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Who Is Good at This Game? Linking an Activity to a Social Category Undermines Children's Achievement

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Abstract

Children's achievement-related theories have a profound impact on their academic success. Children who adopt entity theories believe that their ability to perform a task is dictated by the amount of natural talent they possess for that task—a belief that has well-documented adverse consequences for their achievement (e.g., lowered persistence, impaired performance). It is thus important to understand what leads children to adopt entity theories. In the experiments reported here, we hypothesized that the mere act of linking success at an unfamiliar, challenging activity to a social group gives rise to entity beliefs that are so powerful as to interfere with children's ability to perform the activity. Two experiments showed that, as predicted, the performance of 4- to 7-year-olds (*N* = 192) was impaired by exposure to information that associated success in the task at hand with membership in a certain social group (e.g., "boys are good at this game"), regardless of whether the children themselves belonged to that group.

Keywords

intuitive theories, achievement, motivation, essentialism, generic language

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Children understand the world by constructing intuitive theories to explain its workings (e.g., Gelman, 2003; Gopnik, Meltzoff, & Kuhl, 2001). By shaping children's understanding, these theories inevitably influence their behavior as well, and this fact is nowhere more apparent than in the achievement domain: Decades of research have documented the tight link between achievement-related beliefs and academic performance (Aronson, Fried, & Good, 2002; Blackwell, Trzesniewski, & Dweck, 2007; Licht & Dweck, 1984; Wood & Bandura, 1989). Intuitive theories are powerful, in part, because they guide children's causal inferences (e.g., their answers to questions such as "why am I having a hard time with this math problem?"), which in turn constrain the range of actions that are deemed possible or effective. For example, when children see their performance as the outcome of controllable factors (such as the amount of effort they exert), they tend to engage in constructive, task-oriented behaviors, even when the material is difficult, and are thus typically able to do well (Dweck, 1999, 2006). In contrast, when children believe their performance is due to an uncontrollable aspect of who they are (such as the amount of talent they are naturally endowed with), they see little use in stepping up their efforts when difficulties arise and, instead, worry about how the impending failure will reflect on their talents. As a consequence, such beliefs (known as *entity theories*; Dweck, 1999) often impair children's ability to handle challenging tasks.

How do children come to adopt such maladaptive beliefs? Past research on the sources of entity beliefs has typically focused on the praise and criticism that adults direct at children's performance. In particular, many studies have linked feedback that emphasizes children's intelligence or other global traits (e.g., "you're smart"), rather than their effort (e.g., "you've worked hard"), to the emergence of entity theories (Cimpian, Arce, Markman, & Dweck, 2007; Heyman, 2008; Kamins & Dweck, 1999; Mueller & Dweck, 1998; Zentall & Morris, 2010). It is likely, however, that children's achievement theories are shaped by a much broader range of evidence and contexts—including some that, on the surface, do not speak to the relative importance of talent versus hard work.

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In the experiments reported here, we explored a potential source of entity beliefs that is nonobvious: the simple but commonplace act of linking success in a domain to membership in a social category (e.g., “girls are good at *X*”; “Asians do really well at *Y*”). Although statements conveying such linkages do not explicitly mention either inherent talent or hard work, they may nevertheless suggest to children that success is an effortless by-product of membership in the relevant categories, as if belonging to these categories naturally led to good performance (e.g., “there is just something special about girls that makes them good at *X*”). Thus, linking ability in a domain to a social category may induce children to view this ability as due to some natural talent—an entity belief that we predict to be so powerful as to undermine children’s achievement in the relevant domain, regardless of whether they belong to the social category in question.

Preliminary support for this hypothesis can be found in the literature on children’s interpretation of generic statements (i.e., statements about entire categories; Gelman, 2010), which are a potential source of such category-activity links. A consistent finding in this literature is that children understand generic statements as providing insights into the stable, essential characteristics of their referents (e.g., Cimpian & Cadena, 2010; Cimpian & Markman, 2009; Hollander, Gelman, & Raman, 2009). For example, in a study by Cimpian and Markman (2011), children heard about unfamiliar activities that were linked either to an entire social category via generic statements (e.g., “girls are really good at a puzzle called *zool*”) or to a single individual from that category via specific statements (e.g., “there’s a girl who is really good at a puzzle called *zool*”; see also Cimpian, 2010; Cimpian & Erickson, 2012). This subtle distinction in framing led to striking differences in children’s causal inferences about the source of these unfamiliar abilities: Children who heard the generic statements often inferred that the underlying source of these abilities was some deep, stable trait (e.g., “girls are smart”). In contrast, children who heard the specific statements were significantly more likely to attribute the unfamiliar abilities to controllable factors (e.g., “she practiced a lot”). Thus, the assumption that success in a task is linked to membership in a social category increased the frequency of entity-belief-like attributions to stable, uncontrollable causes. However, it is unclear whether these entity beliefs would be coherent enough, and powerful enough, to affect children’s achievement, especially considering that they are based on so little information. Our goal here was to test this downstream effect on performance, which is crucially important from a practical standpoint. That is, do the entity beliefs induced by simply framing an unfamiliar domain of activity as something at which an entire group excels (e.g., Cimpian & Markman, 2011) interfere with children’s achievement?

Pertinent to this question, there is much evidence that societal stereotypes about a domain (e.g., stereotypes linking mathematics ability to gender) promote an entity-theory-like perspective on that domain and consequently interfere with performance (e.g., Ambady, Shih, Kim, & Pittinsky, 2001; Aronson et al., 2002; Beilock, Rydell, & McConnell, 2007; Cheryan & Bodenhausen, 2000; Croizet & Claire, 1998; Good, Aronson, & Inzlicht, 2003; Steele & Aronson, 1995; but see Walton & Cohen, 2003). However, in these cases, it may not be the mere link between the domain and the category that gives rise to entity beliefs and impairs performance. People’s beliefs about what it takes to succeed in a domain such as math are most likely based on extensive firsthand experience with the domain, as well as prolonged, consistent exposure to stereotyped messages, such as those linking gender and math ability. In contrast, the present studies tested whether—even when no preexisting information was available about an activity and even when the participants were as young as age 4—simply establishing a link between this activity and a social category induces entity beliefs that are sufficiently powerful to debilitate performance.

To explore this hypothesis, we taught 4- to 7-year-olds challenging new activities and manipulated whether these activities were described in categorical terms (as being ones that boys or girls are good at) or in specific terms (as being ones that a particular boy or girl is good at). The prediction was that children would perform more poorly when they heard category statements linking success on the activity at hand with an entire social group. We expected this pattern of impaired performance to hold not only when success was linked to a group different from the children’s own (an implied negative link) but also when success was linked to their own group (a positive link). Intuitively, statements about the high ability of one’s own group might be expected to lead, if anything, to better performance. Our counterintuitive prediction that such statements would in fact harm performance is justified by the prior work showing that generic language about abilities promotes causal attributions to uncontrollable internal factors even when such language is about children’s own group (Cimpian, 2010; Cimpian & Erickson, 2012; Cimpian & Markman, 2011). Extrapolating from these findings, we predicted that both the positively and the negatively valenced category links in our experiments should lead children to infer that they have little control over how well they end up doing. In turn, such inferences should leave children poorly prepared to cope with a challenging task, regardless of whether they thought they belonged to a high-performing or low-performing group. The two experiments reported here provide strong evidence for this prediction.

Experiment 1

In Experiment 1, we taught 4- and 5-year-olds how to play the shape game, a novel activity in which children had to draw circles inside a series of empty shapes (see Fig. 1; Rhodes & Brickman, 2008). Although trivial from an adult’s perspective, this game is quite challenging for young children, allowing us to assess whether their ability to handle difficult tasks is affected by whether they associate success with membership in a particular social category.

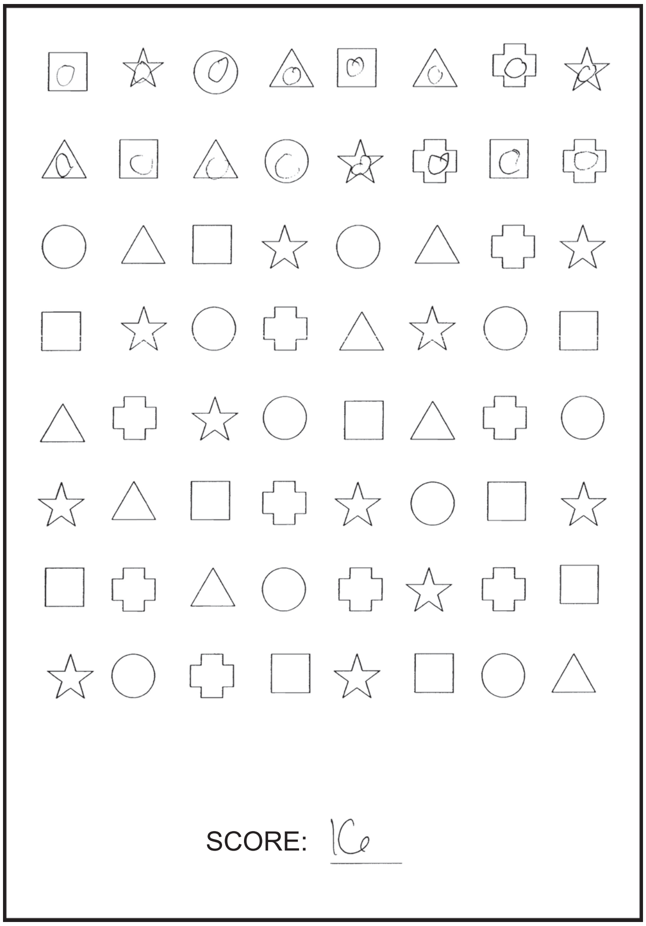

Fig. 1. A sample page from the second round of the shape game, in which children had to draw circles inside a series of empty shapes (Experiment 1). This example was marked up by a 5-year-old. In this round, all children were stopped after filling in 16 shapes, and the experimenter wrote their score at the bottom of the page.

Method

Participants. The participants were 48 children aged 4 and 5 (24 girls, 24 boys; mean age = 4.89 years, *SD* = 0.55). The children, all of whom were recruited in a small Midwestern city, were predominantly European American and came from a range of socioeconomic backgrounds. An additional 3 children were tested but excluded from analysis because they did not follow the instructions for playing the shape game.

Materials, design, and procedure. Children were tested in a quiet room, either in the lab or at their school. The experimenter first told children that they would play the shape game and briefly described what it entailed. It was also explained to children that (a) they would get 1 point for each circle they drew from the start of the game until their time was up (when the experimenter said "stop"), (b) they would have to draw the circles very fast so that they could get many points, and (c) they would have to be very careful so that their circles did not go outside the shapes. Before asking children to play, the experimenter demonstrated how to draw the circles inside a few sample shapes and then provided children with the information about who was good at the shape game. Children were randomly assigned either to a category condition (n = 24), in which they were told that "boys [girls] are really good at this game," or to an individual condition (n = 24), in which they were told that "there's a boy [girl] who is really good at this game." The gender of these statements was fully crossed with participants' own gender. We used gender as a social category because children are familiar with it from an early age (e.g., Martin & Ruble, 2004); however, our predictions are not specific to gender.

After children played one round of the shape game, the experimenter provided some mild negative feedback (e.g., "12 is not too many points") and asked them to play a second time. This feedback was designed to counteract young children's tendency to overestimate their skills (e.g., Flavell, Friedrichs, & Hoyt, 1970), which could have made them oblivious to the possibility of failure. Because it is impending failure that most often prompts children to call on their intuitive theories for possible courses of action (e.g., Dweck, 1999), the criticism and the second round were deemed important for a valid test of whether categorical statements about ability affect children's theories and performance.[1] Before asking children to play the second round, the experimenter reiterated the information about who was good at the shape game.

In order to make the feedback equally plausible, we stopped everyone in Round 1 after they drew 12 circles. As a result, children's point totals could not be used to measure their performance. Instead, we used children's speed, which was calculated by dividing the number of circles each child drew by the time it took to draw them. For example, a child who drew the 12 circles in half a minute would have a speed of 24 circles per minute. In Round 2, children were allowed to draw 16 circles (and thus get 16 points) so as to make them feel they had improved. Building on this apparent improvement, the experimenter praised children effusively before concluding the session.

Results and discussion

We predicted that children's achievement would be impaired when the activity they were performing was linked to a particular social category. To test this prediction, we conducted an analysis of variance (ANOVA) with the speed measure as a dependent variable and with the following independent variables: condition (category vs. individual; between subjects), the valence of the link between the activity and children's own social group (positive vs. negative; between subjects), participants' gender (boys vs. girls; between subjects), and round (1 vs. 2; within subjects).

As predicted, children for whom the activity was linked to an entire category performed more poorly than those for whom the activity was linked to an individual (*M*s = 29.7 and 38.0 circles/min, respectively), $F(1, 40) = 4.77$, $p = .035$, Cohen's $d = 0.63$ (see Fig. 2). Also as predicted, the debilitating effect

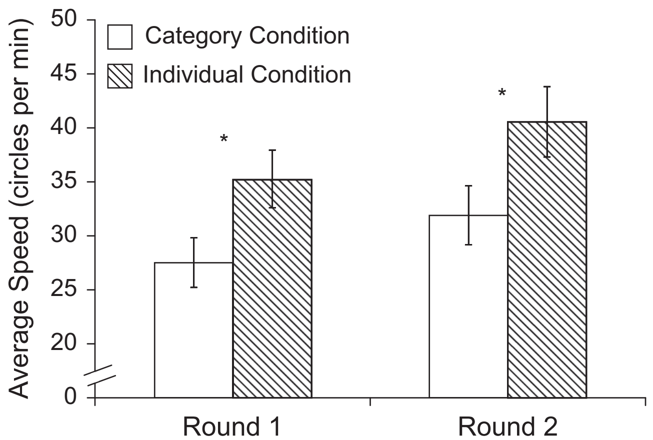

Fig. 2. Results from Experiment 1: average speed with which children drew circles as a function of round and condition. Error bars represent ±1 *SE*. Asterisks indicate significant differences between conditions ($p < .05$).

of the category statements did not differ by whether they conveyed a positive association between the activity and children's own group (e.g., when girls heard that girls were good) or a negative association (e.g., when girls heard that boys were good), $F(1, 40) = 0.10$, $p = .758$. The only other significant result was an overall improvement from Round 1 to Round 2, which was most likely a practice effect, $F(1, 40) = 19.06$, $p < .001$, $d = 0.34$.

In principle, it is possible that children in the category condition were slower because they were more careful to stay within the outlines of the shapes. To evaluate this alternative explanation, we asked 5 adults naive to the purpose of the experiment to rate the extent to which each child's circles were contained within the shapes. These data revealed no evidence that children in the category condition were more careful—if anything, the average rating was somewhat lower in that condition ($M = 7.8$ out of 10) than in the individual condition ($M = 8.4$), though not significantly so, $F(1, 40) = 1.94$, $p = .171$, $d = 0.35$.

To conclude, we hypothesized that the entity beliefs that arise when success in a domain is linked to membership in a social group would be sufficiently strong to impair children's performance (especially given the challenging nature of the task). The results of Experiment 1 supported this hypothesis.

Experiment 2

Experiment 2 had three goals. First, we wanted to maximize the generalizability of the findings of Experiment 1. To achieve this, we used a different activity (the finding game) and expanded the age range of participants to include 6- and 7-year-olds. The finding game consisted of a series of trials in which children had to find a rotated version of a target object among a set of three alternatives (see Fig. 3). We chose a mental-rotation task because it shares many characteristics with the intellectually demanding tasks that children would

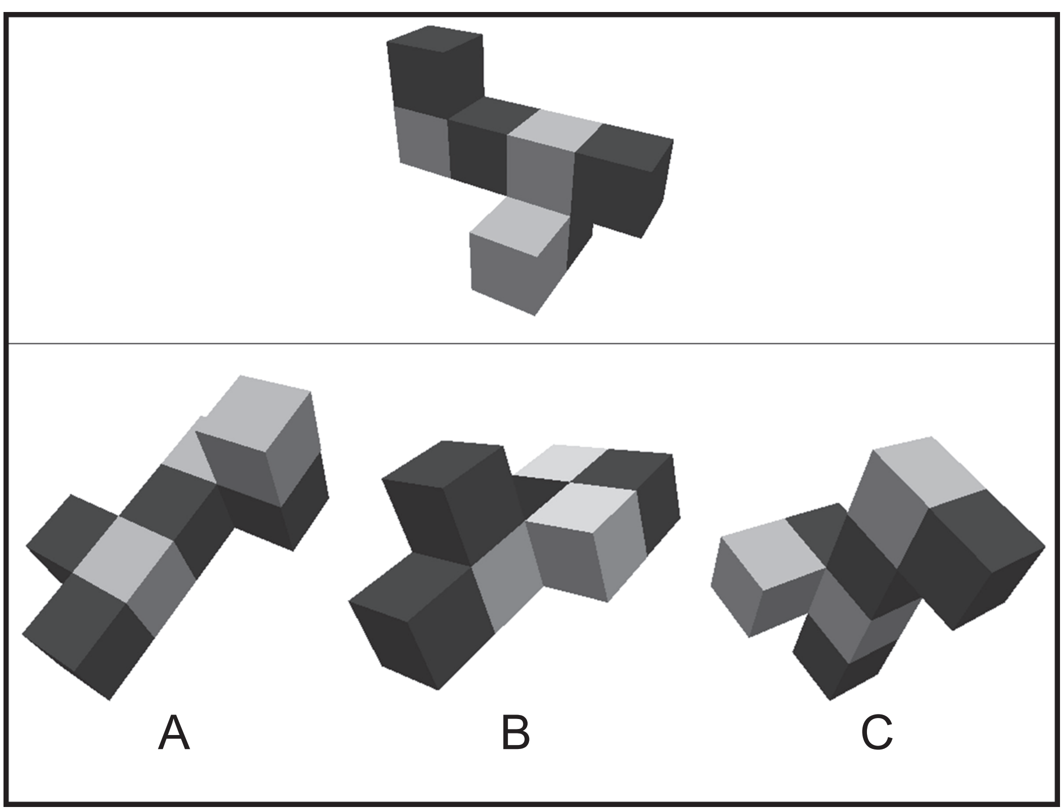

Fig. 3. A sample higher-difficulty test trial from the finding game (Experiment 2). Children had to indicate which of the three blocks at the bottom matched the one at the top. (The correct answer in this example is C.)

typically encounter in school (such as math), and yet it is unfamiliar to young children and thus does not have stereotypes already associated with it (unlike math; e.g., Cvencek, Meltzoff, & Greenwald, 2011).[2]

Second, we wanted to rule out a possible alternative interpretation of the first experiment's findings: In principle, children's performance may have been facilitated by the individual information rather than, as we hypothesized, impaired by the category information. To distinguish between these alternatives, we made two additions to the design of Experiment 1. First, we added a condition in which children heard no information about who was good at the activity. Our prediction was that performance in the category condition should be significantly impaired relative to performance in both the no-information and the individual conditions, in which results should be equivalent. Second, we added a set of premanipulation baseline trials. Our prediction was that, after the manipulation, performance in the category condition should be significantly impaired relative to performance in the baseline trials, but performance in the no-information or individual conditions should not be.

Third, we wanted to explore the mechanism by which category information affects children's performance. If, as we hypothesized, this information affects performance by leading children to adopt an entity perspective, then its detrimental effect should be specific to challenging problems: One's theories about what it takes to succeed come into play most often during situations in which success is actually in question (e.g., Diener & Dweck, 1978; Licht & Dweck, 1984). Alternatively, if the category information affects performance in a more diffuse way—perhaps by causing children to disengage from or lose interest in the activity—then its detrimental effect should be present across the board. To distinguish between these two possibilities, we compared children's performance on more difficult and less difficult test items. Our prediction was that performance in the category condition should be impaired on the higher-difficulty test items but not on the lower-difficulty test items.

Method

Participants. Of the 144 children who participated in Experiment 2, 72 were aged 4 and 5 (36 girls, 36 boys; mean age = 5.01 years, SD = 0.63), and 72 were aged 6 and 7 (36 girls, 36 boys; mean age = 6.94 years, SD = 0.50). These children were demographically similar to those in Experiment 1. None had participated in Experiment 1. An additional 14 children were tested but excluded from analysis because they did not follow the instructions for playing the finding game (n = 1), did not want to continue after the baseline trials (n = 6), or failed to answer at least two of the three warm-up questions correctly (n = 7).

Materials, design, and procedure. Children were tested individually in a quiet room in the lab or at their school. On each trial of the finding game, children had to find a rotated version of a target object among a set of three alternatives (Fig. 3). At the beginning of the sessions, the experimenter explained the finding game to the children and worked through an example. Children were then given three simple warm-up trials with feedback.

Before starting the game, children were told they would have to "find the right blocks as fast as possible" if they wanted to do well. To further highlight the challenging nature of the game, we included four items that had no correct answer in the first (premanipulation) round; children were always asked to "try again" after they made their first answer on these trials. The rest of the premanipulation round consisted of eight baseline items, and the entire round was timed. No feedback was provided about the baseline items or at the end of the round.

After completing the first round, children received the ability information appropriate for the condition to which they had been randomly assigned: In the category condition, they were told that "boys [girls] are really good at this game," and in the individual condition, they were told that "there's a boy [girl] who is really good at this game." In the no-information condition, children proceeded directly to the second round without receiving any ability information. As in Experiment 1, the gender in the statements in the category and individual conditions was fully crossed with participants' own gender.

At the beginning of the second (postmanipulation) round, which was also timed, children were told that this round would be more difficult because the experimenter would not tell them to try again when they got the answer wrong. Children then received eight test trials: four higher-difficulty trials (Fig. 3) followed by four lower-difficulty trials. This fixed order ensured that the game concluded on a positive note, which was reinforced by the glowing effort-oriented praise provided by the experimenter at the end of the session.

A separate norming study (4- to 7-year-olds, N = 40) confirmed that the higher-difficulty items were indeed more challenging than the lower-difficulty ones. In addition, the higher-difficulty test items and the baseline items were equally challenging.

Results and discussion

Mean percentages of correct answers and mean reaction times across all trial types for all conditions are shown in Table 1. We predicted that differences between the category condition and the other two conditions would emerge on the higher-difficulty test trials, but not on the baseline trials or the lower-difficulty test trials. To test this prediction, separate ANOVAs were performed on these three types of trials.

Baseline trials. A 3 (condition) × 2 (age group) × 2 (participant gender) ANOVA on the percentage of correct answers at baseline revealed no significant differences across the category, individual, and no-information conditions, $F(2, 132) = 0.21$, $p = .815$.

Table 1. Mean Percentage of Correct Answers and Mean Reaction Time in the Three Conditions in Experiment 2

Measure and condition	Baseline trials (premanipulation)	Higher-difficulty test trials (postmanipulation)	Lower-difficulty test trials (postmanipulation)
Correct answers (%)			
Category	50.8 (15.6)	38.0 (22.5)	60.4 (24.6)
Individual	49.7 (18.9)	49.0 (22.5)	60.4 (27.2)
No information	48.7 (15.5)	45.8 (23.8)	58.9 (31.6)
Reaction time (s)			
Category	3.05 (1.64)	3.15 (1.75)	3.11 (1.40)
Individual	3.03 (1.58)	2.93 (2.00)	3.25 (2.57)
No information	2.98 (1.34)	3.01 (1.55)	3.22 (1.73)

Note: Standard deviations are given in parentheses.

Higher-difficulty test trials. To explore the effect of the ability statements, we subtracted the percentage of correct responses at baseline from the percentage of correct responses on the higher-difficulty test trials. (The more negative these difference scores, the greater the performance impairment.) In an ANOVA analogous to that used to examine performance on baseline trials, the key main effect of condition was significant, $F(2, 132) = 3.46$, $p = .034$. Newman-Keuls follow-up tests indicated that, as predicted, performance in the category condition ($M = -12.8\%$) was significantly impaired relative to performance in the individual condition ($M = -0.8\%$, $d = 0.48$) and the no-information condition ($M = -2.9\%$, $d = 0.38$; Fig. 4). In the latter two conditions, performance was not significantly different. Also as predicted, the category condition was the only one in which performance was significantly impaired relative to baseline, one-sample $t(47) = -3.34$, $p = .002$, $d = 0.48$.[3]

Children in the category condition performed more poorly on these trials despite the fact that they took as long to respond as children in the other conditions did: Mean reaction times were equivalent across the category, individual, and no-information conditions for both the baseline trials and the higher-difficulty test trials, $Fs(2, 132) < 0.21$, $ps > .81$.

Next, we tested our prediction that category statements should be similarly detrimental to performance regardless of whether they convey positive or negative associations between the activity and children's own group. An ANOVA on the data from the category and individual conditions, the only conditions in which ability statements were actually provided, confirmed this prediction: Just as in Experiment 1, there was no significant interaction between the scope (category vs. individual) and the valence (positive vs. negative) of the ability statements, $F(1, 80) = 1.81$, $p = .182$.

Lower-difficulty test trials. A 3 (condition) × 2 (age group) × 2 (participant gender) ANOVA on the difference scores between the lower-difficulty test trials and the baseline trials revealed no significant main effect of condition (Ms = 9.6%, 10.7%, and 10.2% for the category, individual, and no-information conditions, respectively) and no interactions involving this factor, $Fs(2, 132) < 1.20$, $ps > .30$. Thus, it is unlikely that children who heard the category information lost interest in the game or became disengaged from it.

Conclusion. These findings provide further confirmation of our hypothesis: Children who are induced to associate success in a task with membership in a group are likely to attribute the causal source of their performance to a fixed aspect of who they are (i.e., are likely to adopt an entity theory), which in turn causes their performance to degrade on difficult tasks.

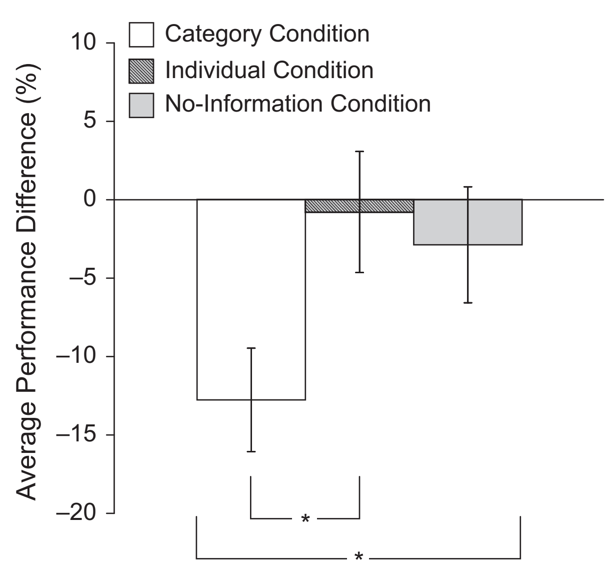

Fig. 4. Results from Experiment 2: average difference between the percentage of correct responses on higher-difficulty test trials and baseline trials as a function of condition. Error bars represent ±1 *SE*. Asterisks indicate significant differences between conditions ($p < .05$).

General Discussion

Children build intuitive theories to explain, and thus understand, what they observe. The causal inferences children generate to explain their successes and failures within an achievement domain (e.g., math, soccer, playing the piano) can, under certain circumstances, coalesce into an entity theory about that domain (Dweck, 1999, 2006). At the core of such a theory is the belief that there exists a natural aptitude (e.g., math giftedness, athletic prowess, musical talent) that is present in different fixed amounts in different people. This belief leads children to assume they have little control over their achievement outcomes (because success or failure is just a matter of how much aptitude they inherently have), but it also heightens their concern about these outcomes (because children believe that such outcomes measure their inherent aptitude). Unsurprisingly, this pattern of thought is not conducive to optimal learning and mastery of difficult tasks.

The present experiments shed new light on the origin of these maladaptive theories. Specifically, exposure to information that links an unfamiliar activity to a social group fosters entity beliefs with respect to that activity—beliefs that, despite the sparse information they are based on, are so powerful as to cause performance impairment in the face of difficulty. The debilitating effect of category information was robust, replicating across two different tasks, and also sizable: In Experiment 2, for example, the magnitude of this effect was comparable with the baseline difference in performance between the 4- to 5-year-olds and the 6- to 7-year-olds (9.2%, $d = 0.57$).

These results also illustrate how exquisitely sensitive young children are to novel stereotype information and how quickly this information can become threatening: A few statements that linked ability in a previously unfamiliar activity to a social group, and that came from someone with whom children were barely acquainted, were sufficient to cause a decrement in the performance of children as young as age 4. Strikingly, this detrimental effect was also statistically independent of whether the newly created stereotypes were negative or positive (see Cheryan & Bodenhausen, 2000; Shih, Ambady, Richeson, Fujita, & Gray, 2002).

Under what circumstances does this effect arise? To speculate, one relevant variable may be the nature of the categories involved and, in particular, the degree to which they are essentialized (e.g., Rhodes & Gelman, 2009). Briefly, a category is essentialized if it is thought to be rooted in biological reality rather than in social conventions or other superficial dimensions (e.g., compare girls and Illinois residents, respectively). This ingredient is crucial here because it makes it possible to attribute achievement outcomes to the inherent features that are assumed to characterize the relevant essentialized categories (e.g., girls' biologically determined traits), and it is these attributions to deep features that form the core of an entity theory. Shallower, less essentialized categories do not support such attributions (e.g., children in this neighborhood; Cimpian & Markman, 2011), so they may not give rise to entity beliefs quite as easily. However, even among essentialized categories, there is probably variability in the extent to which they promote entity beliefs in young children, depending, for example, on the extent to which they are familiar to children or relevant to their self-concept.

A second factor relevant here may be the nature of the category-activity links that are established. We speculate that the detrimental effect on children's performance may be greatest for statements that link success at the relevant task to membership in a social category. Highlighting other types of category-activity relations (e.g., preferences: "girls *like* this game") may not be as debilitating because these links would not license strong inferences about what it takes to succeed, and without these inferences, it is unlikely that children would form entity beliefs about the task. Moreover, highlighting the link between a social category and success at other, unrelated tasks (e.g., telling participants who are about to play the finding game that a certain group is good at the shape game) may not be as debilitating, because these links would not license direct inferences about what it takes to succeed at the particular task children have to perform. It is possible, however, that chronic exposure to statements that link success in various tasks to membership in various social categories would eventually lead to the emergence of a general belief that talents are needed for success in most activities, even ones children have never heard of before (see Cimpian, Sutherland, & Bian, 2011).

To conclude, our experiments demonstrate that the entity beliefs induced by linking expectations of success to membership in a social category have a detrimental effect on children's achievement. As such, this research uncovers an important aspect of the process by which entity theories can arise and highlights concrete steps that could be taken to improve children's academic outcomes.

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Declaration of Conflicting Interests

The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

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Notes

1. To preview our results, the predicted effect appeared even before the feedback, in Round 1, probably because the transparent, point-based

structure of the game made it clear from the very beginning that one could end up not doing well.

2. Young children do not typically show gender differences on mental-rotation tasks (e.g., Kosslyn, Margolis, Barrett, Goldknopf, & Daly, 1990; Marmor, 1975).

3. The only other significant effect in this ANOVA was an interaction between age group and participant gender, $F(1, 132) = 13.81$, $p < .001$. Across conditions, boys' difference scores improved with age, whereas girls' declined. This pattern may be due to the differences that emerge in the early grades between boys' and girls' achievement expectancies during situations in which potential failure is salient (recall that children had been told that the second round would be particularly difficult; Dweck & Gilliard, 1975; Nicholls, 1975; Parsons & Ruble, 1977).

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