



Contents lists available at ScienceDirect

Journal of Experimental Child Psychology

journal homepage: www.elsevier.com/locate/jecp



Brief Report

Eliciting promises from children reduces cheating



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ARTICLE INFO

Article history:

Available online 11 June 2015

Keywords:

Cheating
Promising
Compliance
Child behavior
Temptation resistance
Moral development

ABSTRACT

Widespread cheating can undermine rules that are necessary for maintaining social order. Preventing cheating can be a challenge, especially with regard to children, who as a result of their limited executive function skills may have particular difficulty with resisting temptation to cheat. We examined one approach designed to help children resist this temptation: eliciting a verbal commitment to not cheat. We tested 4- to 7-year-olds (total $N = 330$) and found that starting at 5 years of age, a verbal commitment to not cheat led to a substantial reduction in cheating. The results suggest that verbal commitments can be used to help children overcome temptations and comply with rules.

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Introduction

One fundamental dilemma faced by individuals around the world is how to respond in situations where complying with societal rules conflicts with one's self-interest. When individuals choose to disregard the rules by cheating, it can have a wide range of corrosive societal effects such as encouraging others to cheat (Rettinger & Kramer, 2009) and undermining trust in individuals and institutions (Tomaseello & Vaish, 2013). Resisting the temptation to cheat may be especially difficult for children due to their immature executive function skills (Zelazo, Carlson, & Kesek, 2008). This raises the

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question of how to discourage cheating during childhood. The current research examines one potential strategy for accomplishing this end: asking children to make a verbal commitment not to cheat.

There are many factors that affect decisions about whether to cheat, and individuals may consider both potential costs and potential benefits of cheating. Some of the costs and benefits are largely external to the individual (Becker, 1968) such as what can be gained by cheating and the likelihood and consequences of getting caught. However, costs and benefits can also be more psychological in nature such as those relating to a desire to maintain a positive sense of self (Mazar, Amir, & Ariely, 2008). If individuals determine that cheating in a particular situation gives them an identity of being cheaters, they may forgo potential benefits of cheating so as to avoid needing to think of themselves in this way (Bryan, Adams, & Monin, 2013).

One way to decrease the ability of adults to cheat without needing to think of themselves as cheaters is to make it clear that the task at hand has moral implications. Mazar et al. (2008) eliminated cheating among college students by requiring them to sign statements indicating that the task they were working on fell under their university's honor system. This finding is consistent with research suggesting that honor codes can sometimes be effective (Dix, Emery, & Le, 2014; Ely, Henderson, & Wachsman, 2013; Hutton, 2006; McCabe & Treviño, 2002; McCabe, Treviño, & Butterfield, 1999; McCabe, Treviño, & Butterfield, 2001; O'Neill and Pfeiffer, 2012), especially when accompanied by a high level of commitment to academic integrity in the broader community (McCabe & Treviño, 2002).

Another reason that asking individuals to sign statements such as the one provided by Mazar et al. (2008) might be effective is that participants could regard them as implicit promises not to cheat. Previous research suggests that when adults make promises, it sometimes leads to increased commitment and changes in behavior (Devlin-Scherer, Devlin-Scherer, Schaffer, & Stringfield, 1985; Efran, Goldsmith, McFarland, & Sharf, 1979; Geller & Lehman, 1991; Kulik & Carlino, 1987; Wang & Katzev, 1990). For example, parents of children who suffer from inner ear infections are more likely to give their children the full course of prescribed antibiotics if they promised to do so (Kulik & Carlino, 1987). There is also evidence that it may be possible to increase the rate of safety belt use by asking people to sign written promises to wear them (Geller & Lehman, 1991). Social psychological research suggests that one possible reason for this effect is that people have a need for consistency that motivates them to avoid uncomfortable discrepancies between their commitments and their actions (Briñol & Petty, 2005).

Whether promises have similar consequences for young children remains an open question, especially given that developmental research has documented significant limitations in the way that children under 9 years of age understand promises (Astington, 1988; Maas & Abbeduto, 2001; Mant & Perner, 1988). For example, Astington (1988) found that 5- and 7-year-old children had trouble in differentiating promises from the outcomes of the promises and classified statements as promises only when the promises were actually fulfilled. Mant and Perner (1988) showed that before 9 or 10 years of age, children often overgeneralize their notions of commitment by inferring that a protagonist who predicts that he or she will act in a particular way must be committed.

Alongside the limitations in young children's abilities to reason about promises are some core capacities (Hussar & Harris, 2009; Hussar & Horvath, 2013; Mant & Perner, 1988). Hussar and Harris (2009) found that among children as young as 6 years, both vegetarians and non-vegetarians made negative judgments of individuals who ate meat after committing to vegetarianism but did not make negative judgments of individuals who ate meat in the absence of making such a commitment. Hussar and Harris also found that their participants were sensitive to the reason the commitment was made and judged individuals who ate meat after committing to vegetarianism more negatively if the commitment was made for moral reasons (e.g., explanations related to the suffering of animals) than if it was made for personal reasons (e.g., explanations related to matters of taste). These findings suggest that even before 7 years of age, children hold negative views of people who fail to uphold their commitments and may see such failures as being particularly problematic when moral issues are involved.

There is also some evidence suggesting that promises can have an influence on young children's moral behavior; children as young as 3 years are more likely to truthfully acknowledge their own transgressions after promising to do so (Talwar, Lee, Bala, & Lindsay, 2002; Talwar, Lee, Bala, & Lindsay, 2004). However, it is unclear whether this finding extends beyond the specific experimental

context because the effect of promising to tell the truth could be meaningfully assessed only among children who had already transgressed, and it is not possible to determine how knowledge and emotional states associated with the transgression itself might have affected the results. In addition, it is unclear whether the effects of young children's verbal commitments go beyond their verbal behavior.

The current research examined whether young children, like adults, might be motivated to avoid discrepancies between their commitments and their actions, and we addressed this question with reference to a commitment not to cheat. Specifically, we tested whether eliciting a promise not to cheat might be an effective strategy for reducing cheating among children. For such a promise to have an effect, children would need to be able to appreciate the implications of the promise and use that knowledge to inhibit their tendencies to act in their immediate self-interest.

In the current investigation, we tested the effectiveness of elicited promises on cheating resistance through the use of a card game in which children were repeatedly reminded of a no-peeking rule. In Study 1, we used a between-participant design in which participants were randomly assigned to a *promise* condition or a *no-promise* condition. The only difference between the conditions was that participants in the promise condition were asked to make a verbal commitment not to cheat by peeking.

Study 1

Method

Participants

Participants were 240 children, with 60 children (30 boys) in each of four age groups: 4-year-olds ($M = 4.73$ years, $SD = 0.24$), 5-year-olds ($M = 5.75$ years, $SD = 0.31$), 6-year-olds ($M = 6.57$ years, $SD = 0.32$), and 7-year-olds ($M = 7.76$ years, $SD = 0.38$). Participants were from an eastern region of China, and the sessions were conducted in Chinese. All participants were Han Chinese.

Design and procedure

Participants were tested in one-on-one sessions in a private room at their schools. We used a between-subjects design in which participants were randomly assigned to one of two conditions: a *promise* condition, in which a promise not to cheat was elicited, or a *no-promise* condition, in which no such promise was elicited. There was a hidden camera, and the entire procedure was videotaped.

In a procedure based on one developed by Evans and Lee (2010), the child participant and the experimenter (a graduate student) sat opposite each other at a table. The experimenter told the participant, "Let's play a guessing game about numbers. All of your classmates will play. We want to find out who will be the best player. In this game, I am going to pick a card and you are going to say whether you think it is bigger than 8 or less than 8." Before starting, the participant saw a set of 10 cards from a standard playing card deck that ranged from 3 to king, with only the 8 missing. Participants were asked whether each of these cards was greater than or less than 8, and all were able to do so successfully.

Next, the experimenter placed a cardboard divider between herself and the participant. The divider was sufficiently large that it did not permit the participant to see what was on the experimenter's side of the table without getting out of his or her seat or leaning over the divider. For this reason, it was obvious whether or not the participant had cheated, and the reliability of our cheating measure was 100%.

The participant was given a practice trial in which the experimenter picked 1 card from the set of 10, asked the child to guess whether the number on the card was greater than or less than 8, and told the child that no peeking was allowed in the game. After guessing, the participant was allowed to check to see whether he or she was correct.

Next, the participant was told that he or she was ready to play the game and that three correct answers were needed to win. The child was then presented with six trials in which the experimenter selected cards from a custom set where each card had a value less than 8 on one side and a value greater than 8 on the other side, which allowed the experimenter to provide standardized success and failure feedback to the participant; Trial 1 and Trial 4 were always success trials, and the other

four trials were always failure trials. On each of these trials, the participant was reminded that no peeking was allowed.

After the six trials, the participant was told that he or she had only one more chance to get the third correct answer needed to win the game. The experimenter's cell phone then rang, and she pretended to answer. She told the participant, "My friend needs me to get something for him. It is urgent. I need to go now." She then said, "Let me put the next card down now. I'll be right back. When I'm gone, do not peek at the card." In the promise condition, the child was also told, "I want you to promise that you are not going to peek," and the participant was asked to verbally repeat, "I promise I will not peek at the card." The experimenter then left the room for 1 min. Of interest was whether cheating rates (as assessed by the videotape of the session) would differ by condition.

Results and discussion

Preliminary analyses of the data on the effects of gender failed to find any significant effects. Thus, the data for this factor were combined for subsequent analyses.

Cheating rates broken down by age and condition are presented in Fig. 1. Cheating rates were consistently high in the no-promise condition; at least 80% of children in each group cheated. For 4-year-olds, the cheating rate remained high in the promise condition and did not differ significantly from the no-promise condition. However, for children in the three older groups, cheating rates were substantially lower in the promise condition than in the no-promise condition. Chi-square tests confirmed that the differences were significant in each of these age groups: for 5-year-olds, $\chi^2(1, N = 60) = 9.32, p = .002$; for 6-year-olds, $\chi^2(1, N = 60) = 11.88, p = .001$; and for 7-year-olds, $\chi^2(1, N = 60) = 8.53, p = .003$.

Study 2

In Study 1, we showed that children were substantially less likely to cheat after promising not to cheat versus simply being instructed not to cheat. However, it is not clear whether this effect resulted from the act of promising per se or from the fact that extra attention was called to the rule by asking children to repeat it in the context of making a promise. Study 2 addressed this possibility by including an additional control condition in which children repeated the rule (as in the promise condition of Study 1) but without the experimenter eliciting a promise. We addressed this possibility with a

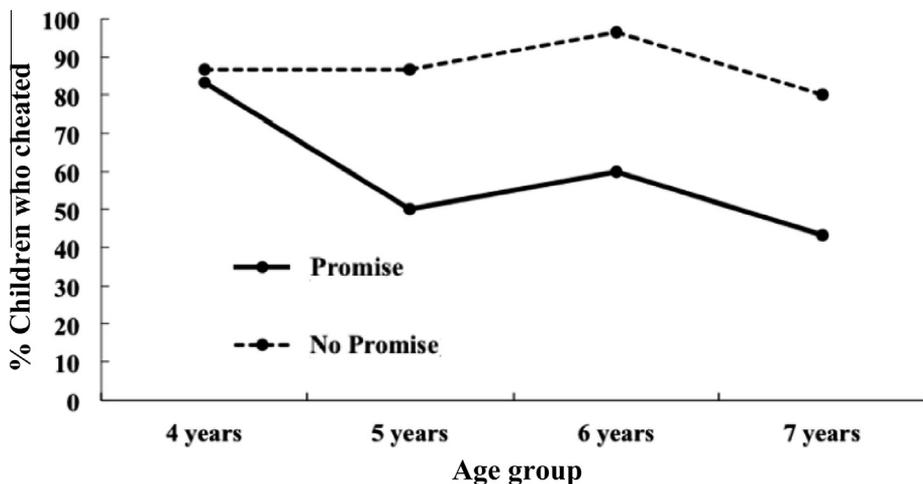


Fig. 1. Percentages of children in Study 1 who cheated by age group and condition.

new group of 5-year-olds because this was the youngest age for which we observed significant effects in Study 1.

Method

Participants

Participants were 90 children (44 boys) in a 5-year-old group ($M = 5.48$ years, $SD = 0.24$), with 30 children assigned to each of three experimental conditions (see below). Participants were from an eastern region of China, and the experimental sessions were conducted in Chinese. All participants were Han Chinese.

Design and procedure

There were three conditions in Study 2, with the *promise* condition and *no-promise* condition being identical to those of Study 1. A new *repeat-rule* condition was added, the design and procedure of which were identical to the promise condition of Study 1 except that rather than being asked to promise not to peek, children were asked repeat the rule. Specifically, they were told, “I want you to say that you understand that you are not allowed to peek,” and participants were asked to verbally repeat, “I understand that I am not allowed to peek at the card.”

Results and discussion

Preliminary analyses of the data on the effects of gender showed no significant effects. Thus, the data for this factor were combined for subsequent analyses.

The cheating rate was 83.3% in the repeat-rule condition, which was identical to the cheating rate for children in the no-promise condition of this study (83.3%), $\chi^2(1, N = 60) = 0, p = 1.00$. However, the cheating rate in the repeat-rule condition was significantly different from the cheating rate for children in the promise condition of this study (56.7%), $\chi^2(1, N = 60) = 5.08, p = .024$. The cheating rates in the promise condition and no-promise condition in Study 2 were highly comparable to the rates for children of the same age in the promise condition and no-promise condition of Study 1 (50.0% and 86.7%, respectively). These results provide evidence that the results of Study 1 were in fact due to the act of promising rather than simply calling attention to the rule.

General discussion

We examined the effects of eliciting a verbal commitment on children's ability to resist the temptation to cheat. We found that beginning at 5 years of age, children showed substantially lower rates of cheating after making such a commitment.

Although our manipulation was successful with 5-, 6-, and 7-year-olds, there was no evidence that it had any impact on the cheating rates of 4-year-olds. One possible explanation is that 4-year-olds lack enough understanding of promises for them to be meaningful. However, this explanation is unlikely given that promises are effective in reducing lying rates among children as young as 3 years (Talwar et al., 2002; Talwar et al., 2004). An alternative account is that promises increase the intention to not cheat among 4-year-olds but that limitations in their executive function (Zelazo et al., 2008) make it difficult for them to resist the temptation to cheat once an opportunity presents itself.

How can the effects of verbal commitment among children as young as 5 years be explained? One possibility is that there is nothing special about making a verbal commitment and that the results of Study 1 were due to asking children to repeat the rule in question. However, Study 2 showed that asking children to simply repeat the rule without making a verbal commitment had no measurable effect on their cheating rates, which suggests that the act of promising itself was necessary for the dramatic reduction in cheating that was seen in Study 1.

Taken together, the findings of Studies 1 and 2 suggest that children as young as 5 years are highly influenced by their own verbal commitment not to cheat. Once children have made such a promise, they are more inclined to live up to it. This observed *promise effect* is important for a number of

reasons. First, the temptation to cheat is very high, as indicated by the fact that the substantial majority of children from 4 to 7 years of age cheated in the absence of promising not to do so, and such a high rate of cheating has been linked to limitations in children's executive functioning (e.g., Ding et al., 2014, Talwar & Lee, 2008). Our results suggest not only that these limitations are often surmountable but that a simple promissory statement can serve as a powerful counterforce. Second, as mentioned above, adults are also highly inclined to live up to their own promises, which has been attributed to the fact that they have been socialized to behave consistently with their own words or honor codes (see McCabe et al., 2001). The current findings suggest that the socialization of verbal commitment must have begun very early in childhood and can be a potent force in shaping behavior by 5 years of age.

Further research will be needed to assess the psychological mechanisms that underlie the effectiveness of verbal commitment. One possibility is that children want to view themselves positively and avoid breaking promises to maintain such a view. A related possibility is that children feel obligated not to cheat after making a promise because they view themselves as having made a voluntary commitment not to do so (see Gilbert, 2013). Yet another possibility is that young children have little knowledge of what it means to make a promise beyond the fact that it is considered a bad thing to do and that this alone motivates them to avoid doing so.

Although our manipulation was highly effective in reducing rates of cheating, a substantial number of children still cheated after promising not to do so. Further research is needed to identify individual differences that might make promises more or less effective among different groups of children. In addition to measuring executive function, future research should examine factors such as a child's level of conscientiousness and his or her beliefs about the normativity of cheating. In addition, although our Study 2 ruled out the possibility that repeating a rule is sufficient to prevent 5-year-olds from cheating, it cannot necessarily be assumed that this possibility can be ruled out for older children as well. Future studies should use the same design as Study 2 to test children older than 5 years to ascertain the pure effect of promise on older children's cheating. Future research is also needed to assess the generalizability and limitations of eliciting promises as a tool for promoting compliance. Given that our sample consisted of exclusively Han Chinese children living in China, further research is needed to examine whether our manipulation will be equally effective in other populations. It will also be important to examine the effectiveness of our manipulation for preventing more problematic moral transgressions such as bullying.

Another unanswered question for the current research concerns whether the effects of elicited promises on cheating are limited to the specific contexts in which the promises are made or whether they might have broader implications for children's values and behavior. It could be that the experience of making promises and following through on them helps a child come to see himself or herself as a good person who has a reputation to maintain. However, even if these effects turn out to be situation specific, our findings, along with findings from previous work suggesting that elicited promises can lead to reductions in lying (Evans & Lee, 2010; Lyon & Dorado, 2008; Talwar et al., 2002), indicate that verbal commitments can be a powerful tool for promoting moral behavior.

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