Children's Responses to Group-Based Inequalities: Perpetuation and Rectification

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Abstract

The current studies investigate whether, and under what conditions, children engage in system-perpetuating and system-attenuating behaviors when allocating resources to different social groups. In three studies, we presented young children with evidence of social group inequalities and assessed whether they chose to perpetuate or rectify these inequalities. Children (aged 3.5-11.5 years) heard about two social groups (i.e., racial or novel groups) whose members received resources unequally (two cookies versus one). Participants were then given the opportunity to distribute additional resources to new members of the same groups. In Experiment 1, when children were presented with inequalities involving groups of Blacks and Whites, older children (aged 7.5-11.5 years) rejected the status quo, providing more resources to members of groups with fewer resources (White or Black), whereas younger children (aged 3.5-7.5 years) perpetuated the status quo. In Experiments 2 and 3, the inequalities involved Asians and Whites and novel groups. Children of all ages perpetuated inequality, with rectification strategies applied only by older children and only when Black targets were involved in the inequality. Equal sharing occasionally occurred in older children but was never a common response. These findings provide evidence that system-perpetuating tendencies may be predominant in children and suggest that socialization may be necessary to counter them.

Children's Responses to Group-Based Inequalities: Perpetuation and Rectification

As children observe the world, they inevitably are confronted with inequality. Some people, they may notice, live in bigger houses or play with nicer toys or have "cooler" clothes than others. Given ordinary skills of observation and covariation, children may notice that these inequalities are associated with particular social groups: people who are poor tend to live in neighborhoods with smaller houses, less impressive landscaping, older cars, and smaller yards. How might observations of such covariation influence children's perceptions of the deservingness of members of these neighborhoods? That is, do children think that members of groups who have fewer resources deserve more, the same, or fewer resources than those who start with more?

The current research is directed at understanding how children respond to group-based inequalities that they observe, and more specifically, the influence of these observations on children's subsequent allocations of resources. After seeing an unequal distribution of resources in which members of one group receive more than members of another group, how will children distribute resources to new members of these groups? We were particularly interested in whether children would infer that members of a group that has received more resources in the past are more (or less) deserving of future resources.

One particularly useful framework for considering this question is that of system justification theory. System justification theory (SJT) argues that in addition to motivations to favor one's self and one's own group, people hold a third motivation—to favor the status quo (Jost & Banaji, 1994). This theory predicts that when people are exposed to a systematic inequality such that one group possesses more resources than another, that inequality will often be justified and maintained.

There is considerable research demonstrating the occurrence of system justification and perpetuation in adults (e.g., Jost, Banaji, & Nosek, 2004; Jost, Pelham, Sheldon, & Sullivan, 2003; Lau, Kay, & Spencer, 2008; O'Brien & Major, 2005; see also the other articles in this issue). However, to our knowledge, this theory has not been directly tested with young children (but see Henry & Saul, 2006 for a study involving adolescents). That said, the extant literature on child development includes several findings that are *consistent* with the occurrence of system justifying and system perpetuating tendencies throughout childhood. We review these findings briefly, before describing the current work.

Developmental Evidence Consistent with System Justification Theory

As is the case with adults (e.g., Jost, et al., 2004; Jost, Kivetz, Rubini, Guermandi, & Mosso, 2005; Jost, Pelham, & Carvallo, 2002), much of the developmental research consistent with SJT concerns attitudes and stereotypes. Within the domain of attitudes, decades of research have demonstrated an asymmetry between the explicitly held racial attitudes of majority vs. minority group members in preschool and early elementary school (Aboud, 1988). While majority group members, beginning around age 4, show a strong preference on average for their own group (Aboud, 2003; Katz & Kofkin, 1997; Rutland, Cameron, Bennett, & Ferrell, 2005; Spencer, 1984), members of minority groups at the same age show undifferentiated or even pro-outgroup attitudes (Branch & Newcombe, 1986; Corenblum & Annis, 1993; Clark & Clark, 1947; Katz & Kofkin, 1997). More recent investigations employing implicit measures in elementary aged children show similar asymmetries by high vs. low status (Dunham, Baron, & Banaji, 2006, 2007; Rutland, Cameron, Milne, & McGeorge, 2005). Parallel explicit attitude work with novel, experimental groups has found a similar asymmetry with status; those who are assigned to a higher status group report more ingroup preference than those assigned to a lower status group, but only in cases in which teachers used group membership as a meaningful cue in the classroom (Bigler, Brown, & Markell, 2001).

Evidence of system-justifying and system-perpetuating attitudes in young children is not limited to the domain of *intergroup* attitudes. By age 3 years, children prefer those who experience lucky or fortunate events to those who experience unlucky or unfortunate events (Olson, Banaji, Dweck, & Spelke, 2006; Olson, Dunham, Dweck, Spelke, & Banaji, 2008). Insofar as the lucky are higher in status, prestige, or resources, preferring them over others maintains the status quo. This "luck preference" is observed throughout childhood and across cultures (Olson, et al., 2008; Olson, et al., under review).

Paralleling research on attitudes, research on stereotyping in children similarly aligns with SJT. Children have considerable knowledge of stereotypes, including those that maintain the status quo, early in development. For example, by age 4-5 years Israeli Jewish children hold negative stereotypes about Arabs (Bar-Tal, 1996), girls aged 5-7 already hold, and are negatively impacted by, stereotypes concerning their supposed inferiority in math (Ambady, Shih, Kim, & Pittinsky, 2001), and elementary-aged children (including girls and Blacks) think that a job, portrayed by a male or White worker, has a higher status than the same job portrayed by a woman or Black worker (Bigler, Averhart, & Liben, 2003; Liben, Bigler, & Krogh, 2001).

Evidence for system-justifying and system-perpetuating tendencies in children is not limited to attitudes and stereotypes, however; it extends also to children's explanations and justifications for the status quo itself. A recent study by Bigler, Arthur, Hughes, and Patterson (2008) asked elementary aged children to explain why it was that no minorities (women, Blacks, Hispanics) had been president (importantly, the study was conducted before Barack Obama or Hillary Clinton were obvious candidates). The researchers provided several possible explanations and justifications and children could indicate whether each was true or not. Almost a third of participants endorsed the justification that women (25%), Blacks (31%) and Latinos (31%) are not presidents because they are not as good leaders as men or Whites, and a similar number endorsed the justification that women (25%), Blacks

(33%), and Latinos (32%) lack the desire to be president. Perhaps the most surprising (and illuminating) finding was that a non-trivial minority of children endorsed the explanation that it is *illegal* for women (24%), Blacks (26%), or Latinos (19%) to be president of the U.S. While it is unlikely that children were ever explicitly provided with these justifications and explanations, these findings suggest that children are trying to make sense of the world around them, and in doing so they are entertaining plausible, albeit incorrect, views that are consistent with the status quo. Indeed, they assume that sociopolitical outcomes are officially sanctioned.

Finally, there is evidence that children justify the status quo not only in evaluations and judgments of new or unknown others, but in explaining their own immediate environment—such as their own families (e.g., Boll, Ferring, & Felipp, 2005). Quite surprisingly, most of the time (74%) when children report that a parent provided differential treatment to siblings, they believe that the differential treatment was fair (Kowal, Kramer, Krull, & Crick, 2002). Even more surprisingly, and yet consistent with system justification theory, whether a child was the beneficiary (or not) of differential maternal and paternal treatment did not affect the likelihood that the child regarded the differential treatment as "fair" (Kowal, et al., 2002). That is, children justified unequal treatment irrespective of whether they benefited from the unequal treatment or not. Most often children justified the difference in parental behavior by appealing to differences in terms of the sibling ages, needs, or other factors (Kowal & Kramer, 1997). In sum, while the previous studies were not conducted as direct tests of system justification theory, their results suggest that children frequently endorse attitudes, beliefs, and reasoning that are consistent with the tenets of SJT.

System-attenuating responses in children

Of course, not all attitudes and beliefs held by children (or adults) reflect system justification or perpetuation motives. For both adults and children, one domain in which we do not always see system-perpetuating outcomes is that of explicit racial attitudes. Whereas White preschoolers tend to prefer White children over Black children and Black preschoolers tend to show no preference or even a preference for White (as discussed above), by the time children are in mid-elementary school (around age 7-8) children's explicit racial attitudes shift such that White children (like adults) show a very small pro-White preference or no preference at all, and Black children (like adults) often show a pro-Black preference; these patterns are distinctly anti-status quo (Aboud, 1988; Baron & Banaji, 2006; Chiesi & Primi, 2006; Doyle & Aboud, 1995; Rutland, Cameron, Milne, & McGeorge, 2005; Semaj, 1980). Several explanations for this age shift have been proposed, including self-presentation and social desirability concerns (cf. Crandall, Crandall, & Katkovsky, 1965; Doyle et al 1988), as well as more general cognitive or social cognitive changes (Clark, Hocevar, & Dembo, 1980; Doyle & Aboud, 1995; Semaj, 1980). While a few studies have shown that Whites exhibit this shift in attitudes to groups other than Blacks (e.g., Asians in Chiesi & Primi, 2006), most of the previous work has focused on Blacks as the outgroup. In sum, children's behavior largely accords with the predictions of SJT, but children do sometimes act in ways that are inconsistent with SJT, especially with regards to certain groups.

System-perpetuating or attenuating *behavior:* The case of resource allocation

While much of the previous work related to system justification theory in children has concerned attitudes, beliefs, or reasoning, the current study investigates whether children will *behave* in ways that are consistent with SJT. Specifically, the current studies investigate children's resource allocation behavior following the observation of an unequal allocation of resources. Decades of research on distributive justice has explored the range of ways in which children distribute resources to recipients

who vary in their deservingness (e.g., Damon, 1977; Enright, et al., 1984; Hook & Cook, 1979; Huntsman, 1984; Sigelman & Waitzman, 1991).

Classic distributive justice paradigms present children with a variety of hypothetical recipients such as a poor child or a hard-working child and ask the participant to distribute rewards to these recipients (e.g., Damon, 1977; Sigelman & Waitzman, 1991). In these studies, the experimenter manipulates the situation or type of reward, so that adults would likely favor an equal, merit-based, or need-based response. Developmental differences in strategy use are recorded. This work has found that children apply strategies in increasingly adult ways as they mature; for example a largely egalitarian response in kindergartners shows increasing sensitivity to context in elementary school (e.g., differentially attending to merit or need in different scenarios) (Sigelman & Waitzman, 1991).

Previous research has also asked whether children's allocation depends on the recipient's social group membership, a critical feature in the current work. This work has found that white children as young as preschool-aged share more with White than with Black or Native American recipients (Zinser, Bailey, & Edgar, 1976; Zinser, Rich, & Bailey, 1981). A more recent study combined questions of race-based allocation and children's developing sense of fairness, asking how children's allocations to needy or productive workers differed by the race of the recipient. McGillicuddy-De Lisi, Daly, and Neal (2006) found that although (predominantly-white) 2nd graders did not differentially allocate by race, 4th graders gave more to a productive Black worker than a productive White worker, but gave more to a needy White character than a needy Black character. Thus, older children showed a tendency to take race into account when deciding on the deservingness of the targets, in addition to adopting different criteria (e.g., meritocracy, need) across different situations.

While the distributive justice approach provided a useful starting point for our studies, in order to ask about the influence of the status quo on children's perceptions of deservingness we had to make a few critical changes to the standard method. Because we were interested in the influence of the status quo we first had to create a status quo. We did this by setting up a history of differential allocations to recipients. We were also interested in *group-based* inequality so we presented participants with multiple members of each group rather than single individuals. Another change we adopted in the current studies was the provision of unequal resources. Outside the lab resources are often scarce and therefore in an effort to mimic these situations, children were provided with an odd number of resources to allocate between two recipients. The final change made to the typical distributive justice method was to remove explicit labels (e.g., "This is the poor child"). Race and socio-economic status are rarely labeled explicitly for children in ordinary social encounters, so we avoided such labels in our study.

Our task

Acting *against* the status quo—especially a status quo in which one group is clearly privileged over another—is difficult insofar as it requires a recognition of inequality, a recognition of how the inequality can be rectified, and a willingness to do what it takes to rectify that inequality (often in the presence of others, including dissenters and status quo agents such as authority figures). In our task, we tried to mimic this scenario—creating a task that involved a group-based inequality, but as is often the case in society, we neither articulated why the inequality existed nor did we call explicit attention to the inequality; instead, it was up to the children to identify and respond to the inequality. Children were then given a chance to rectify (or not) the inequality by distributing resources to members of the two groups while in the presence of the experimenter. Under these circumstances, children could engage in a simple "system-perpetuating" response by mimicking the allocation of resources they had just

observed, that is, providing more resources to members of the previously privileged group. However, if children were motivated to challenge or attenuate the degree of inequality, they could choose to distribute the rewards differently (e.g., rectifying inequality by giving more resources to a member of the previously underprivileged group). Finally, we included two age groups, children below 7.5 years and children above 7.5 years, as the previous literature has suggested shifts in explicit racial attitudes between 7 and 8 years of age, especially in the case of attitudes toward Blacks (for a review see Aboud, 1988).

Our hypotheses

In observing, learning about, and trying to explain the world around them, we predict that children notice and try to understand why covariation between group membership and resource allocation exists. Even in an experimental context we predict that children will observe inequalities, presume them to be justifiable, and behave in ways that maintain or even perpetuate inequalities. We hypothesize that perpetuating inequality will be the dominant strategy. We also predict that as children mature, they will learn and even internalize social norms about equal treatment, which could result in children's sharing more fairly and even rectifying inequalities. Older children are also the ones who, in past research, have demonstrated shifts in group-based attitudes (especially Black-White attitudes, Aboud, 1988), and who tend to have an easier time considering multiple allocation strategies (Damon, 1977). Therefore, if children rectify inequalities, we expect this behavior to be limited to older children, and possibly also limited to cases in which equality has been emphasized as in inequalities involving Blacks and Whites.

Experiment 1

As our first test of children's system-perpetuating vs. system-attenuating behavior, we presented children with inequalities involving Blacks and Whites. When issues of racial inequality arise within the U.S., they often focus on the Black-White divide. Historically and even today, Black Americans have significantly less access to health, wealth, education, and power compared to White Americans and also to less stigmatized minorities such as Asians (Kozol, 2005; Oliver & Shapiro, 1995; Smith, 1999). A great deal of research reveals that White children (primarily in North America and Europe) who are aged 8 and over report more egalitarian racial attitudes than their younger peers when the outgroup is Black, providing at least initial evidence that older children may be particularly attuned to this racial distinction (Aboud, 1988). Moreover, North American children today receive explicit lessons in school about the meaning, history, and importance of race relations and equal treatment, especially regarding Black Americans. These lessons may be especially pronounced in our testing location of Cambridge, MA, which is a community that was recently named the 8th most liberal city in America (Bay Area Center for Voting Research, 2005). For these reasons, children's behavior toward Blacks and Whites was a particularly important starting place to assess responses to social and economic inequality. If children are going to act against the status quo, it seems most likely that they would do so in such a context.

Method

Participants. A total of 85 children (40 female, 43 male, 2 did not identify sex) between the ages of 3.5 and 11.5 years (*M*=86.2 months, *SD*=28.8 months) participated in the experiment. Most of the participants were recruited at a Harvard campus museum, but a small number (15) were recruited through a developmental psychology lab that attracted children with the same demographic characteristics (e.g., predominately white, middle- to upper-middle-class, highly educated parents, from the same campus community), recruited through city birth lists.

Materials. In all of the studies presented in this paper, photographs of boys were used as recipients. A single gender was used because we wanted the targets to vary on only one dimension (shirt color or race, across studies). These photographs were presented in pairs on a laptop computer screen, with one representing each target group. The pictures in a given pair were matched using adult ratings of attractiveness and approximate age. In all studies, pictures were standardized by equating their size and adding a white background. Finally, in all studies twelve unique versions of the task were created to control for possible item effects. In six versions, members of Group A (e.g., green shirt, Asian, or Black, depending on the study) were given more resources and in six versions members of Group B (e.g., orange shirt or White) were given more resources. The order of the photograph presentation and the side of the screen each photograph appeared on varied across versions. In this particular study the groups included only Black and White children.

Procedure. Participants first experienced four learning trials. Each trial included the photographs of one Black and one White child, presented on either side of a computer screen (the side of the screen on which the two boys appeared varied across trials, as noted, and was counterbalanced across participants) receiving cookies (also presented as photographs that appeared on the screen, under the photographs of the recipients). Half of the participants always viewed the White children receive two cookies and the Black children receive one cookie (White more condition), whereas the other half always viewed the White children receive one cookie and the Black children receive two cookies (Black more condition). As each learning trial appeared, the experimenter said "This is [John] and this is [Steven]. [John] gets two cookies and [Steven] gets one cookie." The names and faces changed for each trial, always including one member of each group. Following the last learning trial, participants were shown the photographs from one earlier trial (without cookies present) and were asked if they remembered how many cookies each of the two recipients had received (Memory Trial).

After this trial, children were introduced to the photographs of two new recipients and were told that now they would have a chance to distribute cookies. Participants were given three actual cookies and were asked to give each child what he "deserves" (Give Trial) by placing the relevant cookies under the photographs of the recipients. Importantly the term "deserves" was never used until this point in the experiment. Children's responses were recorded and then they were thanked for their participation.

Results and Discussion

Participants' memory for the number of cookies received by each boy was tested as a manipulation check. Their recall (80%) was significantly better than chance (50%), as indicated by a one-sample t-test, t=6.92, p<.001. Because having noticed a history of inequality was necessary in order to ask about how a history of inequality affects perceptions of deservingness, only the children who passed the manipulation check were included in analyses[1]. This resulted in the inclusion of 66 children (31 boys, 33 girls, the parents of two children did not report their children's sex; 44 White, 5 Asian, 1 Hispanic, 1 American Indian, 6 bi-racial, and 9 whose parents did not specify or selected "other"; M=90.7 months, SD=28.9 months).

On the Give Trial, each participant was coded as having adopted a strategy of (a) perpetuation (giving more to the experimentally-privileged group), (b) rectification (giving more to the experimentally-underprivileged group) or (c) equality (giving equally to both children). The equality option could only be achieved by splitting a cookie, something we did not expect but did occasionally occur. Children's selection of allocation strategies differed significantly from chance (equally applying the three possible strategies), as demonstrated by a significant Chi-Square Goodness of Fit test, $\chi^2(2)=15.36$, p<.001. Given that nearly equal numbers of participants perpetuated the inequality (N=29) as rectified the inequality (N=30), this significant effect was driven by the disproportionately few

participants who shared equally (N=7). Because the expected number of participants per cell was too small to meet the requirements of chi-square analyses (at least 20% of cells must have 5 subjects per cell) involving age, gender, and condition (White more vs. Black more), we excluded these 7 participants from the full Chi-Square analyses described next. Though the sample size of equal allocators was too small to statistically analyze this group by themselves, it is clear that older children were more likely to divide the resources equally (6 of 7 participants who divided equally were aged 7.5-11.5years). Males (N=4) and females (N=3) were just as likely to share equally, and equal sharing was equally common when Blacks got more (N=3) as when Whites got more (N=3).

Across all participants who either rectified or perpetuated the inequality, participants were no more likely to adopt one strategy over the other, p=1.0, as indicated by a Sign Test. That is, children were no more likely to give to the privileged than to the underprivileged group. Chi-Square analyses were used to assess the influence of condition and age on allocation strategy. There was no effect of condition (Black more vs. White more) on participants' allocation strategy, $p>.50$, but there was a large main effect of age group (younger-ages 3.5-7.4 years vs. older-ages 7.5-11.5 years), $\chi^2(2)=10.75$, $p=.001$, $\Phi=.43$, (see Figure 1). Younger children in the sample were more likely to adopt a perpetuation strategy (69%), giving more to the privileged, $p=.05$, $g=.19^2$, sign test. Older children were more likely to adopt a rectification strategy, giving more cookies to the *underprivileged* group (74%), $p=.019$, $g=.24$, sign test. Interestingly, both age groups showed these patterns regardless of whether the underprivileged group in the experiment was Black or White. That is, the older children were no more likely to rectify when the deprived recipients were Black than when they were White. Neither older nor younger children showed any overall preference for Black or White children, $ps>.4$, sign tests. A close inspection of the data indicates that the majority of 4 (64%), 5 (67%), 6 (71%) and 7 (75%) year old children gave more to the privileged group whereas the majority of 8 (83%), 9 (100%), and 10 (70%) year old children gave more to

the underprivileged group, indicating that there may be a psychologically meaningful shift in this behavior around age 7.5, though the sample size at each age was too small to compute sign tests by age. Importantly, age 7-8 years perfectly matches the typical shift in the expression of explicit attitudes (Aboud, 1988). There was also no effect of gender on allocation strategy, $p>.80$.

In sum, while a few children found a strategy that would allow for egalitarian sharing, in general older children adopted a *rectification* strategy, whereas younger children applied a *perpetuation* strategy. These strategies were employed irrespective of which group (Black or White) was more or less privileged, suggesting that children may have been responding consistent with a principle of equality across groups, rather than a more specific preference to promote equality only when Blacks had fewer resources. In order to assess whether these strategies are the dominant strategies at these ages and whether these responses are specific to the Black/White comparison, we next replicated this study with another racial group comparison, Whites and Asians.

Experiment 2

The rectification strategy exhibited by the older children in Experiment 1 may indicate an underlying concern with equality, or it may indicate a specific response to Black/White intergroup relations. That is, much of children's exposure to group inequalities and many of the discussions of intergroup inequality that they hear are likely focused on Black/White relations. Therefore, older children's desire to counteract inequality could be specific to those groups. Alternatively, older children's strategies may reflect a more general concern with sharing with those who have less. To investigate this question more directly, we conducted a nearly identical study, substituting Asians and Whites for Blacks and Whites.

Method

Participants. One-hundred and five participants between the ages of 3.5 and 11.5 years completed this experiment (*M*=85.0 months, *SD*=26.9 months, 51 boys, 51 girls, the parents of 3 children did not specify sex).

Procedure. The procedure of Experiment 2 was the same as Experiment 1 except that pairs included one Asian and one White child.

Results and Discussion

Participants' performance on the manipulation check was high (73%) and significantly better than chance (50%) as determined by a one-sample t-test, $t(104)=5.38$, $p<.001$. As in Experiment 1, only those participants who passed the manipulation check were included in analyses. This included 77 participants (34 boys and 42 girls, 41 White, 3 Black, 13 Asian, 1 Pacific Islander, 12 biracial, 7 did not specify or selected "other," *M*= 90.3 months, *SD*=25.3 months).

As in Experiment 1, a small fraction of participants chose to break a cookie in half (n=4 children out of 77 or 5%) to impose an equal giving strategy. As in Study 1, children's allocation strategy (perpetuation, rectification, equality) differed significantly from chance (equal use of each strategy), χ^2 (2, N=77)= 31.82, p<.001, but again the decision to share equally was rare (N=4) compared to the tendency to perpetuate inequality (N=44) or the tendency to rectify inequality (N=29). All four equal distributors were in the older age group (7.5-11.5 years). Three of the four participants employing the equality strategy saw Whites get more cookies and three of four participants were female. As in Study 1, the small number of participants employing equality strategies was problematic for Chi-Square Analyses which require an expected value of at least 5 in each cell. Therefore, these participants were excluded in the following analyses.

Of those children who either rectified or perpetuated the inequality, children were more likely, although only marginally so, to adopt a perpetuation strategy (60%), giving more resources to the privileged, *p*=.10, sign test, *g*=.10. Children's use of the perpetuation strategy did not differ by condition (Asian more vs. White more), age group (3.5-7.5 vs. 7.5-11.5), or subject gender, all *p*s>.40, Chi-Square tests (see Figure 2). For older children, this represented a significant difference in behavior from Experiment 1, in which children had employed a rectification strategy, χ^2 (2, N=71)= 8.61, p=.014, ϕ=.35.

We investigated the age distinctions more closely and found that the majority of children at most ages gave to the privileged group (percentages giving more to the privileged: 4 year olds-50%; 5 year olds-60%; 6 year olds-55% , 7 year olds-67%; 8 year olds-82%; 9 year olds-56%; 10 year olds-25%; 11 year olds-60%), though sample sizes were too small to compute chi-square tests at each age. Asian participants showed no difference in response compared to their non-Asian peers, p>.50, Chi-square test.

In contrast to Experiment 1, in this experiment, children across ages tended to perpetuate inequality. This response indicated a reversal of older children's behavior in Experiment 1. In Experiment 1 older children applied a rectification strategy to inequalities involving Blacks and Whites. When the exact procedure was repeated, but pictures of Black children were replaced with pictures of Asian children, older children applied a perpetuation strategy. These results begin to suggest that the rectification strategy may have been specific to the Black/White comparison, perhaps driven by older children's increased concerns with inequality between Blacks and Whites, rather than indicating a more general tendency to distribute resources in a system-attenuating manner. Our next study tests this hypothesis more directly.

Experiment 3

The first two studies demonstrate two different responses on the part of older children—perpetuation and rectification. In order to determine which, if either strategy is more dominant, in this experiment we assessed children's allocation behavior after seeing members of two novel groups experience an inequality. Novel groups were selected so that children would be unfamiliar with them, unlikely to see themselves as members of either group, and unlikely to have preexisting beliefs about the groups. To this end, children were presented with the same basic study as Experiments 1 and 2. However, in this experiment the groups differed in terms of the shirt color of each recipient rather than by his or her race.

Method

Participants. A total of 93 children (*M*=94.1 months; *SD*=26.7 months ; 41 females, 51 males, 1 parent did not specify child's sex) were recruited at a Harvard University museum.

Design and Procedure. Unlike the previous study, in which we assumed that children would think of the targets as members of racial groups fairly automatically, in this study we had to make group membership salient. To this end, each participant first saw pictures of 4 boys in orange shirts. As the pictures appeared, the experimenter named each individual and said "They are all friends, and they all love to wear orange." The purpose of this slide was to familiarize children with the target faces and identify the main group variable (shirt color). Next, 4 boys with green shirts appeared on the screen, while the experimenter identified each and said "They are all friends, and they all love to wear green."

Each participant then experienced four learning trials as in the previous studies. On each trial participants saw one boy in a green shirt and one in an orange shirt. Half the participants always viewed the orange boys get two cookies and the green boys get one cookie (Orange More condition), and the other half always saw the orange boys get one cookie and the green boys get two cookies (Green More

condition). As each learning trial appeared, the experimenter said "This is [John] and this is [Steven]. [John] gets two cookies and [Steven] gets one cookie." The names and faces changed for each trial, always including one child from each of the first two "friends" slides that had been used in the familiarization trial. Following the learning trials children's memory was tested and children were asked to distribute 3 cookies between two new recipients—one member of each group.

Results and Discussion

Participants' memory on the manipulation check (77% correct) was significantly better than chance (50%), as indicated by a one-sample t-test, t=6.6, p<.001. As in the previous studies, only those who correctly responded to the manipulation check were included in subsequent analyses, which resulted in the inclusion of seventy-one participants (30 females, 40 males, 1 not determined; 44 White, 14 Asian, 1 American Indian, 1 Black, 1 Hispanic, 5 biracial, 5 did not specify or selected "other"), ranging in age from 3.5 years to 11.5 years (M = 97.0 months, SD=26.1 months).

Eight participants split a cookie in order to divide the resources equally. A significant Chi-Square Goodness-of-Fit test indicated that participants' selection of allocation strategies differed from chance (equal likelihood of selecting perpetuation, rectification, and equality), $\chi^2(2, N=71)=33.32$, $p<.001$. This difference was driven by the greater selection of the perpetuation strategy (N=46) relative to the equality (N=8) or rectification strategies (N=17). Of those giving the equality allocation, 6 of 8 were in the older age group (7.5-11.5 years) and an approximately equal number saw Green receive more (N=3) as saw Orange receive more (N=5). Males (N=3) and females (N=5) were almost equally likely to share evenly. Because so few participants shared equally, Chi-Square analyses could not be computed with these participants, and therefore the participants sharing equally are excluded from the remaining analyses.

Of those children perpetuating or rectifying the inequality, children were more likely to use a perpetuation strategy (73%), giving more to the privileged than the underprivileged, as indicated by a Sign Test, $p<.001$, $g=.23$ (See Figure 3). Participant condition (Green More vs. Orange More), subject gender, and age exerted no effect on allocation behavior (all $ps>.20$, Chi-Square tests). In addition to the more crude division of children into two age groups, we examined whether the tendency to give more to the advantaged group differed by specific age (e.g., 5 year olds, 6 year olds, etc.) and we found no suggestion that it did, though the cell sizes were too small to compute a Chi-Square analysis. At almost all ages a majority of children gave more to the privileged group (4 year olds-71%; 5 year olds-100%; 6 year olds-56%; 7 year olds-73%; 8 year olds-33%; 9 year olds 89%; 10 year olds-88%; 11 year olds-82%).

When confronted with novel groups, with which children had no previous experience, and for whom they presumably had no preexisting preference, children across ages gave more resources to the members of an arbitrarily privileged group than to the members of an arbitrarily underprivileged group. These results suggest that the most prevalent response to inequality across ages may therefore be one of perpetuating inequality. With these results in mind, the results of Experiment 2 (in which children across ages perpetuated inequalities involving Asians and Whites) can be seen as reflecting this dominant strategy, whereas the behavior of older children in Experiment 1 (in which they rectified inequalities involving Blacks and Whites) may be seen as an exception.

General Discussion

In three experiments we asked children to assess the deservingness of potential recipients from groups with experimental histories of relative inequality. From these three experiments we draw several conclusions regarding children's response to observations of group-based inequalities. First and foremost, young children consistently acted in a manner that perpetuated the status quo, consistent

with system justification theory (Jost & Banaji, 1994). In three experiments, when asked to give targets "what they deserve," language not used elsewhere in the study, young children determined deservingness by observing which group had been given more resources and perpetuated that inequality with their own allocations. Because the target children were presented individually, and their racial groups were never labeled in Experiments 1 and 2, the behavior of young children reveals that they form such groupings without instruction and use them in evaluating how resources are distributed. Additionally, in two out of three studies, a majority of children as old as 11 years of age perpetuated the inequality, tacitly implying that the two parties were getting what they deserved, despite our never having used the word "deserve" in the initial demonstrations. The fact that these older children used a different strategy (rectification) in the first study speaks to their ability to understand that they *could* rectify the inequality, and their (at least occasional) willingness to attenuate the degree of inequality in the system.

What is it about the Black/White distinction that makes it different from the other two group-based distinctions that we tested? While our findings do not speak to this question directly, we can speculate that children probably learn much more about the historical and current inequalities concerning Blacks and Whites than those involving other groups and the importance of fairness and equal treatment are likely to be emphasized in the context of Black/White relations (at least in the geographical area in which this research was conducted). Such inequalities and the need for equal treatment may not be as obvious in children's observations of Asians and Whites, especially in the community in which these participants live. Importantly, we suspect that the shift in behavioral response to Black vs. White targets corresponds to the common finding of a developmental shift in children's expression of racial attitudes (for a review see Aboud, 1988). The underlying cause of this shift, be it a true change in attitude or a concern with impression management, cannot be surmised

from these studies. Irrespective of the cause, it is interesting that this shift in behavior occurred exclusively in one comparison—Black vs. White. This result serves as an existence proof that children *can* rectify inequality by late childhood and that the tendency to perpetuate inequality is at least somewhat malleable.

The discovery that older children rectified inequality in Experiment 1 also addresses one possible concern about our study—that children felt that they had no choice but to repeat what they saw before. The fact that, in the Black-White case, older children were willing to change the status quo suggests that they did not think they *had* to repeat what they had seen. While we designed a study in which the bar for attenuating the system may have been high, this is the bar that children are likely to confront outside the laboratory, where one must be willing to question and confront an established norm, often in the presence of authorities, in order to rectify inequalities. These results demonstrate that older children, at least under some circumstances, have a potential willingness to override the status quo in order to create a more equal allocation of resources.

While the results of Experiment 1 rule out the possibility that older children thought they had to repeat what they saw, one limitation of the present work is that we have no way to definitively rule out the likelihood that younger children interpreted the task as requiring that they perpetuate the inequality they observed. We tried to reduce the likelihood of this interpretation by asking participants to distribute resources according to "deservingness," a term never used in the learning trials, but we cannot definitively rule out this possibility that the developmental changes we observed stem from changes in children's construal of the task, rather than changes in their intuitions about the deservingness of different social groups. Future work should investigate how younger children understand tasks such as the present one, how they interpret the request to give to the more "deserving," and *why* they respond in a system-perpetuating manner. Moreover, future studies probing

children's explanations as well as their choices should investigate whether children *justify* the inequality in addition to perpetuating it. Together the answers to these questions can help us to understand how deeply (or shallowly) children support the social system in which they are immersed, including its existing inequalities.

One open question concerns the generalizability of the present findings to other populations. Because the data were collected from predominantly White, largely middle and upper-middle class children in a politically progressive city, it is possible that the rectification strategy was overrepresented in this sample. A fascinating future direction would be to ask how parental attitudes or beliefs or a child's own socio-economic status influence children's developing justice-related behavior, given that these factors have been shown to influence other aspects of developing social cognition (Rhodes & Gelman, 2009). Nevertheless, we offer two general suggestions. First, the tendency of young children to perpetuate rather than rectify social group inequalities appears to be particularly strong. Such a pattern was observed in young children with every social group distinction that we tested, even one that elicited the opposite tendency from older children. Young children's tendency to perpetuate an unequal, group-based distribution of resources may very well be an early example of system justification (see also Henry & Saul, 2006).

Second, as children mature they are able to modulate this tendency, at least when the rectification can be done in an obvious way. Older children may be able to consider more situational features (e.g., which groups are involved in the equality, what different allocations are possible), they may have access to more information about historical and current inequalities, they may have more exposure to social norms concerning equality, and these capacities and knowledge could affect their decisions. Our findings are consistent with work on moral reasoning, explicit racial attitudes, and distributive justice which finds that older children are more concerned with justice, show less explicit

bias, and have access to a greater number of allocation strategies than their younger peers (Aboud, 1988; Damon, 1977). Again, whether this maturation reflects true change or changes in understanding of social norms or social desirability remains an open question for future research.

These experiments suggest important connections among the inequalities that children see in the world, the inferences of deservingness they take from those inequalities, and the influence of those inferences on their behavioral responses. As researchers, parents, and members of society, it is imperative that we begin to understand the underlying assumptions and beliefs that lead children to respond in ways that perpetuate rather than rectify inequalities they observe. Such understanding is a necessary condition for attempts to reduce social inequality and the biases that perpetuate it in children's minds and actions.

Footnotes:

1. Because our decision to exclude participants who failed the manipulation check resulted in large numbers of participants being excluded in each study, we also re-ran the major analyses including these participants. All significant effects remain significant when including all participants.

2. Cohen's g is the effect size measure for Sign Tests. Conventionally, g=.05 is a small effect, g=.15 is a medium effect, and g=.25 is a large effect (Rosenthal & Rosnow, 1991).

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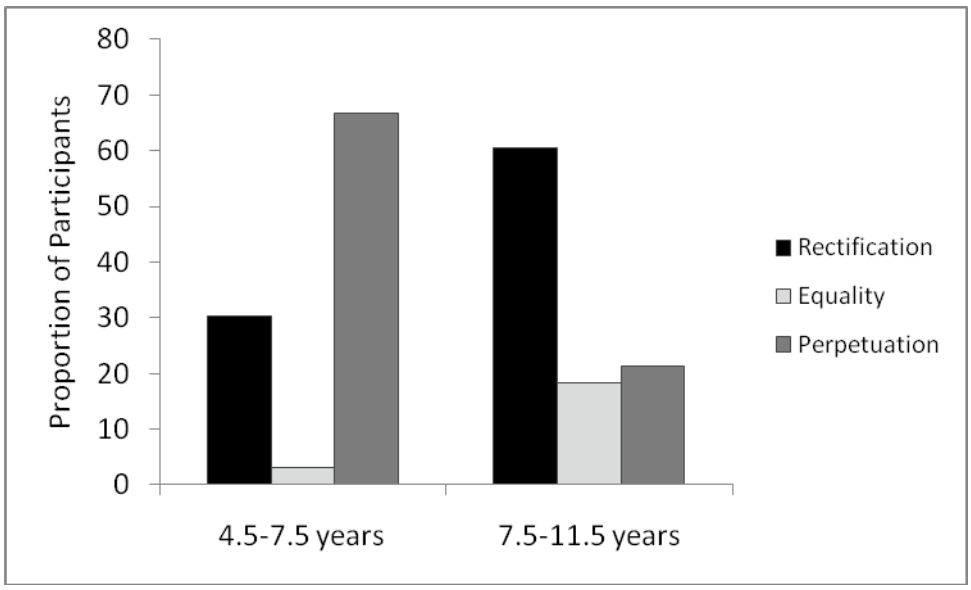
Figure Captions

Figure 1. Proportion of participants in each age group giving more cookies to new members of the privileged group (Perpetuation), giving an equal number of cookies to members of both groups (Equality), or giving more cookies to new members of the underprivileged group (Rectification) in Experiment 1 (Black vs. White targets).

Figure 2. Proportion of participants in each age group giving more cookies to new members of the privileged group (Perpetuation), giving an equal number of cookies to members of both groups (Equality), or giving more cookies to new members of the underprivileged group (Rectification) in Experiment 2 (Asian vs. White targets).

Figure 3. Proportion of participants in each age group giving more cookies to new members of the privileged group (Perpetuation), giving an equal number of cookies to members of both groups (Equality), or giving more cookies to new members of the underprivileged group (Rectification) in Experiment 3 (Orange vs. Green shirts).

Figure 1.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Proportion of Participants
4.5-7.5 years
7.5-11.5 years
Rectification
Equality
Perpetuation

Figure 2.

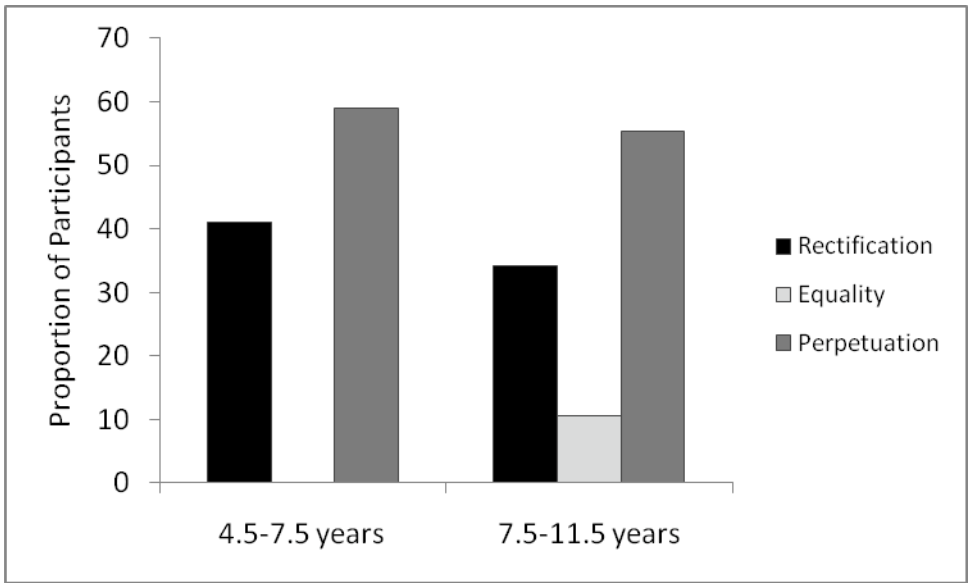
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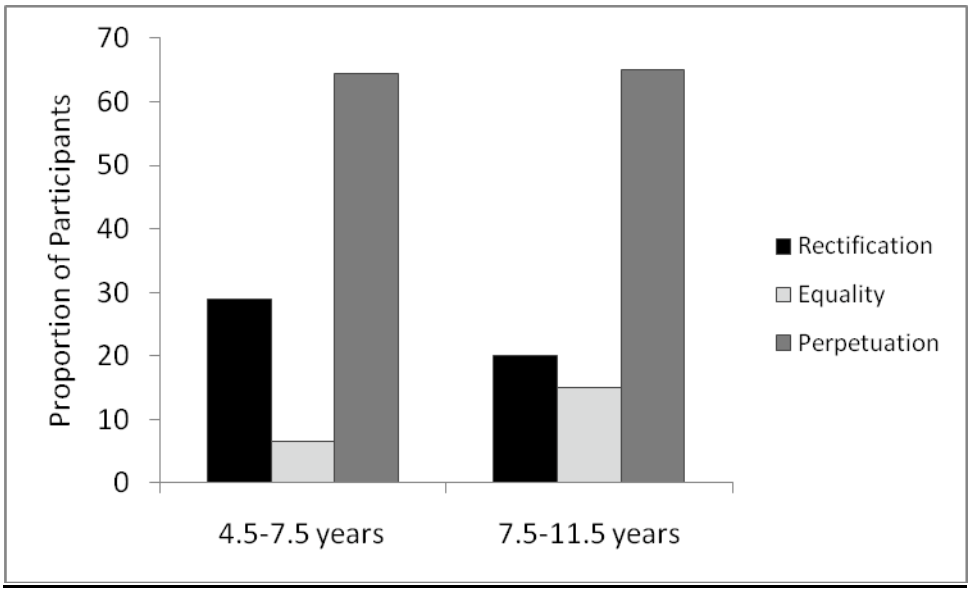
Figure 3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Proportion of Participants
4.5-7.5 years
7.5-11.5 years
Rectification
Equality
Perpetuation

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