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Being the Best, or With the Best: A Developmental Examination of Children's Choices in a Social Comparison Dilemma

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ABSTRACT

In two studies, we examined the decisions of children (aged 6–12 years old) when faced with the choice between two options in a social-comparison dilemma: to affiliate with a group in which they outperform all others (i.e., being *the* best), or with an advanced group, at the cost of losing their primacy (i.e., being *with* the best). Study 1 ($N = 179$, $M\text{Age} = 8.90$, 56.4% female) examined children's choice when presented with a two-option scenario; Study 2 ($N = 211$, $M\text{Age} = 9.42$, 50.7% female) examined the same decision following children's experience of an actual task, while manipulating the children's relative position before the decision (by priming them to imagine that they were the best at the task, compared with a control condition, without manipulation). Results revealed a consistent developmental pattern, such that with age children preferred to join a group of leading performers, even if it meant they would not be the best. We examine the children's reasons for their decision, and their implicit theories of ability as possible mechanisms behind this pattern.

"If you're the smartest person in the room—you're in the wrong room."

(Source unknown)

the expression "*Better to be the head of a dog than the tail of a lion*" (Spears 2005)—reflects a choice dilemma that has been discussed in traditional philosophies for centuries. People's choices in such dilemmas have also received attention in research of the trade-off between these two options among adults, through various manipulations (e.g., Berg Dale and Krueger 2002; Zak et al. 2019).

1 | Introduction

Suppose that a child engages in an unfamiliar task for the first time and performs it very well. Next, they are given a choice: to continue within a group in which they would perform better than all the others, or to join an advanced group, in which all the other members also excel at the task, so they themselves would no longer be the best. Such a situation—encapsulated in

The choice between two such social-comparison options appears to be highly relevant to the everyday life experiences of children (such as when needing to choose between specific classes at school, or between different sport teams, based on one's ability) and may have long-term effects on their motivations, future achievements, and self-perceptions.

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Summary

- We examined children's (6–12 years old) choices when presented with a social-comparison dilemma in a two-option scenario, and after participating in an actual task.
- Children chose between a group in which they outperform others, or one in which they are among leading performers, but not necessarily the best.
- Results revealed a significant developmental pattern: with age children preferred to join the advanced group, even if they were no longer the best.
- Children's implicit theories of ability, and their wish to outperform others were found to mediate the effect of age on the decision.

1.1 | Social Comparison Processes From a Developmental Perspective

Social comparison is defined as the tendency to evaluate one's qualities, abilities, and traits, in relation to others (Festinger 1954)—which has a great impact on one's self-image, emotions, well-being, and activities (e.g., Križan and Gibbons 2014; Suls et al. 2002), as well as a significant influence on one's decision-making, in various aspects (e.g., employment and career decision-making—Kilduff 1990; Li et al. 2015; risk-taking decisions—Bault et al. 2011; Sun et al. 2023; team membership choice in sporting competitions—Zak et al. 2019; prosocial decisions—Gong and Sanfey 2017).

Developmental research has demonstrated the role of social comparison in children's self-evaluations from early ages (e.g., from the age of 3—Stipek et al. 1992) throughout middle childhood, when the construction of the self emerges (Harter 2015). Younger children (up the age of 6 or 7) tend to be less realistic and overconfident about their abilities (van Loon et al. 2017)—demonstrating an overall positive self-image in various domains (Levy et al. 2021; Lipko et al. 2009; Shin et al. 2007; Schneider 1998; Trzesniewski et al. 2011). They also usually attribute their failures to temporary factors, rather than to fixed ones (Nicholls 1978). As they grow older, children judge themselves more accurately in relation to others and in relation to a given benchmark, and are better at using these social comparisons to evaluate themselves (Aboud 1985). This growing accuracy and use of social comparisons reflect children's improved cognitive abilities (such as attending to more than one aspect at once), their greater awareness of social standards and expectations, and their broader life experience—such as dealing with difficulties and failures—that they acquire as they grow older (Harter 2015).

Along with the greater propensity for social comparisons, the type and nature of these comparisons also change as children grow older. Several studies have found that while younger children (preschool to third grade) show a general tendency to relatively conspicuous forms of social comparison, among older children, these become more subtle (Frey and Ruble 1985), as they become more aware of the potential negative social consequences of overt social comparisons (such as being perceived by peers as a “show-off”—Pomerantz et al. 1995).

The more nuanced understanding of social comparison processes with age is also evident in children's emotional states, behavior, and decision making, following such comparisons (e.g., Masters et al. 1985; Schunk 1987; Slagter et al. 2023; Visconti et al. 2013). For example, in the context of inequality, Kuang et al. (2021) examined children's prosocial decisions, using socioeconomic status (SES) as a comparison dimension. They found that 11-year-old children, especially those of higher status, were more willing to allocate resources with lower status others (compare to higher status ones). Focusing on the developmental nature of social comparison effect on children's behavior, Wang et al. (2024) examined 8–12-year-old children's fairness-related decisions in the ultimatum game¹ (Güth et al. 1982) following a social comparison manipulation. They presented children with fair and unfair allocation offers, after observing a third-party allocation that placed them in either an inferior or superior position. Results showed that with age, children became more sensitive to inferior comparisons, leading older children to reject unequal offers, while no such effect was found for superior comparisons.

Finally, the use that children make of social comparisons, and their reasons for doing so, become more complex with age—involving not only a need for self-evaluation, but also a desire to outperform others and to improve one's abilities (Butler 1995; Dijkstra et al. 2008). Such motives are important factors in determining the target reference children choose to evaluate themselves by—namely, upward versus downward comparisons.

1.2 | Upward Versus Downward Social Comparisons

Research among adults suggests that people strategically choose to compare themselves with others in a manner that serves one of three main self-serving motivations: self-evaluation, self-enhancement, or self-improvement (e.g., Pyszczynski et al. 1985; Dai and Rinn 2008). *Upward comparisons*—comparing oneself with more successful people—stems from a desire for self-improvement (e.g., Suls and Tesch 1978), and has been found to be more dominant when given the choice whom to compare oneself with (Gerber et al. 2018). Conversely, *downward comparisons*—comparing oneself with people worse off than oneself—are less frequent, and emerge mainly when there is a threat to one's self-esteem (e.g., Wills 1981) in a bid for self enhancement.

As previously noted, research on social comparisons among children has demonstrated their key role in various life domains, such as social interactions (Altermatt and Pomerantz 2005; Dijkstra et al. 2010), prosocial decisions (Wang et al. 2024), and risk-taking behavior (Slagter et al. 2023). However, most of the research on children's upward versus downward comparisons has been conducted mainly in the educational context, where the importance and implications of social comparison processes are more obvious. Most of this research has focused on adolescents and has found a greater tendency to upward comparisons among secondary-school and high-school students (Huguet et al. 2009; Chanal and Sarrazin 2007; Dumas et al. 2005). For example, Blanton et al. (1999) found that ninth-graders prefer to compare their grades with other students in their class who performed slightly better than themselves. This tendency was replicated in other studies that also looked at possible moderators (such as

closeness to the comparison target), and the benefits of such comparisons (Huguet et al. 2001; Huguet et al. 2009). Examining the costs and benefits of upward versus downward comparison in terms of the students' self-concept, Marsh et al. (Marsh 1987, 1993; Marsh and Craven 1997, 2002; Marsh and Hau 2003; Marsh and Parker 1984; Marsh et al. 2014) consistently found a *big fish in the little pond effect* (BFLPE). According to their findings the cost of upward comparisons is embodied in a lower academic self-concept, that students of equal ability are likely to exhibit in high-achieving academic settings (vs. a higher academic self-concept of students in low-achieving environments, which involve fewer upward comparisons). Conversely, there is also evidence of the *basking in reflected glory effect* (BRIGE), whereby individuals may enhance their self-perception by joining groups they consider to be positive, due to the prestige and glory associated with membership of a high-status group (Cialdini and Richardson 1980; Diener and Fujita 1997; Tesser 1988; Marsh et al. 2000; Trautwein et al. 2005). Notably, although these two effects are usually presented as contradictory, they may coexist in certain contexts (i.e., BFLPE occurs along with beneficial impacts of upward comparisons—Seaton et al. 2008).

The above literature on the BELPE and BRIGE highlights their potential costs and benefits, in terms of students' self-concept. However, these implications are highly dependent on individuals' self-attributions, which are shaped by their perceptions of the nature of ability. Dweck's (1999) classification of *implicit theories of ability* distinguishes between *entity theory*—which posits that abilities are innate and fixed—and *incremental theory*, which views abilities as malleable and capable of change. These beliefs can lead to contrasting outcomes in the same social comparison process. For example, in upward comparisons, individuals who subscribe to an incremental theory may interpret the social information as motivating, and view the comparison target as a model for self-improvement. In contrast, those who adhere to an entity theory may view the same comparison as highlighting their low performance, and reach discouraging conclusions about their ability in that domain. Evidence for the underlying role of self-attribution and implicit theories of abilities in social comparison processes has indeed been found among adults and children alike (e.g., Butler 1992, 2000).

It should be noted that most of the above research on social-comparison preferences and their possible consequences has, until now, dealt primarily with downward versus upward comparisons among high-school students in an academic context. Moreover, the main focus of these studies has been on the particular target of comparison that children choose in order to evaluate their own performance in various academic disciplines (e.g., Math, Biology, and French). Specifically, the common method in those studies was to ask students to nominate the classmate whom they preferred to compare their grades with in each domain, or with whom they typically compare grades and achievements (e.g., Blanton et al. 1999; Boissicat et al. 2020; Huguet et al. 2001).

To the best of our knowledge, to date no developmental study has directly examined children's preferences in a social-comparison dilemma concerning their position in relation to others. Accordingly, the present study sought to take a first step at addressing this gap, by examining children's choices in such dilemmas.

Specifically, we adapted the oft-encountered dilemma (that often pertains in various life situations) of choosing between being “the head of a dog” or “the tail of a lion”, by asking what do children prefer when faced with the choice between outperforming others, or placing themselves among leading performers, who might outperform them?

The present study focused on middle childhood (Ages 6–12), since during this age range children become more conscious of social-comparison processes, and their experience in various social groups comes into play (Harter 2015). We sought to add to the broad developmental literature on social comparison by contributing to the knowledge about children's choice between the two options: outperforming others (i.e., being the best) or being a member of an advanced group, at the cost of losing their primacy (i.e., being *with* the best). Importantly, unlike most of the aforementioned past research into academic performance in children's class settings, we aimed to explore children's choice in a less familiar context, in which they have no previous experience to draw on. We did so by: (1) using a simple task that does not rely on abilities or skills that the children might directly link to their own school experience, or might perceive as too difficult (a factor that was found to affect social-comparison processes in children—e.g., McClintock and Van Avermaet 1975); and (2) presenting the choice to join a group of unfamiliar others (i.e., children not from the child's school) who perform better or worse than the child at a given task. This would allow a better understanding of the basic process of choice between the two social-comparison options, without involving possible confounds—such as the child's previous knowledge about their abilities in relation to their friends, or their familiarity with group members' actual abilities in class.

Building upon the above literature, we hypothesized that younger children—who tend to use social comparison in a self-serving fashion (Trzesniewski et al. 2011) and are less sensitive to overt forms of social comparisons (Pomerantz et al. 1995)—would prefer to outperform other members, thereby maintaining a positive self-image. As they grow older, however, we predicted that children would prefer the benefits of joining an advanced group (such as its prestige; the opportunity it offers to improve)—even at the cost of losing their primacy within the group.

We examined this hypothesis by presenting children with a two-option scenario—in the absence of direct task engagement (Study 1), and after completing an actual task (Study 2)—to gain a broader understanding of the developmental pattern, as described below. Moreover, to heighten the choice dilemma, in Study 2 we primed the participants to imagine that they had actually performed better than all other participants (compared with a control group, without such priming)—thus highlighting the child's current relative position before they consider the costs and benefits of joining an advanced group.

1.3 | The Present Study

We conducted two studies to examine children's preferences in the context of social comparison—namely, the choice between being *the best* within a group, or being *with* the best (but at a lower position in relation to others in the group). Study 1 sought

to explore children's choices when presented with the option of joining an advanced group (in which they would not be the best performer) or an average one (in which they would be). We also asked them, in an exploratory fashion, about the main reasons for their choice. In Study 2, children were interviewed individually by trained experimenters to examine their preference after actually performing a given task, making the choice feel more realistic and less abstract. In addition, to heighten the dilemma, we manipulated the possibility that children had done better than others in the task before making their choice, by asking half of them to imagine that they had performed better than all other participants in a virtual group (while a control condition were not subject to this priming). Finally, in this study we examined children's stated reason and implicit theories of ability as possible mediators, based on previous research that found these to be key factors in social-comparison processes (Butler 1992, 2000; Dai and Rinn 2008).

Both studies received the approval of the university's Ethics Committee and the Ministry of Education's Board, 2022–2023.

Study data is available at <https://osf.io/q5bsw/>.

2 | Study 1

2.1 | Method

2.1.1 | Participants

A total of 179 children from Israel, aged 6–12 ($M_{\text{Age}} = 8.90$, $SD = 1.9$, 56.4% female) took part in the study. Most of them (76%) resided in urban areas, while 24% lived in rural areas. With regard to religious affiliation, 52% identified as secular, 41.2% as religious, and 3.4% as ultra-orthodox (3.4% selected "Other"). The children were recruited via a link sent to their parents, in return for entry into a raffle with five prizes of NIS 150 each (~\$41).

To determine the power for our logistic regression analysis, we employed G*Power (Faul et al. 2007). Drawing on prior research among children in the same age range with similar Western population characteristics and tasks (House et al. 2013), which reported a medium effect size for age ($OR = 2.61$) and a significance level of $\alpha < 0.05$ (two-tailed). The current sample size of $n = 179$ has a power of 0.99. Even with a reduced effect size ($OR = 1.73$, corresponding to a 0.15 in correlation metric), the power is 0.81. Considering Cohen's (1992) benchmark of 0.80 power as sufficient, our sample is adequately powered to detect low to moderate effect size.

2.1.2 | Procedure

Parents received a link to a questionnaire on social media and were asked to forward it to their child's personal cellphone (or to read out the questions to the child, and write down their answers, in case of younger children).

At the outset, participants were told that we are conducting a short survey on how children think. They were also promised complete anonymity (i.e., that no personal information would be

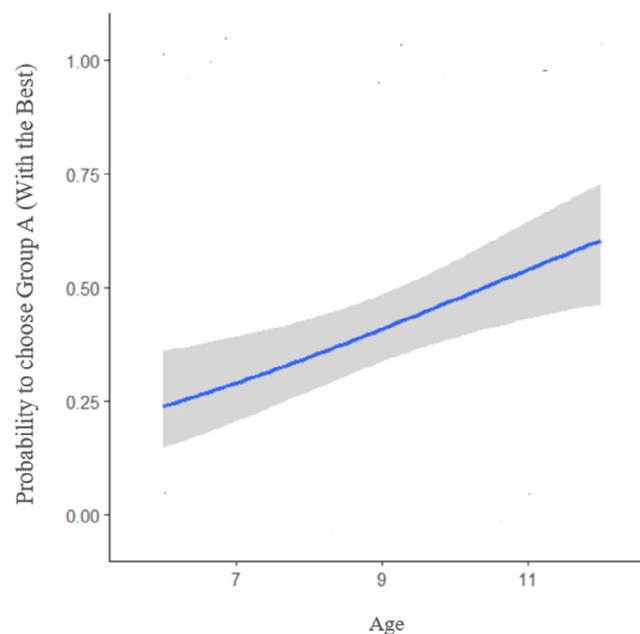


FIGURE 1 | Children's estimated probability to choose Group A (With the Best) as a function of age (a continuous variable). The choice was coded as 1 = Group A (With the Best), 0 = Group B (Being the Best).

collected) and asked if they were willing to take part. The first part of the questionnaire asked for demographic information. Next, participants were asked to imagine that they were performing a task which they are not familiar with, and their score depended on their performance, in terms of speed (i.e., the faster completion, the higher the score). They were told that before the task began, all participating children would be assigned to one of two groups: (1) Group A (hereafter, "*With the Best*"), consisting of children who were among the best at performing the task in question, in which the participant would probably perform the least well, and (2) Group B (hereafter, "*Being the Best*"), a group of average-performing children, in which the participant would probably be the best. The text was accompanied by illustrations to make the options clearer (see Supporting Information, Appendix A). Each child was then asked to choose the group they would like to join, and then briefly explain their choice (in their own words). They were then thanked for their participation (for the detailed procedure, see Supporting Information).

2.2 | Results

2.2.1 | Children's Choice

A logistic regression analysis was conducted on the child's dichotomous choice (Group A or B), as a function of their age as a continuous predictor. The model was significant: $\chi^2(1) = 10.77$, $p = 0.001$, $r^2 = 0.08$, such that an increase in the probability to choose Group A when age increases by 1 year ($OR = 1.3$, 95% CI [1.10, 1.53], Wald = 10.17, $p = 0.001$)—suggesting that, as they grow older, children showed a greater tendency to choose the advanced group (i.e., Group A, *With the Best*) over Group B (i.e., *Being the Best*),² see Figure 1. The observed increase over the age range was 32.9% (see also Table S1).

TABLE 1 | Children's explanations for their group choice.

Motivation	Code	Percent			Example
		Group A (With the best)	Group B (Being the best)	Total	
A wish to outperform others	1	0	59.6	35.1	"Because I love being the best when playing together"
Improving	2	40.6	1.0	17.3	"Because I want to learn from them"
A wish to be among leading performers	3	37.7	2.0	16.7	"Because this way I will be with the excelling children"
Helping others	4	0	16.2	9.5	"I can help other children who have difficulties with the task"
Self-worth	5	2.9	4.0	3.6	"Because I am not so good at it"
Emphasis on process	6	11.6	1.0	5.4	"I want to take part, I don't care about winning"
Feeling good	7	0	8.1	4.8	"Because I want to feel good"
Did not understand or gave an unclear answer	8	7.2	8.1	7.7	

Note: Eleven children were omitted for not offering an explanation.

2.2.2 | Children's Reasons for Their Choice

Children's responses were coded by two independent coders—the second author and an independent research assistant—who were blind to the children's choice and age, with regard to the primary reason they mentioned for their choice (see Table 1). The intercoder reliability between the two coders was 97.8%.

Among those who chose Group A (*With the Best*), the two dominant reasons were improving performance (40.6%), and being among leading performers (37.7%). With regard to the common reason for choosing Group B (*Being the Best* among other group members), the dominant (59.6%) reason was the wish to outperform others.

Study 1 explored children's choices when presented with a two-options dilemma and found a significant developmental pattern, whereby with age children were more inclined to affiliate with the advanced group ("With the Best") than to being the best in another group ("Being the Best")—even at the cost of no longer being the best in the group. Study 2 sought to examine the children's choice after performing an actual task—thereby making the decision feel more realistic or tangible. To highlight the dilemma of choosing between the two social-comparison options, we manipulated the children's relative position before the decision by telling half of them to imagine that they were the best at the task,³ while in a control condition, they were not told so.

3 | Study 2

The second study aimed to examine the same choice-dilemma after a real experience of a task. In line with the results of Study 1, we expected the children to exhibit an increased preference to belong to Group A (*With the Best*) over Group B (*Being the Best*) as they grew older. Regarding the manipulation that highlights the possibility to outperform, we hypothesized that more children under the priming manipulation would choose to be the best

(Group A) than be among the best (Group B), due to their desire to maintain their imagined high status. This effect was expected to diminish with age, since children develop a more nuanced social understanding as they grow older and are less swayed by the prospect of outperforming others, as observed in Study 1.

3.1 | Method

3.1.1 | Participants

A total of 211 children, aged 6–12 ($M_{\text{Age}} = 9.42$, $SD = 1.83$, 50.7% female), from a secular school of an average SES (according to the Ministry of Education's ratings) in Jerusalem, Israel, participated in the experiment. All children whose parents had approved their participation, and who attended school on the day of the experiment, took part in the study.

To determine the power for detecting a moderation effect in a logistic regression analysis, we utilized G*Power (Faul et al. 2007). Considering that interaction effects often manifest as smaller effect sizes, we based our power analysis on a low to moderate effect size ($OR = 1.73$, equivalent to a 0.15 correlation) with a significance level of $\alpha < 0.05$ (two-tailed). The results indicated a power of 0.88, thus confirming that our sample is sufficiently powered to detect low to moderate effect sizes.

3.1.2 | Procedure

Four trained female experimenters interviewed each child privately (at an isolated location at the school), in accordance with a structured protocol. After briefly introducing herself, the experimenter asked the child for their name, and for their consent to participate in a short task. She explained that the participation is anonymous, and the answers would be kept private. The child answered several demographic questions and then went on to the task phase. The tasks, including all materials, were presented

on a tablet computer, and are fully reported in the [Supporting Information](#). The experimenter typed the child's answers, using Qualtrics software application.

At first, the experimenter practiced the task with the child, and after making sure that the child understood the instructions, presented the six pairs of stimuli, one by one (Appendix B). After the child completed the task, the experimenter said "Well done! You did a great job!" Next, the children were randomly assigned to one of two experimental conditions, manipulated between subjects: (1) "Outperform reminder" Priming Condition, in which the experimenter said while pointing at the illustration aid (Appendix C): "*Now suppose that out of an unfamiliar group of children (Not from your school) who took part in the study, you ranked first (the highest)—meaning that you performed the task in the faster manner possible,*" (2) A control condition, in which there was no priming, and the experimenter went on to the next step.

Next, the experimenter asked the child (pointing at the illustration aid—see Appendix A):

You will now proceed with similar tasks. You can choose to do so with one of two online groups of children—not from your school—who are also taking part in our experiment. Note, in each group, each child works individually, and score is given according to one's performance. You can decide to join a group of children who performed well in the task, but not as well as you—or, you can decide to join a group in which all children got high scores, and you are currently ranked lower than them. Which group would you like to join?

Once the child had made their choice, the experimenter asked them for a short explanation (an open question, as in Study 1).

Next, the experimenter asked the child to rate the following, on a scale ranging from 1 (*Not at all*) to 5 (*Very much*): (a) their reasons for the decision, based on the main reasons cited by children for their choices in Study 1 (a wish to outperform others; a wish to be among leading performers; a wish to improve); and (b) their implicit theory of ability. These variables were added in an exploratory manner, based on the child's cited reasons in Study 1, and on previous research that highlighted their possible role in social-comparison processes (Butler 1992, 2000; Dai and Rinn 2008). Finally, the children were also asked a few exploratory questions about how they felt about the options, and perceived them (see [Supporting Information](#)).

3.1.3 | Measurements

All measurements, including the exact instructions and illustration aids, are available at the [Supporting Information](#) File.

3.1.3.1 | The Visual Perception Task. We adapted Gino et al.'s (2010) Perception Task to suit children's abilities. We chose this task because it includes a context that is not familiar to children from everyday life, nor is associated with commonly required school skills and tasks (in which children may already

have self-evaluations of their abilities). This enables us to create a social-comparison context that does not involve past knowledge about one's performance. As in the original task, children were presented with a square that was divided into two triangles by a diagonal line. Each triangle contains dots, and the child needs to identify which of the two triangles contains more dots (we colored the triangles in blue or orange to make the answer simpler). The experimenter told the child that the faster they identify the correct triangle, the higher their score in the task. After a practice phase, the children were presented with six trials, in each they had to decide which triangle of the pair contains more dots, see Appendix B.

3.1.3.2 | Implicit Theories of Ability. This three-item questionnaire (Dweck and Henderson 1988; Hong et al. 1999; Chiu et al. 1997) aims to assess the extent to which individuals hold entity or incremental theories associated with their ability (i.e., the belief that one's intelligence is a fixed versus a malleable trait). Previous studies that used this measurement reported high internal reliability (e.g., α ranged from 0.94 to 0.98, Hong et al. 1999; $\alpha = 0.92$, Leonardelli et al. 2003). In our study, we refer to the children's implicit theories of abilities and traits (rather than to "intelligence") in a more general way, to suit their understanding. The three items were: "*Children are born as they are, and can't really change who they are*"; "*Children are born with certain traits, and can't really do anything to change them*"; "*There are things that you are either good or bad at, and it doesn't matter how much you try.*"

Participants were asked to rate the extent to which they agree with each item, on a 5-point scale ranging from 1 (*Strongly disagree*) to 5 (*Strongly agree*). Lower scores indicate a tendency toward an incremental theory, and higher scores indicate a tendency toward an entity theory.

3.2 | Results

3.2.1 | Children's Choice

A logistic regression was conducted on the dichotomous variable of the child's choice (to join Group A or B)—with age, priming manipulation (*Outperform reminder* vs. *Control*), and the interaction between them as predictors. The model was significant: $\chi^2(3) = 22.86$, $p < 0.001$, $r^2 = 0.14$. Specifically, the child's age made a significant contribution to the model (OR = 1.47, 95% CI [1.17, 1.84], Wald = 11.24, $p < 0.001$)—echoing the pattern found in Study 1. As evident from Figure 2, with age children significantly preferred to join Group A (*With the Best*) over Group B (*Being the Best*). The observed increase over the age range was 28.9% (see also Table S3).

Neither the priming manipulation nor the interaction between age and priming significantly contributed to the model (Wald = 0.12, $p = 0.72$; Wald = 0.04, $p = 0.85$, respectively).⁴ Supporting this nonsignificant effect, an additional analysis of ratings of positive feelings during the task also revealed no significant effect of the manipulation on children's positive feelings (see [Supporting Information](#)).

We next examined possible mechanisms behind this developmental pattern, in exploratory fashion. Specifically, we focused on

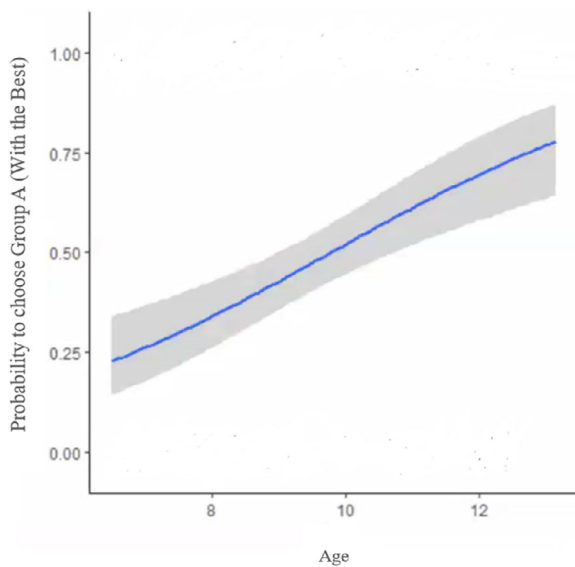


FIGURE 2 | Children’s estimated probability to choose Group A (With the Best) as a function of age (a continuous variable). The choice was coded as 1 = Group A (With the Best), 0 = Group B (Being the Best).

children’s primary reasons for their choice and their implicit theories of ability as possible mediators, based on previous research that highlighted their role in social-comparison processes (Butler 1992, 2000; Dai and Rinn 2008).

3.2.2 | Mediation Analysis: Children’s Reasons for Their Choice

We conducted a mediation analysis to examine the role of the three motivations (a wish to outperform others; a wish to be among leading performers; a wish to improve), in mediating the link between age and group choice, using PROCESS Model 4, with 95% bias-corrected bootstrap confidence intervals, based on 5000 iterations (Hayes 2017). Age was entered as predictor, the motivation items as mediators and choice (Group A or B) as the binary dependent variable (Table 2). The PROCESS uses a liner regression to estimate the effect of age on motivation (path a in mediation jargon) and a logistic regression to estimate the effects of the age (predictor) and motivation (mediator) on the outcome binary choice (Paths b and c in mediation jargon). In the logistic regression, Group B (Being the Best) was set as the reference

TABLE 2 | Results of a mediation analysis (the three motivations as mediators).

Mediators are: A wish to outperform others, a wish to be among leading performers, a wish to improve						
	β	<i>B</i>	SE	<i>t</i>	<i>p</i>	95%CI
Mediator is a wish to outperform others						
Intercept	—	5.63	0.42	13.38	<0.001	[4.80, 6.46]
Age	−0.41	−0.28	0.04	−6.48	<0.001	[−0.37, −0.19]
Mediator is a wish to be among leading performers						
Intercept	—	3.84	0.41	9.32	<0.001	[3.03, 4.65]
Age	−0.11	−0.07	0.04	−1.61	0.109	[−0.15, 0.01]
Mediator is a wish to improve						
Intercept	—	3.80	0.35	10.65	<0.001	[3.09, 4.50]
Age	0.04	0.02	0.04	0.59	0.554	[−0.05, 0.09]
Outcome is children’s choice						
	OR	<i>B</i>	SE	<i>z</i>	<i>p</i>	95%CI
Intercept	0.00	−6.05	1.46	−4.14	<0.001	[−8.91, −3.18]
A wish to outperform	0.51	−0.67	0.16	−4.07	<0.001	[−0.99, −0.35]
A wish to be among leading performers	1.61	0.48	0.16	3.02	0.002	[0.17, 0.79]
A wish to improve	2.46	0.90	0.19	4.64	<0.001	[0.52, 1.28]
Age	1.33	0.28	0.09	2.90	0.003	[0.09, 0.48]
Indirect effects						
Age → a wish to outperform → choice	—	0.19	0.06	—	—	[0.10, 0.33]
Age → a wish to be among leading performers → choice	—	−0.33	0.02	—	—	[−0.09, 0.01]
Age → a wish to improve → choice	—	0.02	0.03	—	—	[−0.05, 0.09]

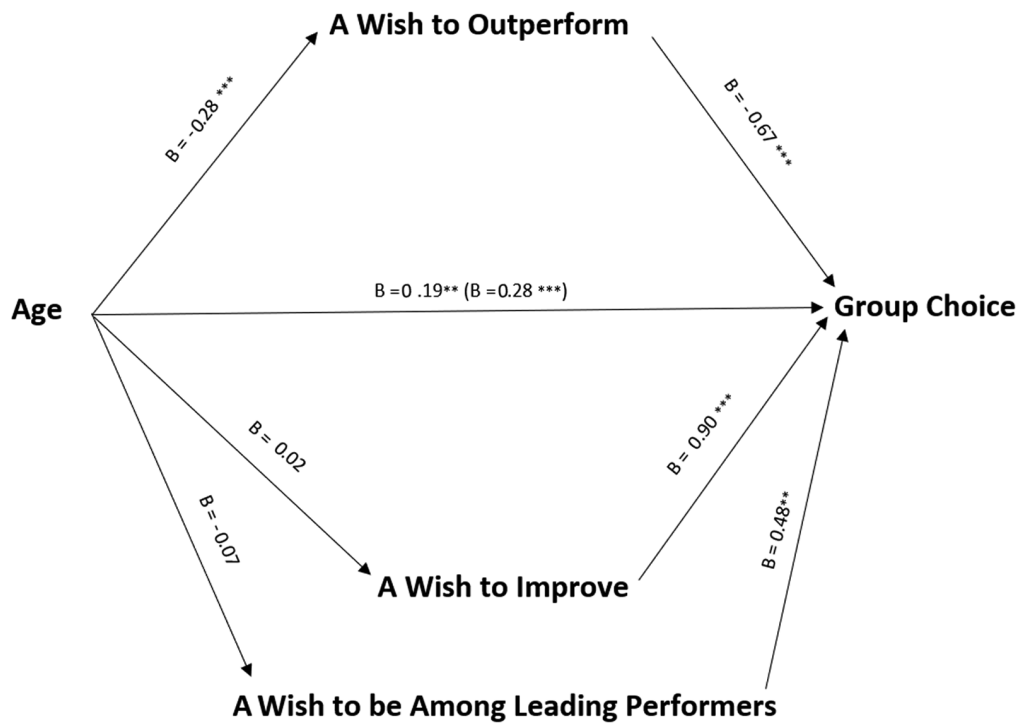


FIGURE 3 | Mediation model, with the three motivations as mediators, Study 2. The group choice was coded 0 for Group B (Being the Best) and 1 for Group A (With the Best): *** $p < 0.001$ ** $p < 0.005$ * $p < 0.05$.

group, hence positive effect indicates preferring Group A (With the Best) over Group B (Being the Best).

As presented in Table 2, results showed a significant effect of age on the wish to outperform others ($\beta = -0.41$, $p < 0.001$), such that with age children reported less motivation to outperform others in general. The wish to outperform others, in turn, predicted children's group choice ($OR = 0.51$, $p < 0.001$)—such that the more high children rated this motivation, the lower their likelihood of choosing Group A (With the Best) over Group B (Being the Best). The indirect effect for the wish to outperform others was significant, *indirect* $b = 0.19$, $SE = 0.06$, 95% CI [0.10, 0.33] (see Figure 3). This suggests that the effect of age on the decision to join Group A over B may be explained (at least partially) by the decrease in the desire to outperform others as one grows older.

The indirect effects of the wish to be among leading performers and for the wish to improve were not significant (*indirect* $b = -0.33$, $SE = 0.026$, 95% CI [-0.951, 0.008]; *indirect* $b = 0.02$, $SE = 0.03$, 95% CI [-0.052, 0.09], respectively).

3.2.3 | Mediation Analysis: Children's Implicit Theories of Ability

We computed an Implicit Theories of Ability score for each participant, as the average of the three items ($\alpha = 0.63$)—with higher scores reflect greater essentialist beliefs.

Next, we conducted a mediation analysis (PROCESS Model 4 with 95% bias-corrected bootstrap confidence intervals, based on 5000 iterations—Hayes 2017), with age as a predictor, Implicit Theories

of Ability as the mediator, and choice (Group A or Group B) as a binary dependent variable (Table 3). The PROCESS uses a liner regression to estimate the effect of age on implicit theories of ability (path a in mediation jargon) and a logistic regression to estimate the effects of the age (predictor) and implicit theories of ability (mediator) on the outcome binary choice (Paths b and c in mediation jargon). In the logistic regression, Group B (Being the Best) was set as the reference group, hence positive effect indicates preferring Group A (With the Best) over Group B (Being the Best).

As presented in Table 3, results revealed a significant effect of age on children's implicit theories of ability ($\beta = -0.49$, $p < 0.001$)—such that with age children perceive ability as less fixed and predetermined. Implicit theories of ability, in turn, significantly predict the children's choice ($OR = 1.43$, $p = 0.032$)—such that the more high the child rated ability as fixed and immutable, the less likely they were to choose Group A (With the Best) over Group B (Being the Best). As demonstrated in Figure 4, the analysis revealed a significant indirect effect for the child's implicit theories of ability: *indirect* $b = 0.09$, $SE = 0.05$, 95% CI [0.01, 0.21]—suggesting that the tendency to choose Group A (With the Best) as one grows older may be partially explained by children's implicit theories of ability. Specifically, as they grow older, children increasingly perceive their abilities as less predetermined and immutable. This perception, in turn, increases their likelihood of choosing the option to join an advanced group, where they have the chance to develop, even if they may not be the best in it. Conversely, younger children more strongly believe in entity theories, which posit that traits and abilities always remain the same, and are therefore prefer to secure their position in a group where they outperform others.

TABLE 3 | Results of a mediation analysis (Implicit Theories of Ability as a mediator).

	Mediator is Implicit Theories of Ability					
	β	<i>B</i>	SE	<i>t</i>	<i>p</i>	95%CI
Intercept	—	5.44	0.32	16.99	<0.001	[4.80, 6.07]
Age	−0.49	−0.27	0.33	−8.23	<0.001	[−0.34, −0.21]
	Outcome is children's choice					
	OR	<i>B</i>	SE	<i>z</i>	<i>p</i>	95%CI
Intercept	0.17	−1.74	1.16	−1.49	0.134	[−4.03, 0.54]
Implicit Theories of Ability	0.69	−0.36	0.17	−2.14	0.032	[−0.68, −0.03]
Age	1.32	0.28	0.09	3.03	0.002	[0.09, 0.46]
Indirect effect						
Age → Implicit Theories of Ability → choice	—	0.09	0.05	—	—	[0.01, 0.21]

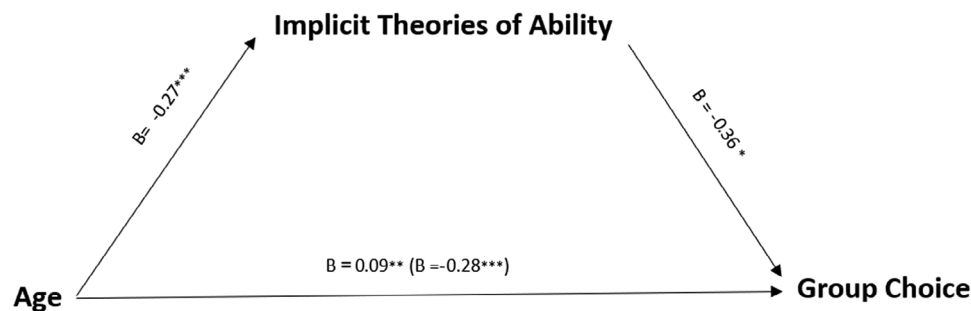


FIGURE 4 | Mediation model, with Implicit Theories of Ability as the mediator, Study 2. The choice was coded 0 for Group B (Being the Best) and 1 for Group A (With the Best). *** $p > 0.001$; ** $p > 0.005$; * $p < 0.05$.

4 | General Discussion

In two studies, we examined children's choices when presented with two options of a social-comparison dilemma: joining a group in which they outperform all other members, or joining one in which they are among leading performers, but not necessarily the best. A significant developmental pattern of children's choice was observed, whereby with age children were more inclined to join a group of leading performers, even if it meant they were no longer the best.

Study 1 revealed this pattern by presenting children with the two-option dilemma. Children's main reason for choosing the less advanced group (i.e., *Being the Best*) was their desire to outperform others, while the chief reasons for choosing the advanced group (i.e., *With the Best*) was the wish to be among leading performers, and the drive to improve. In Study 2, we examined children's choices after actually performing a given task, making the choice feel more realistic or tangible. To highlight the choice dilemma, we manipulated the possibility of performing better than others by priming half of them into thinking that they had indeed performed better than others, compared with a control condition (without such manipulation). The findings replicated the developmental pattern found in Study 1—namely, as children grow older, they are more likely to choose being *With the Best* over *Being the Best*. The priming manipulation

had no effect on the children's choice, irrespective of their age—suggesting that the developmental pattern we observed holds beyond the implanted suggestion about outperforming others.

Our findings demonstrate the natural preference of younger children to stand out in relation to others, while attributing less importance to the potential benefits of being among leading performers. This preference may be due to younger children's general tendency toward positive self-evaluations as a way of maintaining high self-esteem (Trzesniewski et al. 2011), and their common use of social comparisons in a more self-congratulatory fashion (Ruble et al. 1994). When choosing between *Being the Best* and *With the Best*, young children's need to maintain a high self-esteem led them to choose the option that would assure their high self-image.

As children grow, they not only become more realistic in their self-evaluation but also acquire cognitive abilities (Harter 2015) that allow them to be better at considering both status aspects of our studies—namely, of oneself and of one's group. Moreover, during elementary school years the cognitive mechanism of self-regulation becomes more mature (Berger 2011), making older children more likely to consider the benefits of their group's status, which are less immediate and salient than for younger children.

Finally, as they grow older, children show a more nuanced understanding and awareness of their social environment (Lancy and Grove 2011), and are able to evaluate themselves more accurately based on this emerging knowledge. For example, Tian et al. (2024) found that 5–12-year-old children's evaluations of their own social status reflected their relative family income. Peretz-Lange et al. (2022) similarly found that with age, 4–10-year-old children demonstrated more accurate assessment of their subjective social status. Through middle childhood, children also attach greater importance to their social interactions and group affiliations (Harter 2012; Newman and Newman 2001; Sabato and Kogut 2021; Sani and Bennett 2004). In terms of self-construction, this complex understanding is reflected in the development of a *relational self-esteem* (Harter et al. 1998)—suggesting that children learn to assess themselves differentially, depending on the social context.

Toward the end of elementary school (before the transition to middle or secondary school), children also become more aware of the gap between their wish to excel and their actual ranking in relation to others—resulting in a greater vulnerability of the self (Harter 2015). One mechanism that children use to protect their self-image is the formation of cliques, that providing them support (Harter 2015). Our results are consistent with these phenomena, suggesting that older children—who are more sensitive to social context—prefer the high-status group over their individual performance in relation to others, perhaps as an advanced way of maintaining a positive self-image.

Interestingly, developmental research reveals that children as young as 3–4 years old exhibit a sensitivity to group hierarchies and display a preference for high-status individuals (Enright et al. 2020; Tian and Bian 2023). Moreover, studies of intergroup relationships have demonstrated children's sensitivity to group status as early as the age of five (e.g., Nesdale and Flessner 2001), and an overall preference for a high-status outgroup over a low-status ingroup (e.g., based on race, Newheiser et al. 2014).

However, that research focused on children's identification with a group that is presented as equal in abilities to their own (when using minimal-group paradigm), or as possessing the same main characteristics (such as race, in a natural ethnic group setting). Accordingly, the choice that was examined in these studies was between a high- versus low-status group, rather than a contrast between the group's status and the individual's status within it. Other studies that examined children's preference in an intergroup context, with varying relative status of the child within the group, included a competition between groups, which most likely encouraged children to choose the high-status group (e.g., fast vs. slow—Yee and Brown 1992).

Our study adds to that avenue of research, by highlighting children's social-comparison preferences in a context that involves neither a competition, nor an intergroup context. It reveals that in situations that do not involve a salient need for cooperation, nor a reward for the group, younger children prefer to remain high status in relation to others, rather than join a high-status group. Our study also covers a wider age range than the studies mentioned above, by demonstrating that older children (over the age of nine) tend to prefer the benefits of affiliation to an advanced group over relatively high status within a standard

one—thereby shedding light on the developmental trend and the shift in children's preferences as they grow older. Future research is needed to explore whether this developmental trend continues among adolescents, as they go through the important process of social- and personal-identity formation.

Our findings are in line with previous research on the choice between upward and downward comparisons among adults, that found a solid preference for upward comparisons, when given the option to opt between the two (Gerber et al. 2018). Research among adolescents in an academic context has revealed a similar trend as children grow older—such that sixth-graders and older children (secondary and high-school students) exhibit a greater preference for upward comparisons in various academic domains (Chanal and Sarrazin 2007; Dumas et al. 2005). Our findings reveal evidence of this tendency in a social comparison dilemma already at the age of ten (fourth grade), when the child is unfamiliar with past achievements in the task.

Interestingly, in the aforementioned studies that focused on academic achievements, the tendency for upward comparison was found to be related to greater improvement in the participants' grades—suggesting that participants perceived the superior target (that they compared themselves with) to be an inspiration, rather than a threat (as been suggested in previous research on the potential beneficial value of upward comparisons, e.g., Collins 1996; Lockwood and Kunda 1997, 1999). In support of that proposition, in our study one of the chief reasons among those who chose being *With the Best* was the wish to improve (Study 1). Indeed, we found that the perception that one's abilities are changeable and can improve mediated the effect of age on group choice (Study 2). In other words, as children grow older, they are more aware of the benefit of joining a high-status group not only because they recognize its prestige, but because they also wish to improve and believe that that is possible. This increased belief in the possibility of change with age is in line with previous studies (e.g., Gelman et al. 2007; Heyman and Gelman 2000; Taylor 1996) that found a decline in children's essentialist beliefs as they grow older, in favor of more sophisticated judgments and reasoning of people's abilities.

Coping models of social comparison (commonly used in the fields of health and psychological well-being [Buunk et al. 1997], and in the educational field [Boekaerts 1993]) take into account contradicting motivations for upward and downward comparisons. According to these models, upward social comparison is an optimal strategy of self-improvement and self-verification goals, with high probability of hedonistic costs (Brown and Dutton 1995). Conversely, although downward comparison does not offer inspiring models to emulate, it is the best strategy for self-enhancement. Sure enough, in our research, we found evidence of these motivations in the children's reasoning for their choices: as they grow older, children were more willing to forgo the instant hedonic reward of outperforming others (a significant self-enhancement goal), in order to gain the self-verification goal of joining a high-status group, for the prospect of self-improvement that it offers.

Another potential explanation for the motivational mechanisms underlying the developmental pattern we found relates to

children's perceptions of the anticipated rewards associated with each choice in the social comparison dilemma. In other words, do children perceive "Being with the Best" as more rewarding with age? The interplay between social comparison and reward evaluation has been found in previous studies (Jiao et al. 2015; Austin et al. 1980; Fliessbach et al. 2007; Qiu et al. 2010), and may provide additional insight into our findings. For example, our findings regarding the mediated role of children's general wish to outperform others raise the possibility that, as they grow older, children come to view outperforming peers as less rewarding. This shift may stem from their real-life experiences, where surpassing others did not always yield tangible benefits. Consequently, this evolving perception might influence their group choices in the social comparison dilemma. A more direct examination of children's perceptions of the rewarding nature of the two options in the dilemma would be an important topic for future research.

Finally, it is important to consider the broader sociocultural context of the current examination, as there is solid evidence for the role played by cultural contexts in the dynamics of social comparison (among adults and children alike—e.g., Guest 2007; White and Lehman 2005). For example, Baldwin and Mussweiler (2018) demonstrated that social comparison among adult populations is associated with cultural practices that promote collectivism and "tightness" (i.e., strong norms and punishment for deviance). In a recent paper on moderators of the BFLPE in educational settings, Stockus and Zell (2024) reviewed findings across countries, and found that while the BFLPE was significant in all countries (e.g., among 15-year-olds across 26 nations—Marsh and Hau 2003; among 4th and 8th graders across 13 nations in the West, Asia, and the Middle East—Marsh et al. 2015), it was more pronounced in WEIRD societies (Western, Educated, Industrialized, Rich, Democratic) and weaker in less WEIRD societies—with some exceptions (e.g., Hong Kong). WEIRD cultures tend to promote an independent rather than interdependent sense of self (Henrich et al. 2010), and this individualistic orientation may heighten the BFLPE by leading individuals to focus more on their ranking within groups than on the group's ranking more generally (McFarland and Buehler 1995; Wu et al. 2018). The social comparison dilemma presented to children in our studies may, therefore, be perceived differently by children of different cultures. For example, a culture emphasizing collectivist values would likely highlight the advantages of being "With the Best" (even if only implicitly), while an individualistic culture might emphasize the advantages of "Being the Best." Accordingly, children's reasoning and motivations for their choices may differ across cultures (e.g., emphasizing their group affiliation versus their own success). Therefore, further research is needed to examine whether the developmental effect we found is moderated by the cultural context, and to explore the mechanisms underpinning these effects in such contexts.

4.1 | Study Limitations

The current research has number of limitations. First, it is worth noting that our study focused on a specific social-comparison dilemma, so we did not include a condition in which children could choose to be among *equal* others. Several studies among high-school students found a preference to compare oneself with similar others in terms of academic achievements (Coleman

1985; France-Kaatrude and Smith 1985), so future research should examine children's group preferences when the option of joining a group of equal performers is also available.

Second, Study 1 was conducted using an online questionnaire distributed to parents, who were then asked to pass it on to their children to complete. This method raises the question of possible differences between the responses of children who may have required parental assistance in reading the questionnaire, and those of children who completed it independently. This difference might heighten the social desirability bias among children whose parents read the questionnaire to them. Moreover, there was a possibility of dishonesty, with parents potentially completing the questionnaire on behalf of their children in order to win the lottery. Although Study 2 replicated the same significant developmental trend under a controlled procedure with an experimenter, these limitations cannot be entirely ruled out, and future research should address these concerns by ensuring that children complete the questionnaire in privacy.

Contrary to our expectations, priming children to imagine themselves as outperforming others at a task in relation to others had no significant effect on their group preferences in our study—irrespective of their age. One reasonable explanation is that this priming manipulation was somewhat weak (due to ethical considerations, as previously noted), so the children did not really experience the sense of being the best after the instruction to imagine that situation. Future research should consider including feedback manipulation that is more effective at simulating the feeling of being the best, to explore its effect on the child's choice.

Another limitation of our study concerns the somewhat simplistic presentation of the options, for greater clarity of the dilemma. This may have affected the children's choice, as it consisted solely of extreme cases of being the best or the worst in a group (Zell and Lesick 2021), with no nuanced intermediate scenarios, as usually occurs in real life. Future research is needed to examine more complex, ambiguous situations—such as joining a group in which one may be a leading performer, but not necessarily the best.

Our study takes a first step toward examining the developmental pattern of children's choice in social-comparison dilemma at elementary-school ages. We demonstrated a shift in children's choice as they grew older, from "being the best" to "with the best." This shift appears to be linked to primary developmental processes children experience as they grow up and gain a more sophisticated understanding and use of social comparisons.

Author Contributions

Hagit Sabato: conceptualization, investigation, funding acquisition, writing – original draft, methodology, writing – review and editing, software, formal analysis, supervision, visualization, resources, data curation, validation. **Tamar Cohen Steinberger:** investigation, writing – original draft, writing – review and editing, project administration, data curation, visualization, validation.

Ethics Statement

The study received approval from the authors' department Ethics Committee and the Ministry of Education.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

Data are available at https://osf.io/q5bsw/?view_only=66d79dbdc1e3441298f63152a2ba9d7b.

Endnotes

¹ A well-established paradigm to examine fairness-related decision making. In this game, two players are given a fixed sum of money, which is divided between them according to the allocator's suggestion. The responder decides whether or not to accept the offer, and if the offer is rejected, neither player receives any money. In this task, the fairness norm is reflected in the share that the responder should receive from the proposer (Sanfey et al. 2014). In the absence of additional information such as merit or need, equal distribution typically serves as the default social norm (Almås et al. 2010).

² Adding gender as a covariate to the regression revealed the same significant main effect for age (Wald = 10.07, $p = 0.002$), while the role of gender was not significant (Wald = 0.02, $p = 0.887$).

³ We used a priming manipulation, rather than genuine feedback from the experimenter, for ethical reasons: although all children received overall encouraging feedback from the experimenter after completing the task, we did not want to create the false impression (even if it is a positive one) that we had actually created a group and compared their performance with that of other children, when we had not, in fact, done so.

⁴ Adding gender as a covariate to the regression revealed the same significant main effect for Age (Wald = 10.95, $p < 0.001$), while the role of gender was not significant (Wald = 2.47, $p = 0.11$).

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Supporting Information

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