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Brief Report

Children's decision making: When self-interest and moral considerations conflict

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ABSTRACT

When children's self-interests are at odds with their moral considerations, what do they do? In the current study of 5- and 6-year-olds ($N = 160$), we asked (a) whether children would select the offering of a do-gooder over a neutral individual at a personal cost, (b) whether they would reject the offering of a wrongdoer over a neutral individual at a personal cost, and (c) whether these two types of decisions involve comparable levels of conflict. In the absence of material considerations, children preferred a nice character to a neutral one, but this preference was easily overcome for material gain; children accepted a larger offering from a neutral source over a smaller offering from a nice source. In contrast, children's aversion to negative characters was largely unaffected by the same material consideration; they rejected a larger offering from a mean source in favor of a smaller offering from a neutral source. In addition, children's response times indicated that deciding whether or not to "sell out" to a wrongdoer for personal gain engenders conflict but that deciding whether to take a lesser gain from a do-gooder does not. These findings indicate that children weigh both their own material interests and others' social behaviors when selecting social partners and, importantly, that an aversion to wrongdoers is a more powerful influence on these choices than an attraction to do-gooders.

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Introduction

Long before they learn to talk, children judge individuals by how they treat others. From the first few months of life, infants prefer those who help rather than harm third parties (Buon et al., 2014; Hamlin & Wynn, 2011; Hamlin, Wynn, & Bloom, 2007; Scola, Holvoet, Arciszewski, & Picard, 2015). Such preferences are evident at all ages (Cosmides, 1989; Dahl, Schuck, & Campos, 2013; Hardy & Van Vugt, 2006; Kenward & Dahl, 2011; Kurzban & Leary, 2001; Vaish, Carpenter, & Tomasello, 2010) and highlight the everyday human tendency to consider others as "good" or "bad" (Hamlin, 2013).

Despite the tendency to evaluate individuals based on their treatment of others, an open question is the developmental relationship between, and relative strengths of, the condemnation of antisocial behavior and the approbation of prosocial behavior. The dislike of wrongdoers is well documented; individuals who behave badly toward others are deemed as undesirable social partners across a number of situations (Baumard, André, & Sperber, 2013; Bull & Rice, 1991; Raihani, Thornton, & Bshary, 2012). A liking of do-gooders is also well documented; even before their first birthday, infants prefer helpful individuals to neutral ones (Hamlin et al., 2007). Importantly, the relative strengths of these two tendencies are not well understood. For example, in some experimental paradigms, an aversion to wrongdoers surpasses an attraction to do-gooders; children are less likely to help harmful characters than neutral ones, but they help neutral and helpful characters at comparable rates (Vaish et al., 2010). Consistent with this point, 3-month-old infants prefer neutral characters over harmful ones but show an equal liking for neutral and helpful characters (Hamlin, Wynn, & Bloom, 2010). However, other studies raise the possibility that, in some situations, the approbation of good eclipses the condemnation of bad. For example, adults have been shown to reward good behavior more often than they punish bad behavior (Almenberg, Dreber, Apicella, & Rand, 2011; Rand, Dreber, Ellingsen, Fudenberg, & Nowak, 2009).

The current study examined the relative strengths of children's attitudes toward positive and negative individuals in situations involving material considerations. With this approach, we exploited the fact that people not only want to do good but also want to do well; even from a very young age, humans are motivated to make decisions that afford the greatest material gain (Cheries, Mitroff, Wynn, & Scholl, 2008; Feigenson, Carey, & Hauser, 2002). How do children incorporate these distinct desires into their social decision making, especially when they conflict? Recent work shows that school-aged children accept material sacrifices—but only up to a point—to interact with do-gooders rather than wrongdoers (Tasimi & Wynn, 2016). Children rejected two stickers from a wrongdoer in favor of one sticker from a do-gooder, but they were more likely to accept the wrongdoer's stickers when the offer was larger. Thus, it seems that children base their social decisions on cost–benefit analyses weighing competing considerations.

Exploring the nature of children's social decisions when their material self-interests are pitted against their moral considerations can provide insight into the cognitive processes that underlie such decisions. Specifically, we sought to advance an understanding of how children prioritize different factors as they confront choices involving competing considerations. Thus, in the current investigation, we asked (a) whether children would select the offering of a do-gooder over a neutral individual at a personal cost, (b) whether they would reject the offering of a wrongdoer over a neutral individual at a personal cost, and (c) whether these two types of decisions involved comparable levels of conflict. Because more acute moral dilemmas are associated with longer decision times (Greene, Sommerville, Nystrom, Darley, & Cohen, 2001; Koenigs et al., 2007), we examined children's decision times as an index of conflict. Following previous work showing that 5- and 6-year-olds are willing to incur personal costs to interact with do-gooders over wrongdoers (Tasimi & Wynn, 2016), we focused on children of these ages.

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Method

Participants

A total of 160 children (72 girls; mean age = 6.07 years, range = 5.03–6.99) were recruited from the greater New Haven, Connecticut area in the northeastern United States and were tested individually in a quiet room at their elementary school. Parents provided written informed consent; children provided oral assent.

Procedure

Children were randomly assigned to a Nice/Neutral experimental condition ($n = 40$; 17 girls; mean age = 6.25 years) or a Mean/Neutral experimental condition ($n = 40$; 18 girls; mean age = 6.22 years). In the experimental conditions, children were shown photographs of two children and were asked whose star stickers they wanted to accept. In the Nice/Neutral experimental condition, a nice character offered one sticker, whereas a neutral character offered two stickers (e.g., "This is Charlotte. Charlotte is always being nice. This is Daniela. Daniela is always wearing shoes. Charlotte has one sticker and she wants to give you her one sticker. Daniela has two stickers and she wants to give you her two stickers. Whose do you want?"). In the Mean/Neutral experimental condition, a mean character offered two stickers, whereas a neutral character offered one sticker (e.g., "This is Charlotte. Charlotte is always being mean. This is Daniela. Daniela is always wearing shoes. Charlotte has two stickers and she wants to give you her two stickers. Daniela has one sticker and she wants to give you her one sticker. Whose do you want?"). The stickers were placed in front of the character's picture to represent that they were offering them to the children.

To assess choices and response times in the absence of profit considerations, an additional sample of children was randomly assigned to a Nice/Neutral baseline condition ($n = 40$; 18 girls; mean age = 5.86 years) or a Mean/Neutral baseline condition ($n = 40$; 19 girls; mean age = 5.94 years). In the baseline conditions, as in the corresponding experimental conditions, children were shown photographs of two children and were asked which character they preferred (e.g., Nice/Neutral baseline condition: "This is Charlotte. Charlotte is always wearing shoes. This is Daniela. Daniela is always being nice. Who do you like?"; Mean/Neutral baseline condition: "This is Charlotte. Charlotte is always wearing shoes. This is Daniela. Daniela is always being mean. Who do you like?").

In all conditions, gender of characters was matched to gender of the child, and the following were counterbalanced across participants: (a) name of neutral character (Craig/Daniela or Max/Charlotte) and (b) order of neutral fact (first or second). Responses were audio-recorded. Two independent coders blind to condition and to the study's hypotheses coded children's decision times from the recordings. Decision time was coded as the number of seconds it took the child to indicate a choice from the time the experimenter finished asking the question. Coders reached 98.11% reliability; their coded decision times were averaged for our analyses.

Results

Baseline choices

As shown in Fig. 1A, children strongly preferred the more positive character in each of the two baseline conditions, selecting the do-gooder in the Nice/Neutral baseline condition (33 of 40 children, binomial test, $p < .001$) and the neutral character in the Mean/Neutral baseline condition (38 of 40 children, binomial test, $p < .001$). The strength of children's preference for the more positive character did not differ between these two conditions (Fisher's exact test, $p = .15$).

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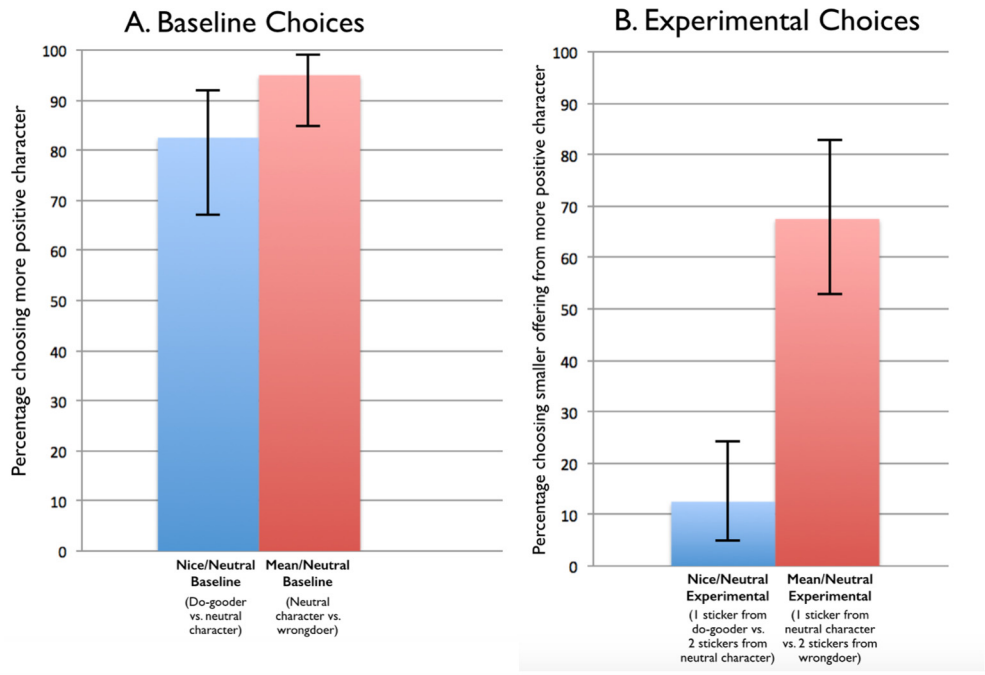

Fig. 1. Percentages of children choosing the more positive character in the absence (A) or presence (B) of material considerations. Error bars represent 95% confidence intervals.

Experimental choices

Children in the Nice/Neutral experimental condition overwhelmingly chose the less positive character making the larger offering (35 of 40 children chose two stickers from the neutral character rather than one sticker from the do-gooder, binomial probability, $p < .001$) (see Fig. 1B). In sharp contrast, children in the Mean/Neutral experimental condition most often selected the more positive character making the smaller offering (27 of 40 children chose one sticker from the neutral character rather than two stickers from the wrongdoer, binomial probability, $p = .038$). The strength of children's preference for the more positive character differed in the two experimental conditions (Fisher's exact test, $p < .001$).

Comparison of experimental and baseline choices

In the Nice/Neutral contrasts, children's choice of the nicer character in the experimental condition (5 of 40 children) was significantly reduced from the baseline level (33 of 40 children, Fisher's exact test, $p < .001$), indicating that children's decisions were strongly influenced by material considerations (indeed, their choices reversed from a baseline preference for the do-gooder to an experimental preference for the neutral character who offered more). In the Mean/Neutral contrasts, children maintained a preference for the neutral character in the experimental condition (27 of 40), but this was lower than their baseline preference for the neutral character (38 of 40, Fisher's exact test, $p = .003$).

Decision times

Children's decision times are shown in Table 1. An analysis of variance (ANOVA) with condition (baseline or experimental), contrast (Nice/Neutral or Mean/Neutral), and participant gender (male

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Table 1
Children's decision times (in seconds) in the experimental and baseline conditions by contrast (Nice/Neutral or Mean/Neutral).

	Nice/Neutral	Mean/Neutral
Baseline	2.42 (1.34)	2.29 (1.63)
Experimental	2.47 (1.22)	3.12 (1.33)

Note. Standard deviations are in parentheses. Decision times in the Mean/Neutral experimental condition were significantly greater than decision times in all other conditions, which did not differ from each other.

or female) did not yield a main effect of condition, $F(1, 152) = 3.56$, $p = .061$, contrast, $F(1, 152) = 0.98$, $p = .32$, or gender, $F(1, 152) = 0.64$, $p = .42$. The expected Condition × Contrast interaction failed to reach significance, $F(1, 152) = 3.25$, $p = .073$. Despite the nonsignificant interaction, we looked separately at the results for each condition. In the experimental condition, children took longer to make a decision in the Mean/Neutral contrast ($M = 3.12$ s, $SD = 1.33$) than in the Nice/Neutral contrast ($M = 2.47$ s, $SD = 1.22$), $t(78) = 2.26$, $p = .026$. By contrast, there was no difference in decision times between the Mean/Neutral contrast ($M = 2.29$ s, $SD = 1.63$) and the Nice/Neutral contrast ($M = 2.42$ s, $SD = 1.34$) of the baseline condition, $t(78) = 0.41$, $p = .68$. Further analyses showed that whereas the presence of material considerations affected children's decision times in the Mean/Neutral contrast, $t(78) = 2.51$, $p = .014$, they did not affect children's decision times in the Nice/Neutral contrast, $t(78) = 0.18$, $p = .86$.

An additional ANOVA was conducted excluding the 2 participants whose decision times fell 3 standard deviations away from their group's mean. This analysis yielded a main effect of condition, $F(1, 150) = 6.09$, $p = .015$, but no effects of contrast, $F(1, 150) = 0.67$, $p = .41$, or gender, $F(1, 150) = 0.36$, $p = .55$. Importantly, this analysis also revealed a Condition × Contrast interaction, $F(1, 150) = 7.96$, $p = .005$. In the experimental condition, children took longer to make a decision in the Mean/Neutral contrast ($M = 3.12$ s, $SD = 1.33$) than in the Nice/Neutral contrast ($M = 2.38$ s, $SD = 1.07$), $t(77) = 2.73$, $p = .008$. Notably, there was no significant difference in decision times between the Mean/Neutral contrast ($M = 2.09$ s, $SD = 1.10$) and Nice/Neutral contrast ($M = 2.42$ s, $SD = 1.34$) of the baseline condition, $t(77) = 1.19$, $p = .24$. Further analyses showed that whereas the presence of material considerations affected children's decision times in the Mean/Neutral contrast, $t(77) = 3.73$, $p < .001$, they did not affect children's decision times in the Nice/Neutral contrast, $t(77) = 0.16$, $p = .87$. Thus, the decision of whether or not to take more from a wrongdoer engendered greater conflict than deciding whether or not to take less from a do-gooder.

Discussion

The current findings show that children consider both material interests and moral considerations when making social decisions, and this integration is reflected in both their choices and their decision times. Notably, in this context, others' negative behaviors "spoke louder" than their positive behaviors in children's calculus; children were more willing to incur personal costs to reject a wrongdoer than to affiliate with a do-gooder.

These results are consistent with other research finding a greater amount of attention and responsiveness to negative information than to positive information in various ages across studies (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Rozin & Royzman, 2001; Vaish, Grossman, & Woodward, 2008). Indeed, a heightened responsiveness to negativity appears early in development; even 3-month-old infants prefer neutral agents to wrongdoers but show no preference for do-gooders to neutral agents (Hamlin et al., 2010). The current study highlights an important functional consequence of this aversion: It can be powerful enough to lead children to resist the allure of profit. Of course, whether and why children choose to reject wrongdoers in the lab (and in the real world) likely depends on many things, including the nature and amount of the cost and the nature of the

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wrongdoers and do-gooders (e.g., in what ways they are bad/good, how extreme their behavior is; see Tasimi & Gelman, 2016 for a similar point).

In investigating such questions, children's response times as well as their choices can be informative. In the current study, children's decision times indicated that deciding whether or not to forgo profit from a wrongdoer in favor of a neutral individual was more difficult than deciding whether or not to forgo profit from a neutral character in favor of a do-gooder. This, like children's actual choices, suggests that children weighted negative social behavior more heavily in their decisions because they perceived a greater distinction between a wrongdoer and a neutral character than between a do-gooder and a neutral character. However, an alternative explanation is that children were simply more confused in the Mean/Neutral experimental condition than in the Nice/Neutral experimental condition. For example, it is possible that children in the Mean/Neutral experimental condition needed more time to process the inconsistent information that was presented (a mean character being more generous than a neutral character). Critically, however, children in the Nice/Neutral experimental condition also received inconsistent information (the nice character was less generous than the neutral character). Thus, it is unlikely that simply being confronted with—or confused by—out-of-character behavior is the cause of the difference in children's decision times between the two conditions. For this reason, we favor the conclusion that children's aversion to wrongdoers was stronger than their attraction to do-gooders.

Looking ahead, it is important that future work examines the reasons why children reject wrongdoers at a personal cost. One possibility (dislike) is that children find wrongdoers so unappealing that they are willing to forgo their own self-interest. Another possibility (suspicion) is that children are dubious about the motives of wrongdoers; they may be confused as to why someone who behaves negatively toward others is behaving positively toward them. A third possibility (reputation management) is that children are concerned about being judged unfavorably for accepting a wrongdoer's offering. Given these different possibilities, children's explanations would be fruitful in understanding the potential reasons for their choices (Wellman, 2011). Investigating the stories children tell themselves (vs. others) about wrongdoers should help clarify when and how they resolve moral conflict.

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