

## Supplemental Materials

### The Development of Inequity Aversion:

#### Understanding When (and Why) People Give Others the Bigger Piece of the Pie

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### Study S1

Study S1 provided children with all relevant options from Study 1: Give to Self, Give to Other, or Throw Away. In line with our hypotheses, we predicted that older children would be more likely to disadvantage themselves than younger children in this case.

### Method

**Participants.** We recruited 127 children at a local science museum. Eighty-two children were of the younger age group (4- to 6-year-olds,  $M = 68.24$  months,  $SD = 9.99$ , 45% female) and 45 were of the older age group (7- to 8-year-olds,  $M = 95.11$ ,  $SD = 5.85$ , 67% female).

**Procedure.** The procedure was similar to Study 1. Children were told that they and another child would be receiving some erasers for answering questions and that there were three toy erasers in total to give them. Children were then told the following:

Because you have done such a good job learning at the museum today, we want to give you some erasers as a prize. We want to give some erasers to

you and to another little boy named Mark who also did a really good job learning at the museum today. We have these three erasers to give to you and to Mark. Mark and you each get one eraser. Now we have one left over. What do you want to do with it?

Children were then presented with three options: Do you want to give it to Mark, give it to you, or throw it away? The options were presented in four counterbalanced orders; the throw away option was always first or last, for fluidity reasons, and then the “give it to Mark” and “give it to you” options were counterbalanced so that they appeared either first or second in the vignette and in the question. For female participants we used a female name (“Mary”).

## Results

A 2 (Age Group: Younger or Older Children) x 3 (Choice: Give to Self, Give to Other, or Throw Away) chi-square test revealed a significant cross-over interaction,  $\chi^2(2, N = 127) = 8.1, p = .005, \phi = 0.25$ . A chi-square goodness of fit test revealed that younger children’s responses differed from chance,  $\chi^2(2, N = 82) = 19.41, p < .001, \phi = 0.49$ . Younger children’s most frequent response was to give the eraser to themselves (56%, 46 out of 82); they were split between giving to the other person (24%, 20 out of 82) and throwing it away (20%, 16 out of 82). Older children’s responses also differed from chance,  $\chi^2(2, N = 45) = 8.13, p = .017, \phi = 0.42$ ; they were just about equally split between giving the eraser to the other person (42%, 19 out of 45) and throwing it away (44.5%, 20 out of 45), with very few deciding to give the eraser to themselves (13.5%, 6 out of 45).

## Discussion

These results generally replicate the patterns from Study 1 in a paradigm where children were also given the choice to give the resource to themselves. That is, younger children were generally selfish and not generous (their most frequent response was to create advantageous inequity) and older children were not selfish and somewhat generous (they avoided advantageous inequity and instead opted to either give the eraser to the other recipient or to throw the eraser away). These results further demonstrate that older children will disadvantage themselves even when they have the option of taking more for themselves, suggesting that children will pay a personal cost to disadvantage themselves.

### **Study S2**

The results of Studies 1, S1, and 2 support the idea that children become more likely to disadvantage themselves as they grow older. However, another possibility is that children simply become more likely to give a resource to someone else as they grow older even in cases that do not involve self-sacrifice. To differentiate between these two accounts, in Study S2, we compare the Self-Disadvantaging Condition from Study 1 (Disadvantageous) to a new Third Party Condition in which the child is not a potential recipient, but instead is asked to assign an additional resource to one of two other children. If children are simply becoming more likely to share with others as they grow older, then older children should be more likely than younger children to create inequity in both conditions. However, we predicted older children would not be more likely than younger children to endorse inequity in the Third Party Condition because when someone other than the participant creates inequity, the participant will not feel generous (i.e., the participant paid no cost because they were not a potential recipient) and the decision to

create inequity would entail partiality (i.e., the third party has to favor one participant over another).

## **Method**

**Participants.** We recruited 136 children at a local science museum. Eighty-one children were of the younger age group (4- to 6-year-olds,  $M = 65.54$  months,  $SD = 11.93$ , 52% female) and 55 were of the older age group (7- to 8-year-olds,  $M = 95.08$ ,  $SD = 8.11$ , 62% female).

**Procedure.** The basic procedure was the same as in Studies 1 and 2. The Disadvantageous Condition was an exact replication of the Self-Disadvantaging Condition from Study 1, where both the child participant and another child received one eraser and participants were asked to decide whether to give the other child more or throw the resource in the trash. We compared this condition to the Third Party Condition, which was the same as the Disadvantageous Condition except that “You” was replaced by another child’s name:

Two boys did a really good job learning at the museum today so we want to give them some erasers as a prize. We want to give some erasers to Mark and to another little boy named Dan who also did a really good job learning at the museum today. We have these three erasers to give to Mark and to Dan. Mark and Dan each got one. Now we have one left over. What do you want to do with it? Do you want to give it to Mark so he’ll have more than Dan or do you want to throw it away?

As before, the order of the options in the last sentence was counterbalanced. For female participants, we used female names (“Mary” and “Danielle”).

## Results

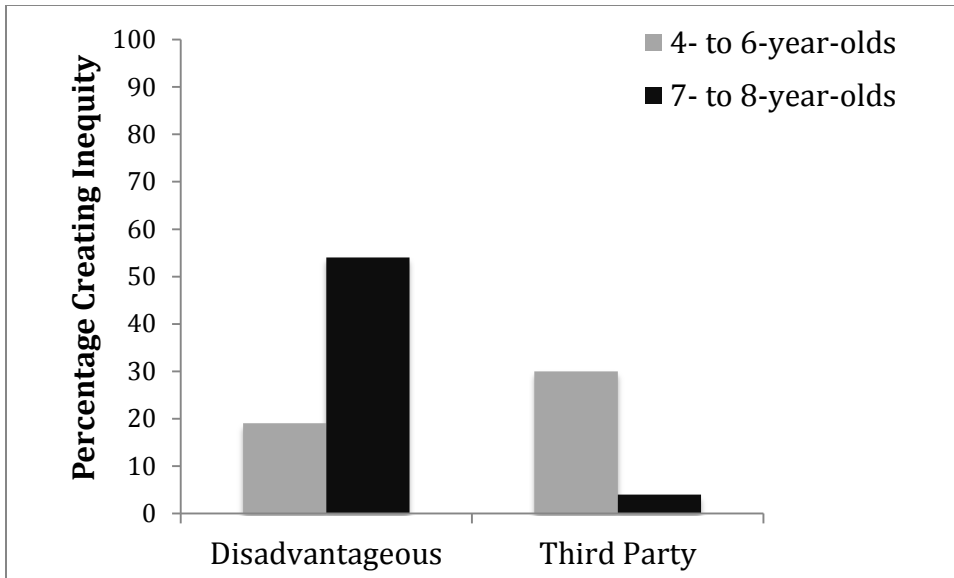
We conducted a logistic regression analysis with Inequity (Disadvantageous or Third Party) and age group (younger or older) as independent variables and choice as a dependent variable. The regression revealed no significant main effect of age Wald ( $df = 1, N = 136$ )  $.426, p = .51$ , but there was a main effect of inequity Wald ( $df = 1, N = 136$ )  $= 5.4, p = .02$ , such that children were more likely to throw away the resource in the Third Party Condition as compared to the Disadvantageous Condition. Importantly, there was a significant inequity and age group interaction Wald ( $df = 1, N = 136$ )  $= 10.84, p = .001$ . We used planned comparisons (Fisher's exact test) to examine children's response by age in the two conditions. Consistent with our hypothesis, and replicating our findings from Studies 1 and 2, we find in the Disadvantageous Condition that older children were more likely to create inequity by giving the additional resource to someone else (instead of wasting it; 54%; 15 out of 28) than younger children (19%; 7 out of 37),  $p = .008, \phi = 0.36$ . Moreover, in the Third Party Condition, older children were directionally (though not significantly) *less* likely to create inequity by giving an additional resource (4%; 1 out of 27) than younger children (30%; 13 out of 44),  $p = .12, \phi = 0.32$  (see Figure S1). Thus, when giving to third parties, older children were not more likely to create inequity than younger children.

To determine whether responses were different from chance, we conducted binomial sign tests on all conditions. In the Disadvantageous Condition, older children created inequity at chance levels,  $p = .85$ , whereas younger children responded at below chance levels,  $p < .001$ . In the Third Party Condition, older children created inequity at below chance levels,  $p < .001$ , as did the younger children,  $p = .01$ .

We also conducted Fisher's exact tests comparing children's responses to the two conditions in each age group. We found that older children were less likely to create inequity in the Third Party Condition than in the Disadvantageous Condition,  $p < .001$ ,  $\phi = 0.55$ . Furthermore, we found that younger children were not more likely to create inequity in the Third Party than in the Disadvantageous Condition,  $p = .44$ ,  $\phi = 0.11$ .

## **Discussion**

Again we found that older children were more likely to create inequity by engaging in self-disadvantaging behavior than younger children. We further found that older children and younger were equally reluctant to create inequity that disadvantages others, demonstrating that children are not simply becoming more likely to give resources to others as they grow older. This result also rules out another interpretation of our previous results, which is that children are simply becoming less likely to waste as they get older. The desire to avoid being or appearing wasteful cannot account for our results because, if anything, children became (directionally) more likely to waste in the third party case as they got older. Furthermore, children's increased tendency to throw away resources in Study 1 in the self-advantaging condition are inconsistent with this alternative based in children becoming more reluctant to waste.



**Fig. S1:** Percentage of children creating inequity in Study S2, by age group and condition.