Brief Report

Memories of good deeds past: The reinforcing power of prosocial behavior in children

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ABSTRACT

Does considering one's past prosociality affect future behavior? Prior research has revealed instances in which adults engage in additional prosocial behavior—moral reinforcement—as well as instances in which adults engage in worse behavior—moral licensing. The current study examined the developmental origins of these effects by testing whether 6- to 8-year-old children ($N = 225$) are more or less generous after recalling their own good deeds. Children were asked to recount a time when they were nice, were mean, or watched a movie. Children behaved more generously after recalling a time when they were nice. We show that this boost in generosity was not simply the result of instructing children to consider nice behavior; children's giving did not increase after recalling others' good deeds. We also show that, even after recounting multiple instances of their past goodness, children continue to behave more generously. These findings suggest that doing good leads to more good in children.

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Introduction

During recent years, the question of why people behave prosocially has been of much interest to psychologists; indeed, a burgeoning literature has investigated the role of one's past good deeds in promoting future good deeds. A number of studies have demonstrated that instructing adults to

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recount their prior good deeds increases their subsequent prosocial behavior, an effect known as *moral reinforcement* (Nelson & Norton, 2005; Stone & Cooper, 2001; Young, Chakroff, & Tom, 2012). These studies suggest that reflecting on one's past positive behavior leads to further positive behavior, perhaps because people perceive themselves as "do-gooders". However, a parallel line of research has uncovered instances of *moral licensing;* in some cases, adults feel licensed to behave badly when reminded of their previous good deeds (Mazar & Zhong, 2010; Monin & Miller, 2001; Sachdeva, Iliev, & Medin, 2009). Specifically, this work indicates that people show less moral striving after they confirm their goodness through recalling past good deeds. Several accounts have been offered for when and why reinforcement versus licensing occurs (Conway & Peetz, 2012; Cornelissen, Bashshur, Rode, & Le Menestrel, 2013; Gneezy, Imas, Brown, Nelson, & Norton, 2012; Mullen & Monin, 2016), but surprisingly little is known about the developmental origins of these effects.

The study of children provides an important window into this debate for several reasons. As previous researchers have argued, understanding children's behavior could constrain theorizing concerning adults' behavior (Dunham & Olson, 2008; Olson & Dunham, 2010). Moreover, work in this domain has important, everyday implications. Understanding how children behave after recalling their past good deeds will not only contribute to current theorizing and research but also inform approaches for eliciting moral behavior from an early age.

Is there any reason why children would behave more or less generously after recalling past good deeds? Previous research indicates that children actively manage their moral identities (Bryan, Master, & Walton, 2014). In particular, children were introduced to the idea of "being a helper" or "helping" following previous work documenting that a noun wording (e.g., helper) compared with a verb wording (e.g., helping) invokes a person's identity (Gelman & Heyman, 1999; Walton & Banaji, 2004). In this research, activating children's moral identity by exposing them to the idea of "being a helper" led to greater moral motivation. Given these findings, it may be that reflecting on one's past good deeds leads children to perceive themselves as do-gooders, as has been argued with adults, which in turn motivates them to behave more generously. Alternatively, children may behave more selfishly after reflecting on their past good deeds and the "moral currency" they have accrued over the years. From an early age, children routinely engage in positive behaviors. For example, during the first few years of life, children share their toys (Schmidt & Sommerville, 2011) and help others to achieve their goals (Warneken & Tomasello, 2006). Given the early emergence of human prosociality, it may be that individual children are able to reflect on the moral credit they have gained, feel confident in their moral goodness, and consequently use their past good deeds to justify selfish behavior, as in previous work in adults (Merritt, Effron, & Monin, 2010; Miller & Effron, 2010).

Here, we focused on 6- to 8-year-olds given that children of these ages show flexibility in their moral behavior. For example, children between the ages of 6 and 8 voluntarily incur costs to avoid unfairness (Blake & McAuliffe, 2011; Shaw & Olson, 2012), yet they will behave unfairly when no one is watching (Shaw et al., 2014). Thus, 6- to 8-year-olds are motivated to do good but are willing to do otherwise if given the opportunity, inviting the question of whether children at this age engage in additional good behavior or bad behavior after reflecting on their past prosociality.

The current study

In the current study, children were assigned to one of five conditions. One of these conditions (*baseline*) served as a baseline measure of children's generosity, in which children were asked to recount a time in the past when they watched a movie. Three of these conditions, in which children were instructed to recall moral memories, served as key tests of our hypotheses; children were asked to recall (a) a time when they were nice to someone (*nice*), (b) a time when they were mean to someone (*mean*), or (c) three different times when they were nice to someone (*moral credit*). We included the moral credit condition following work in adults showing that people behave particularly stingily after they accrue a surplus of moral credit (Merritt et al., 2010; Miller & Effron, 2010). Thus, if children were to show effects of moral licensing, then they should be especially likely to do so in the moral credit condition because they would accumulate three times the amount of moral credit as in the nice condition. Finally, we included a condition in which children were asked to recount a time in the past

when someone was nice to them (*other–nice*). This condition allowed us to distinguish whether any boost in giving following the recall of past good deeds was the specific result of reinforcing children's own prosocial behavior or simply reminding children to consider prosocial behavior in general.

Although the primary focus of the current study was to examine the influence of recalling past good deeds on children's future behavior, our design also allowed us to investigate the nature of children's moral memories. First, prior work examining children's accounts of their immoral behavior indicates that they focus on others' provocations when explaining their reasons for transgressing (Wainryb, Brehl, & Matwin, 2005). For example, in one study, when asked to describe sibling conflicts, children were more likely to claim that they were innocent, whereas their siblings were guilty (Wilson, Smith, Ross, & Ross, 2004). Based on this research, we predicted that children would be more likely to describe their good versus bad deeds as the product of their own volition.

Second, we examined the types of memories produced and whether children identified a specific nice or mean action. Recent theorizing and research suggests that abstractly thinking about one's moral behavior activates one's moral identity and leads to reinforcement, whereas concretely thinking about one's moral behavior activates self-regulatory behavior and leads to licensing (Conway & Peetz, 2012; Mullen & Monin, 2016). This account would predict that children who did not identify a specific action in the nice condition (e.g., "I was nice to my sister") would be thinking more abstractly about their moral identity and therefore give more than children who did identify a specific action (e.g., "I gave my sister a toy"). Similarly, children who did not identify a specific action in the mean condition (e.g., "I was mean to my sister") would give less than children who did (e.g., "I took a toy away from my sister").

Method

Participants

In total, 225 6- to 8-year-old children (124 girls; *M* = 7.10 years, range = 6.03–8.54) 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 of participating children gave written informed consent; children also provided oral assent. All experiments were conducted in elementary schools in suburban Connecticut representing largely White, middle-class, and educated households.

Procedure

Children were given five stickers for participating in the study ("For coming in today, you get five stickers"). Children were assigned to one of five conditions (*n* = 45 in each condition), in which they were instructed to recall a time (a) when they were nice to someone (*nice* condition; "Can you tell me about a time when you were nice to someone?"), (b) when they were mean to someone (*mean* condition; "Can you tell me about a time when you were mean to someone?"), (c) when they watched a movie (*baseline* condition; "Can you tell me about a time when you watched a movie?"), (d) when someone was nice to them (*other–nice* condition; "Can you tell me about a time when someone was nice to you?"), or (e) when they were nice three different times (*moral credit* condition; "Can you tell me about three different times when you were nice to someone?"). After children responded, they were shown a picture of a fictitious character (a male Caucasian child; photograph taken from LoBue & Thrasher, 2015) with no stickers and were asked whether they wanted to give the character any of their stickers ("I want to tell you about this kid named Gary. Look, Gary has no stickers. Would you like to give Gary any of your stickers?"). If children responded yes, then the experimenter presented the range of stickers they could give (one to five) in ascending or descending order (randomized across participants) only if children did not immediately produce a response. All sessions were audio-recorded.

Results

We examined whether children show effects of reinforcement or licensing following the recall of past good deeds. An analysis of variance (ANOVA) with age group (6-year-olds, 7-year-olds, or

8-year-olds), gender, and condition did not yield effects of age, $F(2, 195) = 1.16$, $p = .32$, or gender, $F(1, 195) = 1.78$, $p = .18$. Importantly, children's giving differed across conditions, $F(4, 195) = 4.77$, $p = .001$, $\eta_p^2 = .09$ (see Fig. 1), and no interactions were significant. A series of planned comparisons addressed three questions: (a) whether the recall of a moral memory (nice and mean conditions) influenced children's giving relative to baseline (baseline condition), (b) whether the recall of multiple good deeds (moral credit condition) licensed children to behave more selfishly than the recall of a single good deed (nice condition), and (c) whether the recall of someone else's good deeds (other–nice condition) had similar effects on children's giving as the recall of their own good deeds (nice and moral credit conditions).

To examine whether children's giving was influenced by the recall of a moral memory, we compared responses in the nice, mean, and baseline conditions. Children gave more in the nice condition ($M = 2.84$, $SD = 1.38$) than in both the mean condition ($M = 2.02$, $SD = 1.70$), $t(88) = 2.52$, $p = .014$, $d = 0.54$, and the baseline condition ($M = 2.00$, $SD = 1.24$), $t(88) = 3.05$, $p = .003$, $d = 0.65$. The latter two conditions did not differ, $t(88) = 0.07$, $p = .94$, $d = 0.01$. These initial results reveal that recalling past good behavior boosts generosity in children.

As a test of whether children begin to show licensing effects after recalling multiple instances of their past goodness versus a single instance, we next compared responses in the moral credit condition ($M = 2.98$, $SD = 1.14$) with responses in the nice condition and found no difference, $t(88) = 0.50$, $p = .62$, $d = 0.11$. This finding shows that accumulated moral credit does not lead to stingy behavior in children; instead, recalling multiple instances of good behavior continues to boost children's generosity.

To examine whether children's enhanced moral motivation was the result of simply thinking about nice behavior in general, we compared responses in the other–nice condition with responses in the nice and moral credit conditions. Children gave significantly less in the other–nice condition ($M = 2.00$, $SD = 1.22$) than in both the nice condition, $t(88) = 3.07$, $p = .003$, $d = 0.65$, and the moral credit condition, $t(88) = 3.92$, $p < .001$, $d = 0.83$. Thus, recalling one's own positive behavior—rather than positive behaviors more generally—boosts generosity in children.

We also performed a series of secondary analyses on the content of children's memories to explore three issues: (a) whether children were more likely to describe their good versus bad deeds as the
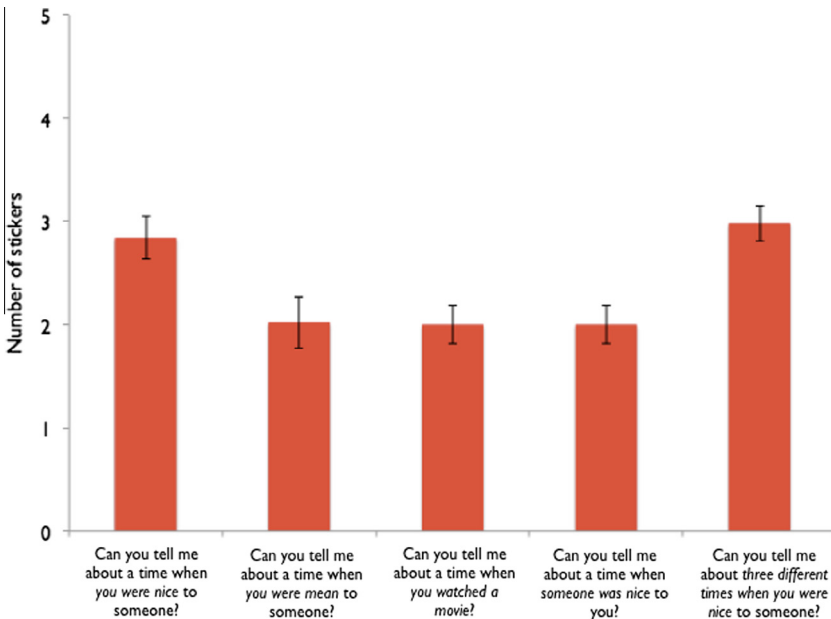

Fig. 1. Children's giving across conditions. Error bars represent standard errors.

Table 1
Percentages of memories in which children reported that their behavior was provoked by others (Other) or not (Self).

	Self (%)	Other (%)
Nice	100	0
Mean	71	29
Moral credit	98	2

Table 2
Types of memories produced in the nice, other–nice, and moral credit conditions.

	Helping (%)	Sharing (%)	Social inclusion (%)	Other (%)	Not identified (%)
Nice	33	20	9	22	16
Other–nice	29	24	22	16	9
Moral credit	41	14	6	19	20

Table 3
Types of memories produced in the mean condition.

	Physical harm (%)	Stealing (%)	Social exclusion (%)	Other (%)	Not identified (%)
Mean	15	11	9	27	38

product of their own volition, (b) whether children were less likely to identify a specific action for mean memories compared with nice ones, and (c) whether conceptual abstraction (i.e., identifying vs. not identifying a nice or mean action) moderates children's prosociality as it does for adults.

Three independent coders blind to the study's predictions coded all responses on two dimensions. The first dimension, *source of action,* focused on whether the memory reflected behaviors that were provoked by others (e.g., nice: "When I was nice to my dad. When I was nice to my mom. When I was nice to my friend. They all helped me clean the house"; mean: "When I was at home and my sister was screaming at me, I yelled at her and told her to quit it") or not (e.g., nice: "I helped them with their math problems"; mean: "When I pushed my brother") (see Table 1). An inter-rater reliability analysis using the Cohen's kappa statistic was performed on this dimension, kappa = .88; disagreements were solved by a majority vote. As predicted, children were more likely to report that their actions were provoked by others in the mean condition ($M = 29\%$) than in the nice condition ($M = 0\%$) or the moral credit condition ($M = 2\%$), Fisher's exact tests, $ps < .001$. The latter two conditions did not differ. This finding shows that children were less likely to describe their bad deeds relative to their good deeds as the product of their own volition.

The second dimension, *memory type,* focused on what type of nice or mean behavior children produced (see Tables 2 and 3). For nice memories, responses were categorized as one of the following: *helping* (e.g., "I helped a friend up when he fell"), *sharing* (e.g., "I let my sister play with my toys in the room"), *social inclusion* (e.g., "I let them play with us"), *other* (e.g., "I gave my mom and my friend a hug"), or *not identified* (e.g., "I'm really nice to my buddy"). For mean memories, responses were categorized as one of the following: *physical harm* (e.g., "At my house, I punched my sister"), *stealing/not sharing* (e.g., "I took someone's stuff"), *social exclusion* (e.g., "I didn't play with my friend"), *other* (e.g., "I don't listen to mom a lot"), or *not identified* (e.g., "When my brother was being annoying"). An inter-rater reliability analysis using the Cohen's kappa statistic was performed on this dimension, kappa = .92; disagreements were solved by a majority vote. Children were less likely to identify a specific memory in the mean condition ($M = 62\%$) than in the nice condition ($M = 84\%$), Fisher's exact test, $p = .03$, the other–nice condition ($M = 91\%$), Fisher's exact test, $p = .002$, or the moral credit condition ($M = 80\%$), Fisher's exact test, $p = .026$. The latter three conditions did not differ from each other.

Next, we examined whether identifying a specific nice or mean action influenced children's generosity as a way of exploring the role of conceptual abstraction on children's prosociality. A 2 (Condition: nice vs. mean) × 2 (Memory Type: identified vs. not identified) ANOVA on children's giving

yielded an effect of condition, $F(1, 86) = 9.76$, $p = .002$, $\eta_p^2 = .10$, but no effect of memory type, $F(1, 86) = 0.39$, $p = .54$. There was also a Condition × Memory Type interaction, $F(1, 86) = 5.84$, $p = .018$, $\eta_p^2 = .06$, so results are analyzed separately by condition. In the nice condition, there was no difference in giving between children who did identify a specific action ($M = 2.74$, $SD = 1.41$) and those who did not ($M = 3.43$, $SD = 1.13$), $t(43) = 1.22$, $p = .23$, $d = 0.37$. By contrast, in the mean condition, children gave significantly more when they did identify a specific action ($M = 2.46$, $SD = 1.75$) compared with when they did not ($M = 1.29$, $SD = 1.36$), $t(43) = 2.35$, $p = .023$, $d = 0.72$.[1] Taken together, these findings indicate that concretely thinking about one's immoral behavior leads to compensation; however, concretely thinking about one's moral behavior does not lead to licensing.

Discussion

The current study provides strong evidence that children behave more generously after recalling their previous good deeds. Our findings show that this boost in generosity was not due to children simply being reminded of nice behavior in general given that children's giving did not increase after recalling others' nice behavior. In addition, we showed that despite the adult tendency to behave stingily after accruing a surplus of moral credit, children continue to show enhanced moral motivation after recalling multiple instances of their past goodness.

Is it possible that the current study was not a viable test of moral licensing? Following previous demonstrations of the phenomenon (e.g., Monin & Miller, 2001), a more appropriate test of moral licensing might involve asking children to recall prosocial acts in one domain (e.g., helping) before assessing prosocial behavior in a different domain (e.g., generosity). However, as shown in Table 2, children largely recalled past instances in which their goodness manifested in ways that did not involve giving, whether it was walking a friend to the nurse, sitting next to someone who was all alone on the school bus, or giving someone a hug when they really needed one. Nevertheless, future research should test whether inducing prosocial behavior in one domain promotes prosocial behavior in a different domain in light of recent findings revealing distinct developmental pathways for various forms of prosocial behavior (Svetlova, Nichols, & Brownell, 2010).

Although our results fit with previous work showing a consistency bias in children such that they act in congruence with their previous sharing actions (Eisenberg, Cialdini, McCreath, & Shell, 1987), it is notable that children in the current study did not give less after recalling past negative behavior. One possibility is that children, like adults, show consistency in immoral behavior only after recalling past bad deeds in an abstract manner (Conway & Peetz, 2012; see also Singh & Teoh, 2013). For example, abstractly thinking about one's past wrongdoings activates one's immoral identity, compared with concretely thinking about one's past wrongdoings, which activates self-regulatory behavior in the form of compensation. The current study afforded a test of this possibility because a number of children did not identify a specific mean action (i.e., they simply said that they were mean). Notably, these children did give significantly less than children who did identify a mean action, consistent with the idea that conceptual abstraction moderates prosocial behavior.

If this abstract/concrete distinction can account for the current findings, then one question that arises is why children did not show licensing effects given that nearly every good deed was identified. In other words, if children were concretely thinking about their previous good deeds, then why did that not activate self-regulatory behavior in the form of moral licensing? Part of the reason why this may be the case is that children, like adults, aspire to define themselves as "good" (Aquino & Reed, 2002; Boseovski, 2010), which helps to explain why children in the current study showed effects of moral reinforcement. Importantly, children may even aspire to see themselves as good to a greater extent than adults. For example, children possess extremely positive self-perceptions as early as kindergarten (Stipek & Mac Iver, 1989) and continue to do so until the late elementary school years

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[1] We also examined whether identifying a specific nice or mean memory influenced children's giving relative to baseline. Children gave more in the nice condition than in the baseline condition regardless of whether they identified a specific memory, $t(81) = 2.53$, $p = .013$, $d = 0.56$, or not, $t(50) = 2.86$, $p = .006$, $d = 0.81$. In contrast, children's giving in the mean condition did not differ from baseline when they identified a specific memory, $t(71) = 1.32$, $p = .19$, $d = 0.31$; however, children gave marginally less in the mean condition than in the baseline condition when they did not identify a specific memory, $t(60) = 1.94$, $p = .056$, $d = 0.50$.

([Benenson & Dweck, 1986](#)). Given this strong tendency to maintain an optimistic view of the self, being good may be central to a child's identity. This explanation would explain why children in our study had no trouble in recalling specific instances of their past goodness and often attributed these good deeds to their own volition. By contrast, children were less likely to recall specific instances of their wrongdoings, and even when they did they were more likely to describe these wrongdoings as being provoked by others (e.g., "My sister threw me on the floor, and I pushed her on the floor back").

In sum, the memories produced by children illustrate how important they consider it to do good and to be good. Even though additional research is needed to examine the distinct psychological and social forces that license immoral action across development, the current findings provide strong evidence that one way to motivate children to do good is by instructing them to recall times when they have done good in the past.

Acknowledgments

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