = 18.78, p < .001$, as well as significant interactions between trial type and condition, Wald $\chi^2(1, N = 79) = 7.66, p = .006$, trial type and age, Wald $\chi^2(1, N = 79) = 5.44, p = .02$, and condition and age, Wald $\chi^2(1, N = 79) = 11.23, p = .001$.

To explore the Age $\times$ Condition interaction, we examined the role of age in children’s compliance across the two conditions. In the fair intention condition, children’s age was robustly correlated with their compliance with the experimenter’s intention in both the third- and first-party trials, $c(37) = 0.60$ and $0.46, p < .001$ and $p = .003$, respectively. The older the child, the more likely they were to comply with the experimenter’s intention and rectify the placement of the stickers on the table in a fair distribution, and this relation showed no difference between the two trials. In contrast, children in the unfair intention condition showed no relation between age and their compliance with the experimenter’s instruction to create the unfair distribution and their action sticker placement, both $c(37) = 0.23$ and $-0.10$, both $p$ values $> .16$. Thus, age predicted children’s tendency to comply with a fair intention but failed to predict compliance with an unfair intention.

To explain the interaction between trial type and condition, we examined differences between the first- and third-party trials in the two conditions separately. In the fair intention condition, in which the experimenter stated an intention for fairness but accidentally created inequality, children did not differ in the extent to which they left an unequal distribution between the first- and third-party trials, McNemar $\chi^2(1, N = 39) = 0.00, p = 1.00$. For the most part, children complied with the experimenter’s stated intention (which matched the accepted social norm of equality) by rectifying the accidental inequity in both trials. In contrast, in the unfair intention condition, children were more likely to create inequity in the first-party trial than in the third-party trial, McNemar $\chi^2(1, N = 40) = 4.00, p = .039$. These data suggest that children complied with the experimenter’s fair intention at similar rates in the first- and third-party cases. However, children were more likely to comply to be unfair in the first-party case (when it benefitted them) than in the third-party case (when it had no benefit to them) when the experimenter also stated an intention to be unfair.

Finally, we examined whether the inhibitory control or perspective-taking measures related to children’s responses on the compliance measure. We first checked whether there were any systematic differences in APT scores between the conditions. Children’s average APT same score in the fair intention condition was 9.28 (out of a possible 12, SD = 2.62); their average score in the unfair intention condition was 9.90 (SD = 2.30). Children’s average APT different score in the fair intention condition was 9.54 (SD = 2.54); the corresponding score in the unfair intention condition was 10.18 (SD = 2.46). Similarly, average HTKS scores were 11.62 and 11.25 (SD = 10.68 and 9.44, respectively) in the fair intention and unfair intention conditions, respectively. None of these differences were significant, all $t(77)$ values $< |1.14|$, all $p$ values $>.26$, indicating that children’s overall APT and HTKS scores did not systematically vary between conditions.
We then considered the unique roles of age and HTKS and APT\textsubscript{different} performance on whether children complied with the experimenter’s intention by conducting a binary logistic regression analysis on whether children complied with the experimenter’s intention. We constructed stepwise models for both the first- and third-party trials and examined whether children complied in each. We examined age (in months), condition, HTKS score, APT\textsubscript{different} score, and all interactions among these variables as dependent variables, while adding the factor that explained the greatest variance to the model but only doing so if adding that factor changed the overall significance of the model (as defined by 2 log likelihood).

For the third-party trials, the final model formed had only two significant factors: the interaction between condition and age, $\beta = 0.107$, SE $= .025$, Wald $\chi^2(1, N = 79) = 18.07$, $p < .001$, and the interaction between APT\textsubscript{different} score and age, $\beta = 0.009$, SE $= .003$, Wald $c^2(1, N = 79) = 9.07$, $p = .003$. Similarly, for first-party trials, the final model formed only had one significant factor, the interaction between APT\textsubscript{different} score and age, $\beta = 0.263$, SE $= .06$, Wald $\chi^2(1, N = 79) = 19.32$, $p < .001$. For both analyses, adding any additional variables or interactions to the model did not significantly explain additional variance.

The interaction between condition and age in the third-party condition was understandable given the significant correlations between compliance and age in the fair intention condition but the lack of such correlation in the unfair intention condition. The interaction between children’s APT\textsubscript{different} score and age is best explained by Figure 3, which shows compliance levels based on approximate median splits across age (above/below 55 months [4;7]) and APT\textsubscript{different} score (above/below 10/12 correct). Children with relatively high APT\textsubscript{different} scores showed similar levels of compliance, regardless of age. In contrast, children with low APT\textsubscript{different} scores showed dramatic increases in compliance with age, and overall, this finding was more pronounced in the first-party trials than in the third-party trials.

This difference led us to consider one final comparison between the first- and third-party trials. We noted that when children differed between the trials, they were more likely to make a particular pattern of response, creating an equal distribution in the third-party trial but an advantageous inequity for themselves in the first-party trial. This knowledgeable selfish behavior was rare and occurred only 5% of the time in the fair intention condition but 20% of the time in the unfair intention condition, a significant difference, $\chi^2(1, N = 79) = 3.95$, $p = .047$, Phi $= .224$. Further, in the unfair intention condition, knowledgeable selfish behavior tended to be demonstrated in children with lower APT\textsubscript{different} scores, $\rho(38) = –.345$, $p = .029$. This behavior, however, was not significantly correlated with either age or HTKS score, but when those variables were partialled out (because both did significantly correlate with APT\textsubscript{different} scores), this correlation was only marginally significant, $\rho(36) = –.276$, $p = .093$.

**Discussion**

In Experiment 1, when the experimenter’s intention and resource placement matched, children generally complied with instructions to distribute fairly or unfairly. In contrast, children in Experiment 2 faced a conflict between the experimenter’s intention and the

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1The marginal significance level of this partial correlation was similar when only age or only HTKS score was factored out
distribution in which she placed the resources. Children’s method for resolving this conflict differed greatly depending on whether the experimenter’s intention did or did not match existing social norms. Children complied with the fair intention but generally did not comply with the unfair intention. This compliance seemed unrelated to children’s inhibitory control capacities but showed some relations to both age and their ability to recognize that another’s affective reaction would be different from their own.

One concern with the difference between the fair intention and unfair intention conditions in Experiment 2 is that they might have placed differential amounts of cognitive load on children. In the fair intention condition, following a norm of fairness required rearranging the stickers, whereas in the unfair intention condition, following this same norm required merely placing the stickers in the boxes. Of importance is that children in all conditions were required to place the stickers in the boxes rather than merely accepting an arrangement. Children were willing to expend additional effort to comply with an experiment under certain circumstances. Notably, in the fair intention condition, rearranging the stickers not only resulted in the child complying with the experimenter’s intention but also resulted in the child complying with a social norm of fairness. In this case, children may have been motivated by these two concurrent incentives, and this willingness increased with age. In contrast, in the unfair intention condition, rearranging the stickers resulted in the child complying with the experimenter’s intention but also resulted in the child violating a social norm of fairness. When these two motivations were in conflict, children were less likely to put in the additional effort to comply and instead accepted the accidental placement.

Figure 3. Percentage of children complying with the experimenter’s intention in Experiment 2 (collapsed across the two conditions) compared by median splits on age (younger vs. older groups) and APT different score (low APT vs. high APT). On the first-party trials, 13 of 27 children complied in the younger-age half/lower-APT group; 8 of 14 children complied in the younger-half/higher-APT group; 9 of 11 children complied in the higher-age/lower-APT group; and 13 of 27 children complied in the higher-age/higher-APT group. For the third-party trials, those numbers were 8/27, 6/14, 7/11, and 14/27, respectively. **Note.** APT = Affective Perspective-Taking task; APT different = A score for questions when the child and a friend’s emotions differed.
Interestingly, within this second condition, children were comparatively more likely to expend the additional effort of rearranging when doing so would be self-benefitting compared with when that same additional effort would benefit someone else. One interpretation of these findings is that in the first-party scenario, children had additional motivation to rearrange the stickers that was not present in the third-party case. Whether an individual child was more likely to expend effort on behalf of themselves compared to expending effort on behalf of someone else related to their affective perspective-taking abilities. Children better able to recognize the differing emotional perspectives of other people were less likely to comply with unfair intentions that benefitted the self over others.

Experiment 2 left open questions regarding the nature of this relation between affective perspective taking and children’s compliance with social norm-violating intentions. We addressed two questions on this topic in Experiment 3. First, is the relation observed in Experiment 2 unique to this affective perspective taking or does it apply to perspective-taking skills and theory of mind more broadly? Second, the correlational nature of Experiment 2 (and the marginal findings in some cases) did not address the specific nature of the relation between affective perspective taking and children’s compliance and whether affective perspective taking might underlie children’s noncompliance with norm-violating intentions.

In Experiment 3, we replicated the unfair intention condition used in Experiment 2. Prior to receiving this measure, children received one of two training sessions: affective perspective training or a nonaffective perspective training. In the affective perspective training, children heard stories in which they and a friend differed in their emotional reactions to a situation. Children were asked to explain why the friend felt differently from themselves. Generating explanations of information has facilitated cognitive processing in multiple domains (see Rittle-Johnson & Loehr, 2017, for a review). As such, generating an explanation for these questions might promote children’s thinking about others’ affect and the possibility that the same situation can result in conflicting emotions. In the nonaffective perspective training, children were asked to explain differences in the differing conceptual perspectives of others, such as individuals who have different beliefs. Such conceptual perspective taking—as in many false-belief measures—has similar representational demands as affective perspective taking (particularly the APT different questions), but it is not specifically about others’ affect. These capacities are also developing at this time (e.g., Wellman, Cross, & Watson, 2001). Contrasting the impact of explaining others’ affective and nonaffective perspectives allowed us to consider whether affective perspective taking specifically or theory of mind capacities more generally play a role in reducing the likelihood of children acting unfairly in first-party scenarios while acting fairly in third-party ones.

Finally, Experiment 3 allowed us to consider one additional concern with the second study. In the unfair intention condition, children might have thought that because they were doing more work (i.e., placing the stickers in the box), they were entitled to more resources. This interpretation of the situation potentially provided a motivation for why they would create the inequity when it benefitted them but not when it involved two third parties. Children do consider the role of effort in allocating resources and believe that inequities can be created to reward hard work (e.g., Baumard, Mascaro, & Chevallier, 2012; Kanngiesser & Warneken, 2013; Shaw & Olson, 2012). If this motivation explained the difference between children’s behavior in the two trials in Experiment 2, then we would not expect to see it eliminated by any of the training present in Experiment 3.
**Experiment 3**

**Methods**

**Participants**
Fifty-five preschool-aged children were recruited for the study (27 female; $M_{age} = 4;7$, $SD = 10.68$ months, range = 3;1–5;11). Children were randomly assigned to the affective perspective training condition ($N = 28$, 16 female; $M_{age} = 4;7$, $SD = 10.80$ months, range = 3;1–5;11) or the nonaffective perspective training condition ($N = 27$, 11 female; $M_{age} = 4;8$, $SD = 10.76$ months, range = 3;1–5;11). Six additional children were tested but excluded due to being unresponsive to all test questions ($N = 1$), an undisclosed clinical diagnosis ($N = 1$), experimental error ($N = 1$), and parent/sibling interference ($N = 3$). Children were tested in the laboratory or in a quiet room at a local children’s museum. Formal socioeconomic-status measures were not collected, but participants were predominantly Caucasian and from middle- to upper-class backgrounds.

**Materials**
The same stimuli from the compliance measure in Experiments 1 and 2 were used here. In the affective training tasks, children were shown drawings depicting the scenarios described in the stories (each on a 21.5 cm × 14 cm sheet of paper). In the nonaffective perspective training tasks, children were shown a Band-Aid box containing blue marbles, a Crayon box containing colorful birthday candles, a sponge that had been spray-painted to look like a gray rock, and a candle made to look like a red apple.

**Procedure**
The compliance measure was identical to that in the unfair intention condition in Experiment 2. The experimenter stated an intention to distribute stickers unequally but accidentally placed stickers equally. Children received both a first- and third-party trial.

Prior to the compliance procedure, children underwent one of two familiarization procedures, depending on condition. In the affective perspective-training condition, children were first asked to identify a friend or someone with whom they like to play. Children heard four stories about themselves and the identified friend. In all four stories, the friend’s emotion conflicted with the emotion of the child. In two of the stories, children were happy and their friend was sad; in two of the stories, children were sad and their friend was happy (the order of these stories was counterbalanced with story type blocked together). For each story, children listened to the scenario (e.g., someone you and your friend know is having a birthday party), were told about an outcome that impacted them (e.g., you are invited to the birthday party), and were asked how they would feel given this outcome (in this case, happy). After labeling how they would feel, children were told their friend experienced a different outcome (e.g., “Your friend was not invited to the birthday party”) and were told how their friend would feel (in this case, sad). Finally, children were asked to explain why they thought their friend would feel that emotion.

In the nonaffective perspective-training condition, children were also first asked to identify a friend or someone with whom they like to play. Children were told they would see a series of four objects and would be asked some questions about them. For two of the stories, children were shown containers that contained some unexpected type of object (unexpected-contents
tasks including a Band-Aid box containing marbles and a Crayon box containing candles), and for two of the stories, children were shown objects that appeared to be made from one material but were really made from another (appearance–reality tasks including a candle that looked like an apple and a sponge that looked like a rock). The order of object presentation was counterbalanced with task type blocked together.

Children were first shown the object. In the unexpected-contents tasks, children were asked what they thought was inside the container. Children were then asked to open the container and label what was inside (e.g., children opened a Band-Aid box and found it contained marbles). Children were asked to close the box and then were asked to state what was really inside the box. Afterward, children were told that their friend had never seen the box before and that their friend would think the box contained the expected object (e.g., their friend thinks there are Band-Aids in the box). Children were asked to explain why their friend would think this (i.e., to explain why their friend would have a different conceptual perspective from themselves).

Similarly, in the appearance–reality tasks, children were first asked what they thought the object was. Then, children were handed the object and were asked what it is made from (e.g., the object appears like a rock, but children learn it is really a sponge). After the object was placed back onto the table, children were asked to state what the object really was. Children were then told their friend had never seen the object before and were told that their friend would think the object was what it appeared to be (e.g., their friend thinks the object is a rock). Children were asked why their friend would have this perspective (i.e., to explain why their friend would have a different conceptual perspective from themselves).

**Results**

Children’s explanations were coded by two research assistants who were blind to children’s age and condition. One coded the full data set; the other coded 20% of the data. The coders considered whether the explanation was appropriate for the situation. Agreement was 100%. Overall, children generated valid explanations on 84% of the trials in the affective-training condition and 76% in the nonaffective-training condition (not a significant difference), and the modal proportion of valid explanations was 100%. This finding suggests that children generally understood and explained the familiarization stories appropriately in both conditions.

The frequency with which children complied with the experimenter’s intention is shown in Figure 4. We ran a binomial logistic regression analysis to predict whether children complied with the experimenter’s intention, looking at trial type (first vs. third party; within-subjects) and condition (affective vs. conceptual perspective taking; between-subjects) as factors, and age as a covariate, considering all possible main effects and interactions. Only condition was significant, $\beta = -1.59$, $\chi^2(1, N = 55) = 4.74$, $p = .029$, 95% CI $[-3.02, -0.16]$. No other main effects or interactions were significant. Overall, children were less likely to comply with the unfair, norm-violating intention in the affective-training condition in both the first-party trial (Fisher’s exact test, $p = .02$, Phi = .31) and the third-party trial (Fisher’s exact test, $p = .04$, Phi = .29). Indeed, the majority of children generated fair distributions in both the first-party and third-party trials in the affective-training condition (89% of the time in both trials), significantly less often than in the nonaffective-training condition (63% and 59%, respectively; both Fisher’s exact tests, $p < .03$, both Phi values > .31).
Finally, we looked at cases in which individual children’s behavior differed between the first- and third-party trials. We were interested in cases in which children complied with the experimenter’s norm-violating intention when it was self-benefitting (first-party trial) but not when that same intention benefitted someone else (third-party trial). This behavior was rare, and although it was more likely in the nonaffective-training condition than the affective-training condition (11% vs. 4%), this difference did not reach significance (Fisher’s exact test, p = .35). When we compared performance on these training measures with the responses to the unfair intention condition in Experiment 2, however, children were less likely to selectively benefit themselves (i.e., to comply with unfair intentions in first- but not third-party situations). Asking children to reflect on why others’ affect might differ from their own perspective might prime children to consider that inequality can simultaneously be self-benefitting and harm others. In particular, we suggest that priming children in this way might bring children’s compliance when it is self-benefitting to be more in line with their compliance behavior when it is not self-benefitting. Indeed, performance in our affective perspective-training condition

**Figure 4.** Percentage of children complying with the experimenter’s intention across trials in Experiment 3. Three of 28 children complied in the affective perspective taking (APT)-training, first-party trial; 2 of 28 children complied in the APT-training, third-party trial; 10 of 27 children complied in the non-APT-training, first-party trial; and 8 of 27 children complied in the non-APT-training, third-party trial.

**Discussion**

Asking children to explain others’ affective perspectives decreased the extent to which they complied with an experimenter’s norm-violating intention to create inequity in both first- and third-party trials. Also, compared with the findings of Experiment 2, children were less likely to selectively benefit themselves (i.e., to comply with unfair intentions in first- but not third-party situations). Asking children to reflect on why others’ affect might differ from their own perspective might prime children to consider that inequality can simultaneously be self-benefitting and harm others. In particular, we suggest that priming children in this way might bring children’s compliance when it is self-benefitting to be more in line with their compliance behavior when it is not self-benefitting. Indeed, performance in our affective perspective-training condition
resulted in less compliance than in the unfair intention condition in Experiment 2 in the first-party trial (Fisher’s exact test, \( p = .05 \) [one-tailed], Phi = −0.23), but not the third-party trial, where there was no difference (Fisher’s exact test, \( p = .39 \) [one-tailed]). The extent to which children generated fair distributions in this trial was similar (89% of the time) to performance in the fair intention condition of Experiments 1 and 2, in which children seemed to adhere to the fairness norm throughout the trials.

The effect of the conceptual perspective training was more varied. Priming children to explain others’ conceptual perspectives reduced the difference between performance in the first-party and third-party conditions similar to the affective perspective-training condition. This nonaffective perspective-training condition, however, did not show a reduction in compliance with norm-violating intentions. Children were much more likely to comply with the experimenter’s unfair intentions across trials than they were when they had reasoned about others’ emotions.

It is possible that the distinction between our two trainings pertains to the focus explicitly on emotions and that other forms of theory-of-mind training that also reference others’ emotions would have similar effects to those of the affective perspective-training condition. But it is also worthwhile to consider the specific mechanism of affective perspective taking, as opposed to emotional understanding more generally. For example, given the age of the children in this sample, training on the real–apparent emotion (RAE) task (Harris, Donnelly, Guz, & Pitt-Watson, 1986) might be an interesting contrast case to training on affective perspective taking. The RAE task measures children’s understanding of the fact that others might feel one way but display a different emotion. If the benefit seen in the APT training condition was caused by the focus on understanding others’ emotions, then one might expect to see a similar benefit to training on RAE. But, RAE is not a measure of the difference between one’s own emotional state and another’s emotional state; it only measures children’s understanding of others’ emotions. If emphasis on the difference between one’s own affect and another’s affect is critical, then the results of RAE training might not be similar to the APT training demonstrated here. This question is an open empirical question.

**General discussion**

Across three experiments, we investigated children’s tendencies to comply with an experimenter’s requests to distribute resources in a fair or unfair manner. In Experiment 1, we found that preschoolers were willing to comply with a direct request, even when that request violated a known social norm of fairness. This result is consistent with the vast literature suggesting that young children follow the norms and rules of adult mandates (e.g., Rakoczy et al., 2008) and indeed have trouble rejecting adults’ testimony, even in the face of consistent evidence that they should (e.g., Jaswal, 2010; Jaswal, Croft, Setia, & Cole, 2010).

In Experiment 2, the preschoolers we investigated generally still accepted an experimenter’s norm-following intention even when they had to do work to rectify an accidentally created unfair distribution. In contrast, when the intention violated the social norm of fairness, they were more likely to defy the experimenter’s intention and accept the accidentally created fair distribution. When the experimenter’s stated intention and
The experimenter’s physical action (placement of stickers) misaligned, children largely defaulted to preexisting social norms of fairness. This finding falls in line with work suggesting that young children are capable of defying others as long as doing so serves the purpose of a greater moral good (Engelmann, Hermann, Rapp, & Tomasello, 2016) or the purpose of fairness (Chernyak & Sobel, 2016). Thus, one motivation through which children may come to defy others may be through their tendencies to correct potential injustices. This finding also complements previous work demonstrating that children will incur a cost to enforce social norms by eliminating resources when necessary to ensure equal distributions (e.g., Olson & Spelke, 2008; Shaw & Olson, 2012).

However, we also found that children in Experiment 2 were more likely to defy unfair experimenters in a third-party condition compared with when the inequity benefitted them in a first-party scenario, in which some children instead extended effort to unfairly benefit themselves. Those who did so seemed to have lower scores on a measure of affective perspective taking than those who acted fairly in both third- and first-party trials. In Experiment 3, we found that training children to think about situations in which others’ affect was different from their own affected their compliance behavior generally; children were almost never compliant with unfair intentions after this training and were more likely to be defiant of the unfair intention than when trained on similar stories that involved taking the conceptual perspective of another party.

Our findings add to the body of work suggesting that young children develop a concern for the welfare of others (e.g., Blake et al., 2014; Paulus, 2014). This account is consistent with children’s early-developing tendencies to protest when they see others harmed (e.g., Vaish, Missana, & Tomasello, 2011), to share with others more equally following collaboration (e.g., Hamann, Warneken, Greenberg, & Tomasello, 2011), and to intervene to prevent a moral transgression (Riedl, Jensen, Call, & Tomasello, 2015). These studies suggest that children are willing to intervene to benefit others, particularly when there is little cost to their own perspective or welfare.

Children’s behavior in response to the unfair intention in Experiment 1 suggests that when children encounter individuals with unfair intentions, they might comply with those intentions, regardless of whether the inequity benefits them or others. However, this compliance is nascent and potentially depends on children receiving multiple cues that it is acceptable to violate the social norm. Children seemed less willing to comply with this unfair intention when the accidental placement cued them to defy the intention and gave them an available opportunity to instead comply with the social norm. However, when children are in situations in which they can also benefit themselves, this additional motivation to act unfairly might make them more likely to comply with unfair others. Critically, children’s willingness to unfairly benefit themselves related to their affective perspective taking. These findings suggest that navigating a resource distribution dilemma successfully relies on understanding that others might feel differently than we do given the same situation.

Such perspective-taking behaviors might also be fundamental to appreciating others’ social welfare across different types of situations, especially when others’ social welfare conflicts with one’s own. This suggestion is consistent with work by Brownell and colleagues (e.g., Brownell, Svetlova, Anderson, Nichols, & Drummond, 2013), who suggested that prosocial behavior depends on children’s focus on others’ emotions, and by Killen and colleagues, who suggested that children’s general theory-of-mind capacities relate to the development of their general prosocial behavior (e.g., Fu, Xiao, Killen, & Lee,
However, recent work has also presented conflicting results, suggesting that some theory-of-mind abilities might counterintuitively relate to children acting more unfairly (Cowell, Samek, List, & Decety, 2015). Such work highlights the importance of further exploring the specific components of theory of mind that relate to norm compliance and prosociality and the effect of such cognitive abilities across different ages. To add to this debate, we found a localized effect of perspective taking: Affective perspective taking specifically related to first-party cases, in which one’s own needs conflicted with the needs of someone else. Moreover, we found that this effect went beyond conceptual (nonaffective) perspective taking, in which one must only consider conflicting viewpoints rather than conflicting emotional responses. Taken together, we take these findings to suggest that different components of theory of mind are differentially related to aspects of sharing behavior.

An interesting open question is whether children’s affective perspective-taking capacities predict the rejection of first-party advantageous inequities in more classic paradigms such as Blake and McAuliffe’s (2011) “inequity game.” However, given work suggesting that even very young children possess a relatively mature understanding of fairness norms (e.g., Rakoczy et al., 2016; Smith et al., 2013), we posit that affective perspective-taking abilities relate not to children’s understanding of the norms themselves but to their differential propensity to act on them when an unfair distribution benefits them. Likewise, this finding might explain why children spontaneously protest against third parties being treated unfairly when conflict is absent (e.g., Rakoczy et al., 2016; Riedl et al., 2015).

Future work might similarly examine the relation of such findings to children’s aversion to cases in which they receive less than others (i.e., “disadvantageous inequities”). In the present study, we did not include cases in which the experimenter told children that they wish to advantage the puppet over themselves (i.e., intend to give the puppet three stickers and the child one), but we would predict based on previous literature that children might object even more to such scenarios and thus be even more likely to show non-compliance. Future work could explore whether children are more likely to defy an experimenter who intends to disadvantage the self and whether such defiance or a lack of self-benefitting defiance might relate to children’s perspective taking.

Another critical open question regards how children interpreted the accidental placement of the stickers in Experiments 2 and 3. Our intention was that children would assume that the experimenter meant to distribute the stickers in a manner consistent with her stated intention and that her actual, rushed placement was accidental. However, a potential objection is that children saw through the ruse we implemented and recognized that we were trying to trick them in this paradigm. We do think it is unlikely, given that preschoolers (e.g., Chernyak & Sobel, 2016; Gardiner, Greif, & Bjorklund, 2011; Vaish, Carpenter, & Tomasello, 2010; Vaish, Hepach, & Tomasello, 2018) and younger children (e.g., Carpenter, Nagell, & Tomasello, 1998; Luchkina, Sommerville, & Sobel, 2018; Olineck & Poulin-Dubois, 2005) do react to accidental action differently than intentional action and, importantly, seem oblivious to these kinds of staged accidental actions in many circumstances. More possible is that children did not think about the intentionality of the action, but rather simply saw the fair distribution and were cued by that distribution to follow the social norm. This possibility might have been true, but it then similarly...
reinforces some of the differences we demonstrated in Experiments 2 and 3. Namely, although it is easier to get children to comply with a norm-following experimenter than with a norm-violating experimenter, we saw that children are more likely to comply with norm-violating others when the violation benefits the child than when it benefits someone else. Moreover, affective perspective taking plays some role in this decision to be selectively self-advantaging.

To conclude, the present study suggests that children override the norm of equality to comply with others’ unfair intentions in some circumstances. Similar to research showing that preschoolers engage in unfair distributions regardless of the rationale behind the distribution (Schmidt, Svetlova et al., 2016), the preschoolers we studied here complied with adult experimenters even when their intentions were unfair. But we also suggest that such compliance is fragile, and when presented with cues that might reinforce the social norm of fairness, children might be more willing to defy the adult experimenter to uphold a social norm. The choice, however, of whether to follow or defy norm-violating others seems itself to be unequal, as children might be more likely to comply with these unfair others when doing so is self-advantaging compared with when it is not. This dissociation in children’s behavior might be related to children’s developing theory of mind, which is a topic for further investigation. Training children specifically in affective perspective taking did reduce the amount of norm-violating, compliant behavior and resulted in behaviors similar to when the experimenter expressed a fair intention. Such a finding might have great potential for education and informal learning settings with the focus of promoting social welfare.

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