



“But he didn’t mean to do it”: Preschoolers correct punishments imposed on accidental transgressors



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ABSTRACT

Preschoolers have a sophisticated understanding of reward and punishment. Here we investigated whether children spontaneously correct unfair punishments. Across two experiments, 3- and 4-year-olds engaged in a block-tower building task with a puppet in order to receive a reward (four stickers to be shared between the puppet and the child). The puppet then either accidentally or intentionally knocked over the tower. In both cases, an adult, who did not observe the intentionality of the outcome, punished the puppet by giving all the stickers to the child. After hearing the puppet protest, children were more likely to correct the adult’s punishment (i.e., share stickers with the puppet) when puppet’s actions were accidental rather than intentional. Our results suggest that rather than passively accepting rewards and punishments imposed by authority figures, young children spontaneously correct situations they potentially believe are unfair.

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1. Introduction

A wealth of research has documented young children’s resistance to adults’ rules and suggestions. Indeed, few people have met a child who always followed rules, who never talked back to authority figures, or who always believed her parents and teachers. Recent work suggests that young children’s occasional inability to follow adults’ rules and directions reflects a remarkable rationality. Children reject nonsensical facts and explanations from adult authority figures (Corriveau & Kurkul, 2014). They choose not to emulate those who are unsuccessful or otherwise unknowledgeable (e.g., Zmyj, Buttelmann, Carpenter, & Daum, 2010); and they spontaneously correct others when they make mistakes (e.g., Koenig & Echols, 2003).

Children’s rejection and correction of adults’ rules may also have prosocial motivations. Indeed, preschoolers have a sophisticated understanding of fairness that goes beyond the norms articulated to them by their group members (Killen, Mulvey, & Hitti, 2013) or adult authorities (Killen & Smetana, 2005; Smetana, 1983; Turiel, 1983). They intervene in situations when someone else is being harmed (Vaish, Missana, & Tomasello, 2011) and punish those who are behaving unfairly towards others (e.g., McAuliffe, Jordan, & Warneken, 2015). One possible motivation of these proactive interventions is the child’s desire to correct perceived injustices. For instance, Schmidt, Rakoczy, and Tomasello (2012) showed that young children protest and correct the immoral behaviors of others. Children not only recognize the relevant moral norms of their social worlds, but also act in ways that maintain them.

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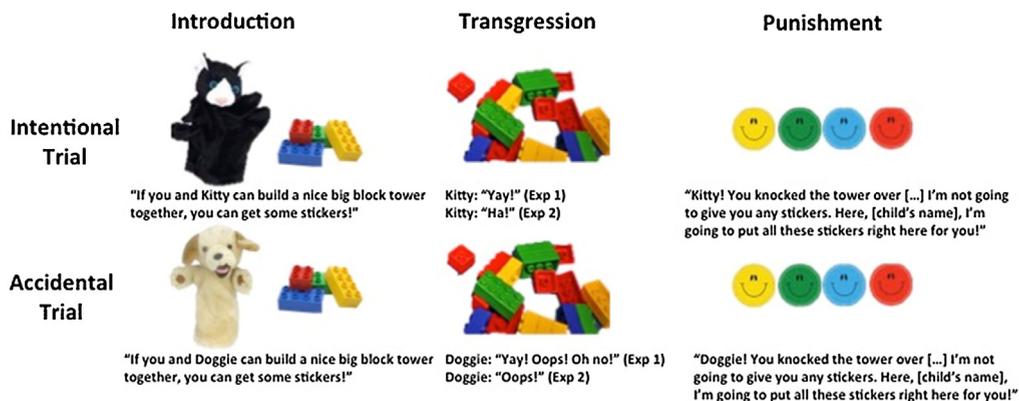


Fig. 1. Schematic of materials and procedure of the two test trials.

Note. Puppet and presentation order of intentional vs. accidental trial was counterbalanced.

Here we investigated whether young children also correct others in the context of unfairness. There is evidence that children intervene in third-party situations in which they witness unfairness: Recent work has documented that preschool-aged children sympathize with those who are harmed by others (Vaish, Carpenter, & Tomasello, 2009), correct others when they break rules (Rakoczy, Warneken, & Tomasello, 2008; Schmidt, Rakoczy, & Tomasello, 2013), and proactively correct situations in which someone else is being harmed (Vaish, Carpenter, & Tomasello, 2010; Riedl, Jensen, Call, & Tomasello, 2015). Therefore, there is reason to believe that at least in third-party contexts, young children rectify situations that they perceive to be unfair.

How children react to *first-party* unfairness (unfairness in which they themselves are the beneficiaries) however, remains an intriguing empirical question. Prior work has found that not until children are at least 8 years old do they reject allocations that are advantageously unfair (e.g., Blake & McAuliffe 2011; Blake et al., 2015). In these studies, children may elect to either accept or deny an unfair split (e.g., 4 resources for the child, 1 for another person) proposed by an adult experimenter. Such a situation typically examined sharing with peers, and not in the context of punishment. Moreover, such a situation typically involves children either accepting or rejecting the proposed split—not proactively intervening and correcting it.

To examine younger children's motivation to reject first-party unfairness, we took advantage of at least three documented effects in preschoolers' moral cognition: First, prior work has found that children are more likely to share with collaborators (Warneken, Lohse, Melis, & Tomasello, 2011; Hamann, Warneken, Greenberg, & Tomasello, 2011). For example, in an important study by Hamann et al. (2011), dyads of three-year-olds tended to spontaneously correct inequities (i.e., correct a 3/1 split into a 2/2 split) when they had worked together, but not when they had worked separately. This study suggests that children may be willing to give up desirable rewards when those rewards are "unfairly" attained. Second, even toddlers show signs of empathic concern by sharing with those who are in distress (Brownell, Svetlova, & Nichols, 2009; Vaish et al., 2009). Finally, preschoolers show sensitivity towards, and judge less harshly, those who transgress by accident (Killen, Mulvey, Richardson, Jampol, & Woodward, 2011; Nelson, 1980; Nobes, Panagiotaki, & Pawson, 2009; Vaish et al., 2010; Zelazo, Helwig, & Lau, 1996; but see also Cushman, Sheketoff, Wharton, & Carey, 2013; Karniol, 1978; Leon, 1982).

In the present studies, preschoolers watched an adult punish an intentional or an accidental transgressor. This resulted in an advantageous inequity for the child (the adult experimenter gave the child stickers that were originally meant to be split between the child and the transgressor). The procedure began with the child and puppet collaborating by building a block tower together. After completing this task, the puppet knocked down the tower intentionally or accidentally (manipulated within-subjects). The experimenter, who only witnessed the final outcome and not whether the puppet's actions were intentional, imposed a punishment by refusing to give the puppet any stickers. Children thus received a windfall of stickers. The puppet then expressed dissatisfaction towards the outcome of the punishment. Our critical question was whether children would share with the puppet spontaneously despite the experimenter's intended punishment.

2. Experiment 1

2.1. Method

2.1.1. Participants

Twenty-four (14 female, 10 male) preschoolers were tested at either a children's museum or in the laboratory (*Mean age* = 4.00 years, *SD* = 0.48 years; range: 3.03–4.91 years). Three additional children were tested but replaced due to protocol error ($n = 1$), parental interference ($n = 1$), or refusal to build the block tower with the puppet ($n = 1$). One additional child was tested after we had achieved counterbalancing and therefore not included in the sample, but results remain identical when including this child's data.

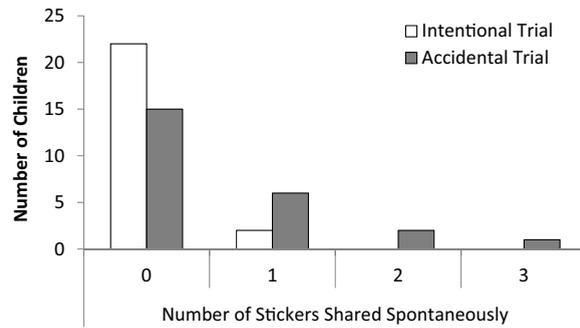


Fig. 2. Number of stickers shared spontaneously across trials in Experiment 1.

2.1.2. Materials

Materials were two plush hand puppets (“Doggie” and “Kitty”); smiley face stickers of varying colors; and a set of Lego blocks. One experimenter (consistent across all children) played the role of the adult, a second (consistent across all children) played the role of the two puppets (sequentially).

2.1.3. Procedure

In a within-subjects design, children were introduced to one of two puppets (either Doggie or Kitty, counterbalanced across trials) and told that they could build a tower with the puppet in order to receive some stickers. The experiment proceeded as follows (see Fig. 1).

2.1.3.1. Puppet introduction and demonstration. All children were first introduced to one of the puppets, encouraged to briefly interact with it (“Can you say ‘hi’ to [Kitty/Doggie]?”), and then told that they would be building a block tower together (“In this game, you and Kitty get to build a block tower together!”). The experimenter and puppet briefly demonstrated how to build a 3-piece block tower for the child. Upon completion of the demonstration, the child was told that s/he and the puppet would get to play next, and that if they could successfully complete the block tower, they will get some stickers (“If you and Kitty can build a nice big block tower together, you can get some stickers!”). The experimenter then turned to the child and the puppet (in succession) and asked if they would participate in the block tower building task (“What do you think, [child’s name], can you build a nice big block tower with Kitty?”; “And what about you, Kitty, can you build a nice big block tower with [child’s name]?”). After both the child and puppet gave affirmative responses, the experimenter handed a set of approximately 8–10 blocks to the child and puppet and said, “Why don’t you guys go ahead and build while I go and find the stickers?” and turned around to ostensibly search for stickers. The experimenter remained with her back turned away from the puppet and child, and thus ignorant of the following interaction between puppet and child (described below).

2.1.3.2. Block tower task. Children then engaged in a block-tower building task with the puppet. The puppet and child took turns adding a Lego block to the tower. Occasionally, if children refused to make a move, the puppet made a move or pointed to a location where the child could place the next block.

2.1.3.3. Transgression (experimental manipulation). After completion of the tower, the puppet knocked over the entire tower, either accidentally or intentionally (counterbalanced trials presented within-subjects). In the *Intentional (Control)* trial, the puppet danced after completing the tower (saying “Yay!”), then looked at the tower and knocked it over. In the *Accidental* trial, the puppet danced after completing the tower (“Yay!”) and while dancing, knocked the tower over with its side and said “Uh oh! Oh no!”

2.1.3.4. Punishment. Upon hearing the block tower collapse, the experimenter turned back around, witnessed the block tower remains, and punished the puppet who knocked over the tower: “Kitty! You knocked down the tower—that’s not very good! I’m not going to give you *any* stickers. Here, [child’s name], I’m going to put *all* the stickers right here for you”

2.1.3.5. Children’s sharing behavior. After stating her intent to punish the puppet, the experimenter placed four brightly colored smiley-face stickers in front of the child. Children then had three opportunities to correct the punishment (share with the transgressor). The puppet immediately verbalized “But I want some stickers!” and then waited 10 s.¹ If the child

¹ Across both experiments, we used a timer to ensure that the child received 10 s to share in each sharing window. To ensure children were not inadvertently given more time to share in one trial over another, a hypothesis-blind coder coded the time between when the puppet’s completed her request for stickers, and when the experimenter concluded each spontaneous sharing window. Analyses confirmed that each child received approximately 10 s and that there were no systematic differences between the intentional and accidental trials in either experiment.

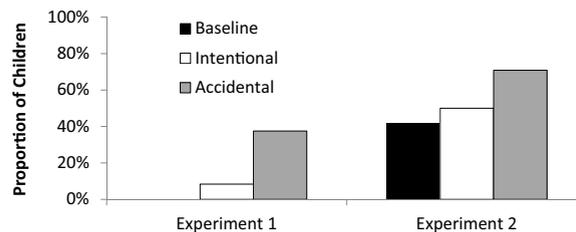


Fig. 3. Proportion of children who shared stickers spontaneously across trials in Experiments 1 and 2.

Note. There was no baseline trial in Experiment 1.

did not share after 10 s, the puppet again verbalized “But I want some stickers!” and the experimenter waited 10 more seconds. We coded any stickers shared during this phase as *Spontaneous Sharing*. The experimenter remained present and faced towards the child, but kept her eyes faced down towards table in order to avoid subconsciously cuing the child. Finally, if the child still did not share after both 10-second windows had passed, the experimenter prompted the child by saying “Well, [child’s name], if you’d like, you could share some of your stickers with Kitty” (*Prompted Sharing*). The experimenter then waited 10 more seconds (with her eyes faced downwards) and concluded the trial. The trial therefore concluded either after the child had shared or after the 10-second window following Prompted Sharing had passed.

All children completed two trials – one in which the puppet knocked over the tower intentionally and one in which the puppet’s actions were accidental – with different puppets (Kitty and Doggie). After concluding the first trial, the stickers and blocks were set aside, and children continued onto the next trial with the new puppet. The second trial proceeded in the same manner, except that the intentionality of the puppet’s action was manipulated. The order of the trials and order of the puppets used (Kitty or Doggie) were counterbalanced across participants.

2.1.4. Coding

The first author and a hypothesis-blind research assistant coded all the videos. Both coders coded the number of stickers shared during each 10-second window of each trial. Inter-rater reliability was 99% ($\kappa = 0.99$) with disagreements resolved by the first author. Additionally, to ensure that both puppets displayed similar cues of distress when requesting stickers across the two trials, we created video clips editing out condition information and asked a coder to identify which puppet displayed higher cues of distress. The coder did not systematically choose either puppet (accidental or intentional) at above chance levels in either Experiment.

2.2. Results

Preliminary results revealed no effects of gender or trial order in these analyses, so data was collapsed along these variables. Our critical question was whether children shared spontaneously, and whether they did so more often in the accidental trial. Fig. 2 shows the number of stickers children shared spontaneously across the two trials; Fig. 3 shows the proportion of children who shared spontaneously.

Confirming our prediction, the number of stickers shared spontaneously was higher in the accidental trial ($M = 0.54$ out of a possible 4, $SD = 0.83$) than in the intentional (control) trial ($M = 0.08$, $SD = 0.28$), Wilcoxon signed ranks test, $Z = 2.33$, $p = 0.02$, $r = 0.34$. Ten of 24 (42%) children shared at least one sticker spontaneously (i.e., actively rectified the punishment in a costly manner). Of these children, 8 shared in the accidental trial but not the intentional one, and only 1 child showed the reverse pattern (1 child shared during both trials), McNemar’s $\chi^2(1, N = 24) = 4.00$, $p = 0.04$. There were no differences between trials in the total number of stickers shared (both spontaneously and via prompting) (Intentional Trial $M = 1.38$, $SD = 0.71$; Accidental Trial $M = 1.20$, $SD = 0.83$, Wilcoxon signed ranks test, $Z = 1.30$, $p = 0.19$, $r = 0.27$). Once children were prompted to share, their behavior was no different between the trials; this suggests that the differences between trials were specific to children’s spontaneous correction of the experimenter’s unjustified punishment, not in distributive behavior towards accidental transgressors in general.

2.3. Discussion

The results of Experiment 1 suggest that a subset (just under half) of children spontaneously shared after witnessing unfair punishments, even when doing so is costly and even when not doing so may be strategic for the child. Our results mimic Hamann et al. (2011) in showing that even young children correct advantageous inequities, and extend this work by showing that they can do so actively and in the context of an adult authority figure. Preschoolers displayed such spontaneous sharing almost exclusively after watching an accidental transgressor, rather than an intentional one, even though both transgressors had collaborated and both had expressed cues of distress. Notably, the demands placed on correcting the unfair punishment were quite high: in order to share spontaneously, children had to (a) recognize that they themselves could actively correct the inequality, (b) act against the intended outcome of an adult authority figure, and (c) give up something valuable that was now theirs. These young children’s sharing appears to reflect a concern for fairness and for the welfare of others. Finally,

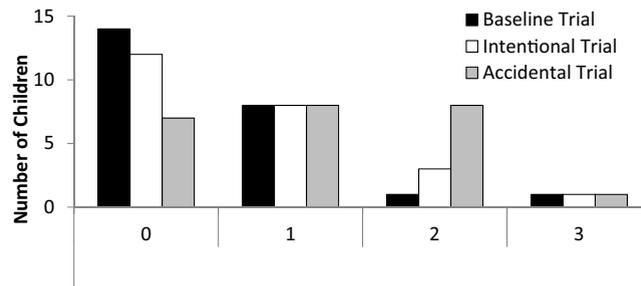


Fig. 4. Number of stickers shared spontaneously across trials in Experiment 2.

children did not simply share in response to the puppet's request—almost all children accepted the adult's punishment with the puppet's transgression was intentional.

It is possible that children occasionally displayed low rates of sharing because they did not recognize that they could share—that is, children may have been sufficiently motivated to do so, but failed to recognize that this was a viable possibility. In support of this, a small subset (three children) of children stated an intention to share (“I only want this one”) but did not undertake any action to do so. This only occurred five times: Nonetheless, because we set a high bar for what counted as correcting an adult's inequitable distribution, in Experiment 2, we wished to ease one of the difficulties placed on children in Experiment 1. We replicated the basic manipulation, but we began the experiment with a baseline trial during which children were able to share with a neutral puppet. This trial removed some of the cost (through giving the child additional stickers) and constraint in spontaneous sharing (through having the child experience one full trial during which s/he could share without correcting the adult). The addition of this trial also allowed us to assess children's spontaneous sharing behavior at baseline.

We made one other change in Experiment 2. In Experiment 1, the accidental transgressor both expressed a lack of intention (by saying “Uh oh!”) as well as remorse (“Oh no!”). Given that children are also more sympathetic towards those who show remorse, we do not know whether the lack of intention or the show of remorse drove their sharing behavior (Vaish et al., 2011). In Experiment 2, the accidental transgressor expressed no remorse, but simply said “Uh oh!” after knocking over the blocks. We measured children's rejection of adults' allocations via spontaneous sharing in the same manner as in Experiment 1.

3. Experiment 2

3.1. Method

3.1.1. Participants

Twenty-four preschoolers (12 male, 12 female, *Mean age* = 3.83,² *SD* = 0.59 years; range: 2.85–4.97 years) were tested at either a local children's museum or in the laboratory. One additional child was tested but replaced due to having previously participated in a pilot version of this task.

3.1.2. Materials

The same materials from Experiment 1 were used. We also used an additional elephant puppet (Ellie), and two pieces of paper and two pens for drawing. As in Experiment 1, one experimenter (consistent across all children) played the role of the adult; a second (consistent across all children) played the role of the three puppets.

3.1.3. Procedure

3.1.3.1. Baseline trial. As in Experiment 1, each child completed two trials (Intentional (Control) and Accidental). Prior to these trials, children also completed a baseline trial during which they were introduced to the elephant puppet (“Can you say ‘Hi’ to Ellie?”) and told that they would be drawing some shapes alongside Ellie. After a brief drawing session, children were told they did a great job and given four stickers. Ellie then expressed a desire for some of the stickers by stating “But I want some stickers!” This gave children the opportunity to share spontaneously with Ellie at baseline. After 10 s, if the child did not share, Ellie re-stated her desire (“But I want some stickers!”) and the experimenter waited 10 more seconds. At the conclusion of the second 10-second window, the experimenter prompted the child to share “Well, [child's name], if you'd like, you could share some of your stickers with Ellie” and then waited 10 more seconds. The trial concluded either after the child shared, or after the last 10-second window had passed.

² Two parents refused to provide their children's birthdates but identified them as being four years old. These children's ages were not included in our age calculations.

3.1.3.2. Puppet introduction and demonstration. After the baseline trial, children were introduced to a new puppet (Kitty or Doggie) and the rest of the introduction proceeded in the same manner as in Experiment 1.

3.1.3.3. Block tower task and transgression. The block tower building task also proceeded in the same manner as in Experiment 1 with the following exceptions: We included only minimal cues to the intentional vs. accidental trials. The puppet did not dance after completion of the tower, nor did the puppet ever express any remorse. In the *Intentional (Control)* trial, the puppet looked at the tower, knocked it over and said a single “Ha!” In the *Accidental* trial, the puppet knocked the tower over with its side and said a single “Oops!”

3.1.3.4. Punishment and children’s sharing behavior. The experimenter punished the puppet in the same manner as in Experiment 1, and children’s sharing behavior was also measured in the exact same manner.

3.1.4. Coding

All data was videotaped. The first author and a hypothesis-blind research assistant coded the videos for the number of stickers shared during each 10-second window in each trial and at baseline. Inter-rater reliability was 95% ($\kappa = 0.89$) with disagreements resolved by the first author.

3.2. Results

Preliminary results revealed no effects of gender or trial order in these analyses, so data was collapsed along these variables. Once again, we were interested in whether children would share spontaneously with intentional transgressors, accidental transgressors, or neutral puppets (in the baseline trial). Fig. 4 shows the number of stickers shared spontaneously in each of these trials.

Overall, there was a difference in the number of stickers shared spontaneously across the three trial types, Friedman’s test $\chi^2(2, N=24) = 11.24, p = 0.004$. We conducted follow-up tests comparing each pairs of trials using Wilcoxon signed-ranks tests.³ Children shared more stickers spontaneously in the accidental trial ($M = 1.13, SD = 0.90$) than the intentional one ($M = 0.71, SD = 0.86$), $Z = 2.43, p = 0.04, r = 0.35$. Children also shared more stickers spontaneously in the accidental trial than in the baseline trial ($M = 0.54, SD = 0.78$), $Z = 2.74, p = 0.02, r = 0.40$. There were no differences between the baseline and intentional trials, $Z = 0.92, p = 0.36, r = 0.13$.

With a baseline trial added, the proportion of children who were willing to share spontaneously and against the experimenter’s stated intention in at least one trial (either intentional or accidental) was much higher than in Experiment 1 (see Fig. 3): 17 of 24 (71%) of children shared spontaneously at least once across the two trials (intentional and accidental). Of these children, 5 shared spontaneously with the accidental transgressor but not the intentional one, and no child showed the reverse pattern (12 shared spontaneously with both), McNemar’s $\chi^2(1, N = 24) = 3.20, p = 0.06$. Children were also more likely to share with the accidental transgressor than they were at baseline, even though doing so meant acting against the experimenter’s intended punishment (rather than simply sharing spontaneously). Seven children shared spontaneously with the accidental transgressor, but not with the neutral (baseline) puppet, and no child showed the reverse pattern (10 shared spontaneously with both), McNemar’s $\chi^2(1, N = 24) = 5.14, p = 0.02$.

As in Experiment 1, we documented evidence of children correcting unfair punishments specifically when those punishments were imposed on accidental transgressors. Once prompted, children shared stickers equally among the trials. There were no differences in the total number of stickers shared (both spontaneously and via prompting; Intentional Trial $M = 1.08, SD = 0.78$; Accidental Trial $M = 1.29, SD = 0.81$; Baseline Trial $M = 1.25, SD = 0.74$), Friedman’s test $\chi^2(2, N = 24) = 4.67, p = 0.10$. This suggests that the differences among the three trials were specific to children’s spontaneous correction of the experimenter’s unfair punishment, not in general distributive behavior towards accidental transgressors.

3.3. Discussion

Children once again spontaneously shared after witnessing the experimenter’s punishment towards accidental transgressors. Having a baseline trial produced higher rates of spontaneous sharing in general, suggesting that having prior sharing experiences may scaffold children’s abilities to correct intended inequalities.

4. General discussion

Across two experiments, we examined children’s spontaneous sharing after witnessing an unfair situation. Children corrected the adult’s intended punishment even when it was costly to them and even when they stood to benefit from it. This study provides some converging evidence with one other study showing that 3-year-olds correct inequities from which they benefit (see Hamann et al., 2011), and extends this work by showing that children are capable of doing so even when

³ Follow-up tests are adjusted for multiple comparisons using a sequential Bonferroni correction.

having to correct to an adult experimenter's intention. Creating an environment in which children were first prompted to share (through the baseline trial in Experiment 2) increased the amount of spontaneous sharing overall. Critically, children engage in preferential sharing with the accidental over the intentional puppet spontaneously and showed no difference when prompted. Our work thus documents that even preschoolers reject advantageous inequalities, and add to the growing empirical evidence that children's sharing behavior results from normative and empathic concern.

Critically, we set a high bar for spontaneous sharing. Children were forced to act against an adult authority's stated intention in the presence of that same adult, and children had to do so by giving away a valuable resource. Moreover, at least one prior study found that children do not reject advantageously inequitable distributions until they are at least 8 years of age (Blake & McAuliffe, 2011). It is important to note that such studies differ from ours across several features. In contrast to this prior work, we looked at children's sharing in response to what might be perceived as an 'unfair' process (i.e., a punishment in response to an accidental transgression) not simply an unfair outcome; sharing with puppets with whom children have had previous interaction with rather than unknown peers; and sharing in response to cues of distress. It is also important to note that our findings are also consistent with this prior work in that spontaneously correcting advantageous inequity was nonetheless difficult: few children created completely "fair" situations (sharing 2 stickers) in Experiment 1, and the majority of children of this age did *not* share (as seen by the low rates of sharing in Experiment 1). Together with this prior work, our studies suggest that while rejecting advantageous inequities are difficult, children as young as age 3 and 4 do so in certain contextualized situations.

The fact that children were willing to share adds to the body of work suggesting that at least one strong motivator of young children's sharing behavior is a genuine concern for the welfare of others (e.g., Brownell et al., 2009; Eisenberg & Miller, 1987), and that rather than passively accepting the rules imposed by adults, children impose their own sense of fairness by the preschool age. Further, in Experiment 2, children shared more with the puppet who was punished unfairly than in the baseline trial. This suggests that children might be motivated to share based on correcting injustice.

An interesting question concerns the mechanisms surrounding rejecting advantageous inequity. One possibility is that the children who shared spontaneously were simply less inhibited in correcting an adult's punishment (see e.g., Hastings, Rubin, & DeRose, 1982). Although we attempted to ease some of the constraints placed on particularly shy children through the use of a baseline trial in Experiment 2, children may nonetheless have been hesitant to correct authority figures. This particular concern is unlikely because of the within-subject nature of our procedure—if children failed to share solely due to their disinclination to correct an adult, then we would not have seen differences among the experimental conditions.

But another, non-mutually exclusive possibility is that children who spontaneously remedied inequalities showed higher empathy for the accidental transgressor. On this view, empathy for others overrides shyness to correct adults' intentions. A small subset of children also showed internalization of the adult's punishment. At least one child restated the puppet's transgression ("Maybe if you did a better job not knocking down the tower") and another tattled on the puppet for the experimenter ("Kitty did it!"). Yet another said, "You were bad and knocked over the tower, but I'll be nice and share with you anyway." Although these kinds of utterances only occurred in a very small subset (3 kids), they exclusively occurred during the intentional trial. This suggests that young children might use their own theories about the meaning of punishment to explain adults' behaviors in light of intentional negative consequences.

That said, the overall degree of sharing even in the accidental trial of Experiment 1 was relatively low, suggesting that children are motivated to accept punishments when doing so is advantageous for the child. But, there were factors that affected sharing. In Experiment 1, children were more willing to share when the adult punisher suggested to the child that it was OK to do so. When the child initially played a sharing game prior to having to correct the adult in Experiment 2, the degree of sharing increased compared to Experiment 1. The latter result might best be explained by the idea that practice with costly sharing in a non-defying manner and in a non-punishing context helped scaffold later sharing behaviors. Indeed, prior work has shown that brief experiences with costly sharing increase the likelihood of later sharing behaviors (e.g., Chernyak & Kushnir, 2013). It is possible that our result is explained by a similar mechanism—the adult punisher licensing sharing might afford the child an opportunity to correct the initial punishment.

Further, in both experiments, children were more likely to share with both puppets when prompted by the adult experimenter. Children only showed judicious sharing spontaneously. This suggests the possibility that such sharing behavior reflects a different mechanism than elicited sharing. While elicited sharing may be subject to demand characteristics and inferred social norms surrounding sharing, spontaneous sharing in the case of correcting an experimenter's intended punishment would appear to reflect internalized moral norms. Whether these two types of sharing are predicted by different processes in young children warrants further investigation.

To conclude, by age 4, many children do not simply accept punishments nor do they allow unjustified punishments to go uncorrected. Young children have internal working theories of when punishments are and are not justified and are able to act on those theories even when doing so is costly and disadvantageous.

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