

## Opinion

## Children's Sense of Fairness as Equal Respect

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**One influential view holds that children's sense of fairness emerges at age 8 and is rooted in the development of an aversion to unequal resource distributions. Here, we suggest two amendments to this view. First, we argue and present evidence that children's sense of fairness emerges already at age 3 in (and only in) the context of collaborative activities. This is because, in our theoretical view, collaboration creates a sense of equal respect among partners. Second, we argue and present evidence that children's judgments about what is fair are essentially judgments about the social meaning of the distributive act; for example, children accept unequal distributions if the procedure gave everyone an equal chance (so-called distributive justice). Children thus respond to unequal (and other) distributions not based on material concerns, but rather based on interpersonal concerns: they want equal respect.**

**The Development of the Sense of Fairness**

Throughout the animal kingdom, living in social groups creates competition for resources. Some species engage in so-called scramble competition, in which the quickest to the food gets it, whereas others engage in so-called contest competition, in which the dominant (best fighter) gets it. Humans use both of these strategies in many situations, but they also resolve some competition by distributing resources 'fairly'. Given this evolutionarily novel way of resolving conflicts of interest, there has recently been considerable interest in how humans become fair, that is, how the sense of fairness develops across childhood.

According to one influential view, the fairness as inequity aversion view, the sense of fairness comprises two components that show distinct developmental patterns [1–7]. The first component is disadvantageous inequity aversion, a tendency to react negatively to, and even to pay a cost to reject distributions that disfavor the agent herself. Across several studies and populations, children from the age of 4 onwards have been found to reject any distribution that disadvantages themselves, preferring an equal outcome in which both agents receive nothing [1,3]. The second component is advantageous inequity aversion, a tendency to react negatively to, and even to pay a cost to reject distributions that favor the agent herself. In this case, it is not until age 8 that children refuse distributions that put them at an advantage relative to others [1], and indeed they will even throw away an extra resource to maintain equality instead of taking it for themselves [8]. Based on these findings, the fairness as inequity aversion view holds that the first instantiation of fairness appears at age 4 (in the form of disadvantageous inequity aversion) and that the composite sense of fairness is in place by around age 8 (including advantageous inequity aversion).

Our goal in this Opinion article is to provide an answer to two central questions that this view leaves unanswered. First, what happens before age 4? What sort of interactional contexts facilitate the development of the sense of fairness? Second, what underlies children's aversion to inequity? Why do children react negatively to receiving less than a peer? To answer these

## Highlights

If humans could survive and thrive entirely on their own, they would not concern themselves with dimensions such as equality, merit, and deservingness. Fairness is a form of cooperation as it enables individuals with conflicting interests to find mutually satisfactory solutions to the demands of interdependent lifeways.

Consistent with this evolutionary perspective, young children show a concern for fairness first inside, but not outside, of collaborative interactions with others in which they view their partners (but not free riders) as equally deserving participants.

In this context, children's sense of fairness is not mainly about how material 'stuff' is distributed, but about the social meaning of the act of distribution. They thus are okay with an unequal distribution if the procedure was a fair one that gave everyone an equal chance. In general, children are concerned that acts of distribution treat everyone with equal respect.

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questions, we adopt an evolutionary perspective in which fairness is a form of cooperation. Fairness represents a cooperative solution to the problem of competition, a ‘cooperativization of competition’, if you will.

### Fairness as a Human-Unique Form of Cooperation

And could this scarcity [of resources] not be alleviated by joint activities, then the domain of justice would extend only to the avoidance of mutually destructive conflicts, and not to the cooperative provision of mutual benefits. Gauthier, *Morals by Agreement* [9].

Recent experimental work suggests that the sense of fairness is a derived trait in humans, and that other animals, even our closest living relatives, chimpanzees, do not enter distributional contexts equipped with expectations of fair treatment (Box 1). The reason for this species difference is likely grounded in new ecological circumstances that were encountered by early humans, but not by their closest primate cousins: specifically, ecological circumstances that required them to collaborate with one another to obtain their daily sustenance. One recent proposal is that humans’ sense of fairness is intimately bound with their species-unique forms of interdependent collaboration that evolved in these circumstances [10]. While the other great apes obtain the vast majority of their food through solitary efforts, at some point in human evolution humans turned into obligate collaborative foragers. This would have led humans to regularly find themselves in situations that involve the complex interaction of the competitive and cooperative motives of multiple individuals: getting as much food as possible for oneself while still maintaining a cooperative relationship with one’s partners. Fairness represents a kind of cooperativization of such competitive situations in which individuals seek balanced solutions to the many and conflicting demands of multiple participants’ various motives. From this evolutionary perspective, the function of the human sensitivity to fairness is the stabilization of cooperative relationships in the face of conflicting interests.

#### Box 1. No Sense of Fairness in Nonhuman Primates

It has been argued that other animals share the human sense of fairness (for a review, see [38]). The majority of this work has focused on disadvantageous inequity aversion in nonhuman primates and has used an experimental paradigm known as the inequity aversion task. In this task, nonhuman primate subjects are presented with a situation that would likely evoke feelings of unfair treatment in humans [38,39]. As compensation for engaging in a simple task (handing back a token), a human experimenter rewards one subject with a high-value resource and another with a low-value resource. The disadvantaged subject responds with behaviors that the authors take as evidence for a sense of fairness: refusing to exchange the token, or even throwing the token at the experimenter.

The problem is that this result has failed to replicate in five different studies with capuchin monkeys [40–44] and two different studies with chimpanzees [45,46] using more appropriate control conditions. An alternative hypothesis, the social disappointment hypothesis, postulates that individuals in the inequity aversion task do not object to how they are treated in comparison with how another is treated, but simply to how they are treated relative to how they could be treated by the human experimenter. These hypotheses were systematically tested in a recent study with chimpanzees [47]. In their experimental setup, food was either distributed by an experimenter or a machine and with a partner present or absent. The results provided unequivocal evidence for the social disappointment hypothesis: chimpanzees were more likely to reject food when it was distributed by a human experimenter rather than by a machine; and, importantly, chimpanzees did not protest more when a partner was present.

Thus, in all of these studies nonhuman primates’ reactions to receiving the low-value resource were not grounded in social comparison, an assessment of how they are treated relative to another individual, but rather in social expectations: how they are treated relative to how they could be treated. In contrast, children’s protest in similar situations is powerfully influenced by social comparison: what they are reacting to is the fact that they receive less (or more) in comparison with a peer [2,16].

Here, we provide an account of the ontogeny of the human sense of fairness that is consistent with this evolutionary scenario. First, we argue that interdependent collaborative activities represent the key interactive context for children's developing sense of fairness. As support for this point, we cite recent experimental evidence that the first sense of fairness in distributing resources in human ontogeny occurs within the context of interdependent collaboration at around age 3. Second, we propose that fairness functions to maintain cooperative relationships, a process that draws attention to the interpersonal nature of the psychology of fairness. What matters most for evaluations of interpersonal actions are not the actions themselves but the evaluative attitudes reflected in those actions, what has been called the social meaning of the action [11–14]. We thus argue that children's aversion to resource inequity (including their protests to unfair treatment) derives not from the unequal resources themselves, but rather from the lack of interpersonal respect that unequal distributions display. As support for this argument, we cite recent experimental evidence that: (i) the phenomenon of (resentful) moral protest, also emerging at age 3, rests on partners' sense of equality and mutual respect; and (ii) the phenomenon of procedural fairness shows that children accept unequal distributions if the procedure gave everyone an equal chance.

### Collaboration Encourages Fairness by Age 3

The studies supporting the fairness as inequity aversion view all share a key methodological characteristic: children are asked to distribute resources that are provided by adults as a windfall [e.g., 1,7]. However, as argued above, from an evolutionary perspective fairness may emerge as part of the especially cooperative human lifeways. Given that humans generate most of their resources collaboratively, a natural hypothesis is that fair behavior first emerges ontogenetically in the context of such collaborative interactions.

Recent studies have directly tested this hypothesis. In these studies children were interdependent with regard to the production of rewards: two individuals had to collaborate in a pulling-in-rewards game for those rewards to be accessed. Using this paradigm, children's behavior was systematically investigated in the two conditions identified as constitutive for a full-fledged sense of fairness by the fairness as inequity aversion view: disadvantageous and advantageous inequity [15,16]. That is, in some cases the participant received more of the jointly produced rewards than her partner, while in other cases, the partner received more rewards. The results were clear-cut: when children had to work together to produce rewards, even children as young as 3 years of age showed an aversion to both forms of inequity! Children at this young age either rejected collaboratively produced unequal distributions, in which case neither they nor their partner received any rewards, or accepted them but then freely shared with their collaborative partner or requested that their partner share with them, always with an eye to equality.

This finding is robust across several different setups whether the rewards were pre-divided or not, and whether children interacted with a same-aged peer or with a puppet [15–17]. Notably, this effect is specific to conditions in which children have to collaborate to make the rewards accessible. When children in control conditions were simply confronted with the same unequal distribution upon entering the room, or even when they had to work for the resources but in an independent manner, they did not equalize the spoils in the same way. Note that these results cannot be explained by children's generosity toward their partner; such an explanation would predict that they should be happy for their partner to receive more than them, which they decidedly are not [18].

This collaboration-based view has the additional advantage that it readily explains children's division of resources based on merit. Three different studies have found that already at 3

years of age, the same age at which children begin to divide the spoils of an equal collaboration equally, children dispense more rewards to an individual who worked more or contributed more than their partner [19–21]. And, indeed, it is telling that the investigators in all three studies felt the need to have children participate in a common collaborative endeavor in the first place. The notion of merit presumes a common enterprise to which one person has contributed more than others; otherwise, they are just doing different things. And when one child contributes nothing (i.e., is a ‘free rider’), children exclude him or her from the resources altogether [22,23].

The results of these various studies are all consistent with the hypothesis that children’s sense of equality, modulated by a sense of deservingness based on merit, first emerges in the context of interdependent collaborative activities. While in windfall situations children begin to demonstrate disadvantageous inequity aversion at age 4 and advantageous inequity aversion at age 8, the clear finding of these recent studies is that in the context of collaboration (and not otherwise) children display both forms of inequity aversion, as well as a sense of deservingness based on merit, already at 3 years of age.

### Why Do Children Care About Equal Payoffs?

What is the basis of children’s aversion to unequal distributions? Do children simply have a preference for an equal division of resources? A recent study suggests that material equality is not children’s only concern. In this study, 3- and 5-year-old children could reciprocate a partner’s distribution of resources [24]. In both of the key experimental conditions, the distribution was equal among partners: five each. What differed was how that equal outcome was achieved: in one condition, the partner gave the child five from her pile of ten, and in the other condition the partner took five from the child’s pile of ten. Children were not similarly satisfied with the two forms of distribution: when it was their turn, they reciprocated more to the partner when she had given five rather than taken five. This result suggests that children’s reactions to resource distributions are not just about the material rewards, they are about the meaning of the social action. In the words of Bliege-Bird and colleagues: ‘. . . the information conveyed through a prosocial act may be more important than the material content of the exchange’ ([25], p.455). The giver’s act in this study conveyed a sense of equal respect for the child, whereas the taker’s act did not.

Children react differently to acts with the social meaning ‘we are equal’ than to those that disrespect their status. They want, indeed expect, equal respect (see [Box 2](#) for an account of the developmental origins of the sense of equal respect). When we use the term ‘respect’ we intend what Darwall ([26], p. 38) refers to as recognition respect: ‘giving appropriate consideration or recognition to some feature of its object in deliberating about what to do’. The default ‘feature of its object’ is equality: children relate to others ‘as someone “just like me”’ ([27], p. 29). To justify giving to some people more than they give to others, children need a moral reason [28]. One such consideration involves merit, where children recognize that the relevant ‘feature of its object’ is the fact that some individuals have worked harder than others. Another consideration involves need, where children recognize that the relevant ‘feature of its object’ is the fact that some individuals are in greater need of a resource [29]. Both considerations operate in light of the default assumption of equality: equal resources are allocated for equal units of work contribution or equal units of need, respectively.

And so our hypothesis is that the reason children favor equal collaborative payoffs is that they view both themselves and their partner as equally deserving. They sacrifice to equalize resources with collaborative partners, but not free riders (who are not equally deserving),

**Box 2. The Origin of the Sense of Equal Respect**

What is the developmental origin of the sense of equal respect? It certainly does not arise in interactions in which individuals are using one another as social tools (as great apes arguably do in their form of collaboration; [10]). Given that the experience of recognition respect is closely tied to equality it seems intuitive to assume that children first develop this interpersonal attitude in child–child collaborative interactions. The key is that genuinely collaborative partners view one another as part of a larger ‘we’ such that the result over time is a sense of self–other equivalence. This is based on three aspects of the collaborative process. First is children’s awareness of their interdependence: they understand that in such interactions both partners are necessary to produce the jointly desired outcome [10]. Second is children’s understanding of role reversibility: they or their partner could perform either role, it does not matter, as long as the job gets done, which fosters a sense of partner interchangeability or equivalence. Third, as partners interact repeatedly, they form expectations about how each role must be played for joint success: anyone who happens to be in role X or role Y, no matter their personal characteristics, must meet those standards; they are impartial.

Thus, in the current view, the triad of peer-to-peer collaboration, judgments of equality (self–other equivalence), and recognition respect underlies the development of children’s sense of fairness. Engaging in various interdependent collaborative interactions, young children cannot help but see their peers as equal to themselves. And someone who is in an important sense equal to myself has to be acknowledged as such: I have to grant her respect. The resulting attitude is reciprocal. It involves both a demand for equal respect from one’s peers as well as an extension of equal respect toward them in return, and thus explains why children are averse to situations in which they receive less and to situations in which they receive more than a peer.

When the sense of equality is emphasized in an interdependent collaborative task, children’s recognition respect is reciprocal even at age 3 [16]. In windfall situations, children’s respect is at first unidirectional (they demand it for themselves, resulting in an aversion to receiving less than others) presumably because in these situations, in contrast to collaborative interactions, young children’s selfish motives hold sway. Only later, as a consequence of the many collaborative peer–interactions in which they engage, do children develop a reciprocal sense of respect even in noncollaborative contexts (resulting in an aversion to receiving more than others).

and they are not happy with equal resource distributions if the outcome was the result of their partner appearing to disrespect their status (e.g., by stealing). In addition, there are two other phenomena supporting the view that what children seek in resource distributions is mutual respect between equally deserving partners.

**Children’s Reactions to Receiving Less**

The first of these phenomena is resentful moral protest. In the collaboration studies cited above [15,17], children mostly divided the resources equally. But on occasion one partner took more than half. What then happened most often was that the disadvantaged child expressed resentment toward the greedy child’s actions. Then, in almost all cases the greedy child relented and went to an equal split. The fact that children did not protest when the partner took only half of the rewards shows that the protest was not just a demand for more resources, but rather a demand for equality. The fact that the greedy child almost always responded by equalizing rewards shows that she understood the protest in this way. The key point is that children were not just expressing a preference for equality, they were expressing resentment against inequality and a normative judgment that they should not be treated that way. In the words of Adam Smith ([30], p. 95–96), they were resentfully protesting ‘to make (the partner) sensible, that the person whom he injured did not deserve to be treated in that manner’. And so the partner should mend her ways and adjust.

And this is not just the child looking out for herself but a generalized normative judgment. In a recent study looking directly at children’s reactions to unfair distributions after a collaborative activity, children most often used normative language to protest about what the distributor should or ought to do, and they did this whether it was the child herself or a third-party who was disadvantaged [31]. Importantly for our hypothesis, normative protest of this kind is respectful.

The child does not act forcefully, and indeed in most cases he or she does not even tell the greedy child exactly what to do (e.g., they do not say 'Give me one'). In most cases, they simply point out that they have been disadvantaged (e.g., they say 'I only have one'), or else that what the partner did was wrong (e.g., 'One should not take them all'), trusting the partner to decide to do the right thing. (For further discussion of how children's behavioral allocations relate to their judgments of various distributions, see [Box 3](#).)

The second phenomenon, and in many ways the most crucial one for our fairness as equal respect hypothesis, is so-called procedural fairness (also called procedural justice). Two developmental studies, one with child as participant [[32](#)] and one with child as third-party observer [[33](#)], have investigated children's sense of procedural fairness by presenting them with a 'wheel of fortune': a spinning-wheel that allowed for an impartial division of resources. The key finding of both studies was that children from 5 years of age onwards were willing to accept a disadvantageous distribution (both for themselves or for a third-party) if it was determined by chance via an unbiased spinning wheel. In a post-test interview, even children who got less resources due to the 'luck of the draw' explicitly judged the procedure as fair and were satisfied with it. This effect was not the result of a preference for spinning wheels: when children were presented with a biased spinning wheel, they did not accept the resulting allocation and instead overrode it to equalize rewards. Interestingly, even when children could choose directly between an equal distribution (that involved throwing away one resource) or an unequal distribution that came about through a fair procedure, they opted for the fair procedure.

As a variation on this theme, children at around this same age are also willing to accept disadvantageous distributions under the condition that they are involved in the decision-making

### Box 3. Children's Reasoning about Fair Distributions

While our focus in the main text is on children's allocation behavior, a large body of research has investigated children's reasoning and judgment in the face of varying distributions (for a review, see [[48](#)]). Traditional work in this area has investigated how children judge a wide class of transgressions, from straightforward acts of wrongdoing that involve physical or psychological harm to more complicated situations involving a variety of contextual factors. Interestingly, such transgressions are weighted more heavily when children judge actual moral transgressions compared with hypothetical scenarios [[49](#)].

In the context of children's judgments of fair and unfair distributions, findings have revealed substantial developmental shifts from relying nearly exclusively on equality-based principles to the consideration of merit, need, and other relevant factors [[50,51](#)]. More recent research has used a multimethod approach, integrating children's behavior, their reasoning about their behavior, and their judgments of others' behavior in innovative ways [[52](#)]. This body of work has revealed that many of the developmental changes in children's reasoning about fair and unfair allocations mirror those we have discussed regarding their actual resource distributions. For example, while younger children's judgments of the wrongfulness of unequal resource distributions are powerfully influenced by whether their own group or an outgroup is at a disadvantage, older children judge both forms of inequity as wrong [[53](#)]. This converges well with findings that in windfall situations, disadvantageous inequity aversion emerges before advantageous inequity aversion (see main text). In addition, when children's own allocations and their judgments about how resources should be distributed are studied in the same context, their behavior aligns with their judgment from around 6 [[52](#)] or 7 [[54](#)] years of age.

Finally, and relevant to our interpretation of fairness as equal respect, more recent work has also explored children's judgments of fairness beyond considerations of resource distributions, probing their reasoning in the context of equality of opportunity (closely related to what we call, in the main text, procedural fairness). From middle childhood, children recognize and judge as unfair the fact that children from wealthier backgrounds have greater access to opportunities than their less wealthy peers [[55](#)]. Indeed, in an experimental paradigm, when children are asked to allocate access to an educational opportunity, their main concern is with equal representation: they want to ensure that individuals of different backgrounds have equal access [[56](#)], a finding that is consistent with the fairness as equal respect hypothesis.

process. In a recent study, children decided, together with two puppets, whether to distribute resources in an equal or unequal manner [34]. In all conditions, the puppets ended up distributing resources in an unequal way, thereby disadvantaging the child. What varied according to condition was whether children had a ‘voice’ in the decision-making process. The main result was that children were more likely to be satisfied with allocation decisions that disadvantaged them if the puppets had allowed them to participate in the decision-making process.

Why do the same children who routinely reject unequal distributions accept such distributions if they result from an impartial procedure or a procedure in which they had a say? If children simply had a preference for equal allocations, they should be averse to such unequal distributions altogether. In our view, the key to children’s acceptance is that in both cases they feel that they are being treated with equal respect, as equally deserving individuals, and this is what they most want. Thus, in studies with windfall resources, all parties are equally deserving, and so anything other than an equal distribution means that one of them is being disrespected as somehow less than equal. In studies in which one participant works harder or contributes more than others, everything is fine as long as the work or contribution that each individual makes is respected proportionally. And in studies in which the child (or a third-party) receives less than an equal share, they accept this division so long as all individuals have been treated with equal respect by being given an equal opportunity for the larger share or else by being treated as equal participants in the decision-making process.

### Fairness as Equal Respect

The evidence thus suggests that children are not primarily preoccupied with the material ‘stuff’ in distributive contexts; they are concerned instead with the social meaning of the act of distribution, that is, whether they and others are being treated with equal respect. Any account that focuses only on the material stuff, no matter how nuanced, cannot capture this dimension of social meaning. Accounts that invoke a preference for equal distributions as the basic psychological mechanism, insofar as they focus mainly on the material stuff, are therefore descriptive only, not explanatory. The question is what underlies children’s aversion to inequity, and our claim is that the foundation of their aversion is not equality of resources *per se*, but rather equality of respect. (See [Box 4](#) for a compatible account of so-called retributive fairness or justice.)

We are not the first to suggest modifications to the inequity aversion view. One recent account holds that fairness is not to be equated with equal resource distributions, and maintains that unequal resource distributions can sometimes be fair [35]. But this argument shares with the inequity aversion perspective the presupposition that measurement of fairness revolves most fundamentally around the material stuff. The two views that come closest to our account are Shaw and Olson’s ([33], p. 50) proposal that ‘fairness concerns in distributing resources may be less about inequity *per se* and more about the underlying partiality that drives the inequity’ and Baumann, André, and Sperber’s ([36], p. 59) claim that ‘. . . the best strategy is to treat others with impartiality . . .’. Both views claim that fair treatment is about impartial treatment and they may, like ours, explain results from the basic resource distribution studies, as well as from the procedural fairness studies. However, the arguments based on impartiality do not account for the finding that young children accept disadvantageous distributions when they have had a voice in the decision-making process [34], which a respect-based view of fairness readily does, since giving all participants a voice in the decision-making process signals precisely an equal respect for all participants. The impartiality arguments also do not address the finding that children reciprocate differently depending on how an equal (impartial) distribution came about

**Box 4. Retributive Fairness or Justice**

Classically, there are two forms of fairness or justice: distributive and retributive. Retributive fairness is not concerned with resources but with actions, specifically, with how to deal with people who have committed uncooperative acts. Whereas individuals who distribute resources inequitably are disrespecting others, individuals who intentionally harm others are totally disregarding their well-being, and so they need to be punished, ideally in a way that balances out (equalizes) the suffering to others they have caused.

Recent studies have found that children from 4 to 6 years of age will actually pay a cost to make sure that a perpetrator is punished for her acts [57–60]. This punishment is not to prevent future violations, as people feel that incarcerating murderers 100% safely for life in a luxury hotel is not acceptable retribution. The perpetrator needs to incur something approximating an equivalent amount of suffering.

Once again, then, analogous to the case of distributive fairness, the issue is not the act itself but its social meaning. Thus, if a thief steals from a victim, even if all of the stolen goods are returned in perfect shape (or even improved), the thief still needs to be punished. Why is that, when the victim is now just as well off or better? The answer is that the thief has disregarded the victim as a person, has violated her person and/or property, and this act debases the victim's status as an equally deserving individual. Since it is already done, the fair response in this case is that the thief's person and/or property be disregarded proportionally equally, as he or she is put in jail or is forced to pay monetary compensation.

Further supporting the social meaning hypothesis, when judging punishable acts preschool children take into account not just the material damage done but the perpetrator's intentions toward affected others [61,62]. Thus, a perpetrator who has done something to intentionally harm others is more blameworthy than someone who has caused greater damage accidentally. Again, it is not just the act or its material consequences that are significant, but the social meaning of the act. The key in retributive fairness is thus to ensure that everyone is treated equitably and when that is violated, equity of personhood must be restored by punishing the perpetrator in equal measure to the damage or pain he or she has caused others. Retributive fairness is one of the domains where cross-cultural developmental data is especially lacking (see [63–65] and Outstanding Questions).

(giving or taking), or the finding that collaboration encourages equal sharing. The fairness as equal respect perspective in contrast, applies consistently to the entire range of empirical findings we have reviewed.

In addition, our account can explain why children care about partiality and impartiality in the first place: it is precisely that the person being impartial in distributing resources signals respect to everyone as equal participants. Our account also has an advantage over impartiality views in being able to explain why being treated unfairly comes with its characteristic sting. Unequal treatment is not just dispreferred, but positively resented. It is resented because of the identity implications of the act: it identifies the recipient of such treatments as the sort of person who does not deserve to be treated equally. Put differently, we do not protest against or resent unequal treatment primarily because we want to be treated impartially, but rather because we want to be respected as equal.

In highlighting the social meaning of the distributive act, the fairness as equal respect view provides a new framework that makes novel predictions. Our account purports that the perception of disrespect causally mediates children's experience of unequal treatment. If children feel respected, because they are treated politely, are allowed to make their own decisions, or are given explanations for actions that affect them, they should be less likely to protest against unequal resource distributions. Our view also predicts that this holds true even if the experience of respect occurs in a context that is separate from the resource distribution: what matters to children is whether or not they are being respected in a given relationship. The flipside of this is that if children feel disrespected, because they are being treated paternalistically, or because they are being used, treated as mere means to an end, they should be more likely to reject unequal resource distributions. Finally, our view holds that the publicity of the unfair treatment matters [37]. Children should be more likely to reject allocations that put them



at a disadvantage if the distribution is observed by an audience. This is because being treated unequally in front of an audience signals to everyone that one is the sort of person that can be disrespected. If, on the other hand, no one knows (not even the distributor) that the child participant received only one resource while a peer received four resources, it should be very unlikely that the child rejects the distribution. These are all testable predictions.

### Concluding Remarks

The fairness as inequity aversion view maintains that children's sense of fairness only fully emerges at age 8 and is grounded in an aversion to unequal payoffs (with aversion to disadvantageous inequity emerging before aversion to advantageous inequity). The research we have reviewed suggests two amendments to this view. First, children display an aversion to inequity (in both directions) earlier than this, at about age 3, in (and only in) interdependent collaborative activities. By hypothesis, this represents humans' evolutionary adaptations for obligate collaborative foraging. Second, children's aversion to resource inequity is a social-relational phenomenon based on mutual respect. That is to say, the manner in which children respond to unfair distributions is directed at the social meaning of the distributive act and is ultimately grounded not in a desire for equal material, but rather in a desire for equal respect.

This relationship-based account of children's developing sense of fairness suggests that treating an individual in an unfair manner indicates something significant about our attitudes toward that person and about our relationship to each other. More generally, the current account aims at putting social relationships center stage not only in the particular case of fairness, but also in the many other aspects of moral development. In our view, other moral phenomena are also best treated interpersonally rather than as abstract principles or universal norms. For example, when we have wronged someone, our feelings of guilt plausibly emanate not from the violation of an abstract principle or general norm, but from our realization that our actions have impaired our relationship with the person in question. Understanding the relationships children have with others is key to understanding their moral development.

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### Outstanding Questions

How does the development of fairness vary cross-culturally? The specific developmental pathway we have suggested here is mostly based on data from Western populations. There is some evidence that the ontogeny of fairness shows cross-cultural variation, but more research is needed to investigate how children's sense of what is fair and what is not develops across diverse populations.

What does respect mean for children? We have argued that a demand for equal respect underlies children's developing sense of fairness. Future work should investigate more closely what 'being respected' means for children and which sorts of actions communicate respect and which sorts of actions communicate disrespect to children.

Do children protest against being used? According to Kant, other people should always be treated as ends in themselves and never simply as means to an end. Being treated as 'mere means' represents one of the most fundamental ways of being disrespected and is often objected to using the phrase 'You are just using me!' When do children first protest against being used in this way, that is, when do they develop an understanding of treating someone as mere means?

How do different social relationships influence fairness? Highlighting the interpersonal nature of the psychology of fairness raises the possibility that children view different relationships as involving distinctive standards of fairness. Do children apply different fairness concepts when they interact with peers versus adults? When they cooperate with friends versus strangers? Or when they face authorities compared with equals?

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