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Can Classic Moral Stories Promote Honesty in Children?

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Abstract

The classic moral stories have been used extensively to teach children about the consequences of lying and the virtue of honesty. Despite their widespread use, there is no evidence whether these stories actually promote honesty in children. This study compared the effectiveness of four classic moral stories in promoting honesty in 3- to 7-year-olds. Surprisingly, the stories of "Pinocchio" and "The Boy Who Cried Wolf" failed to reduce lying in children. In contrast, the apocryphal story of "George Washington and the Cherry Tree" significantly increased truth telling. Further results suggest that the reason for the difference in honesty-promoting effectiveness between the "George Washington" story and the other stories was that the former emphasizes the positive consequences of honesty, whereas the latter focus on the negative consequences of dishonesty. When the "George Washington" story was altered to focus on the negative consequences of dishonesty, it too failed to promote honesty in children.

Keywords

antisocial behavior, morality, honesty, dishonesty, lying

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Storytelling has always played an important role in human society. It serves as a useful tool to entertain and to educate adults and children alike. Storytelling is an ideal medium through which children can be taught valuable lessons about life because the engaging narratives captivate even young children's attention. It is for this reason that stories have been told for generations and continue to be used throughout the world today to teach children moral values, such as honesty.

From an early age, children are exposed to an abundance of traditional stories and fables that serve as a means of socialization and a tool for conveying cultural values (Henderson & May, 2005; Kim, Green, & Klein, 2006). Yet the effect of these stories on children's actual behavior remains largely unexplored. More specifically, although the classic stories of "Pinocchio," "The Boy Who Cried Wolf," and "George Washington and the Cherry Tree" have been used extensively to teach children about the consequences of lying and the virtue of honesty, there is no evidence as to whether these stories actually promote honesty in children.

Finding ways to promote honesty in children is particularly important because children begin to tell lies as young as 2 to 3 years of age (Evans & Lee, 2013; Talwar & Lee, 2002) to conceal their transgressions (Newton, Reddy, & Bull, 2000; Wilson, Smith, & Ross, 2003). Furthermore, with age, children's deceptions become increasingly sophisticated (Evans & Lee, 2013; Lewis, Stanger, & Sullivan, 1989; Newton et al., 2000; Polak & Harris, 1999; Talwar, Gordon, & Lee, 2007; Talwar & Lee, 2002, 2008; see Lee, 2013; Talwar & Crossman, 2012, for a review). By late childhood, it is almost impossible for adults to determine whether a child is lying (Leach, Talwar, Lee, Bala, & Lindsay, 2004; McCarthy & Lee, 2009). Correlations have been found between antisocial lying (i.e., lies that are self-serving) and conduct issues, delinquency, and other problem

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behaviors in adolescence (e.g., Achenbach & Edelbrock, 1979; Gervais, Tremblay, Desmarais-Gervais, & Vitaro, 2000; Ostrov, Ries, Stauffacher, Godleski, & Mullins, 2008; Stouthamer-Loeber & Loeber, 1986). It is therefore of great importance to teach children the value of honesty early on, and stories may provide an ideal vehicle to teach this lesson.

In the two experiments reported here, we examined whether telling the popular stories of "Pinocchio," "The Boy Who Cried Wolf," and "George Washington and the Cherry Tree" promote honesty in children. We chose these particular stories because they are commonly used by parents and teachers to promote honesty. They were also chosen because each story attempts to promote honesty in a different way. In "Pinocchio," lying results in immediate negative consequences; every time Pinocchio tells a lie, his nose grows longer. In "The Boy Who Cried Wolf," lying has dire negative consequences; the little shepherd boy lies so often about being attacked by a wolf that when a wolf really appears, no one believes him, and he and his sheep are eaten by the wolf. In contrast, "George Washington and the Cherry Tree" emphasizes the positive consequences of honesty. When George tells his father the truth about cutting down the cherry tree, his father praises him for his honesty.

We recruited children between 3 and 7 years of age to participate in a temptation-resistance task that has been widely used to study children's lying to conceal their own transgression (e.g., Lewis et al., 1989; Talwar & Lee, 2002, 2008; see Lee, 2013, for a review). In the task, children played a game in which they had to guess a toy's identity on the basis only of the sound it made. During the game, children were left alone for 1 min and told not to cheat by peeking at the toy. Because of the highly tempting nature of the situation, most children were expected to cheat (e.g., Talwar & Lee, 2002). Before confronting them with the question of whether they had cheated, an experimenter read one of three moral stories or a control story to each child.

Given the different ways each story attempts to promote honesty, we predicted that all the stories would be effective, but each would be effective in its own way. Specifically, we predicted that cheaters who heard "The Boy Who Cried Wolf" would be more inclined than cheaters who heard the other stories to confess their cheating because of the fatal consequence associated with lying in this story. However, we also predicted that this effect would be seen only in older children, who might be better able to appreciate the finality of death than younger children would (Bering & Bjorklund, 2004; Kenyon, 2001; Slaughter & Lyons, 2003). Younger children, having limited awareness of death, may not realize the severity of the consequence and therefore might not show an increase in honest behavior after hearing this story. We expected that children who heard "Pinocchio" would also become more inclined than other children to confess their cheating because of the immediate physical consequence that Pinocchio suffered when he lied. Public humiliation should be readily relatable, even to young children. Thus, we predicted that this story would be equally effective in promoting honesty in children of all ages. We also hypothesized that "George Washington and the Cherry Tree" would be effective in promoting honesty at any age because it illustrates the benefits of honesty in a concrete manner.

However, we were uncertain about the relative honesty-promoting effects among the three moral stories. On the one hand, extensive research suggests that praising children about specific behaviors and using more inductive techniques are more effective in promoting desirable behaviors (e.g., Grusec & Goodnow, 1994; Hoffman, 2000), which suggests that the "George Washington" story would be more effective than "Pinocchio" and "The Boy Who Cried Wolf" in promoting honesty. On the other hand, research has also shown that threats of negative consequences can serve as effective deterrents for immoral behaviors (e.g., Levin, Dato-on, & Manolis, 2007; Spitzer, Fischbacher, Herrnberger, Gron, & Fehr, 2007; Watson, 1986) and that people process negative information as more powerful than positive information (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Dreben, Fiske, & Hastie, 1979), which suggests that "Pinocchio" and "The Boy Who Cried Wolf" would be more effective than "George Washington and the Cherry Tree" in promoting honesty.

Experiment 1

Method

Participants. Two hundred sixty-eight 3- to 7-year-olds participated in this study. There were forty-eight 3-year-olds (mean age = 42.3 months, *SD* = 3.8; 18 males, 30 females), sixty-two 4-year-olds (mean age = 53.3 months, *SD* = 4.3; 30 males, 32 females), fifty-four 5-year-olds (mean age = 65.6 months, *SD* = 5.9; 15 males, 39 females), forty-seven 6-year-olds (mean age = 76.8 months, *SD* = 3.7; 22 males, 25 females), and fifty-seven 7-year-olds (mean age = 87.7 months, *SD* = 3.7; 26 males, 31 females).

Eighty-six children (eleven 3-year-olds, twenty-four 4-year-olds, nineteen 5-year-olds, fourteen 6-year-olds, and eighteen 7-year-olds) participated in the control condition, in which "The Tortoise and the Hare" was told. Sixty children participated in the "Pinocchio" condition (12 participants from each of the five age groups). Sixty-two children participated in "The Boy Who Cried Wolf" condition (thirteen 3-year-olds, twelve 4-year-olds, eleven

5-year-olds, ten 6-year-olds, and sixteen 7-year-olds). Sixty children participated in the "George Washington and the Cherry Tree" condition (twelve 3-year-olds, fourteen 4-year-olds, twelve 5-year-olds, eleven 6-year-olds, and eleven 7-year-olds).

Participants were recruited from two metropolitan cities in Canada. Parental informed consent and participant verbal assent were obtained prior to participation in the study. Sample size was determined on the basis of existing research following the same paradigm (Lee, 2013). Data collection was stopped when three conditions were met: (a) Each of the experimental conditions had at least 60 children, (b) the age distribution of children in each condition was similar, and (c) all children whose parents had consented to their child's participation had been tested.

Materials and procedure. Participants were seen individually in a single 10-min test session. A modified temptation-resistance task (Talwar & Lee, 2008) was used. In this task, participants were asked to play a guessing game. They were seated with their back toward one side of a small table so that they could not see what was on the table. The experimenter, who was seated at the opposite side of the table, pressed a button on a toy that she placed on the table, which caused the toy to play a sound commonly associated with it (e.g., a toy duck quacked). After listening to the sound, participants were asked to guess what the toy was. This procedure was repeated for a second toy (e.g., a cat that meowed). Then the experimenter told the participant that she had forgotten a storybook that she really wanted to read to the participant and that she had to go out to her car to get it.

Before leaving to retrieve the storybook, the experimenter placed a new toy (the target) on the table and told the child not to turn around and peek at it while she was away. Unlike the other toys, this toy's sound (i.e., music from a greeting card) was arbitrarily paired with it and thus not characteristically associated with it. The child could not identify the toy on the basis of the sound alone. While out of the testing room, the experimenter could not see or hear the child and was blind to whether the child peeked or not. Another experimenter in a control room video-recorded the child's behavior with the use of hidden cameras strategically installed in the testing room. After 1 min, the experimenter, unaware of whether the child had cheated, reentered the testing room and told the child to keep facing away from the table. She quickly covered the target toy with a cloth. The experimenter then asked the child to turn around so that she could read the story to them. Children were assigned to hear either "The Tortoise and the Hare" (control story) or one of the following experimental stories: "Pinocchio," "George Washington and the Cherry Tree," or "The Boy Who Cried Wolf." Each child (i.e., whether he or she had peeked or not) heard one of the moral stories or the control story. All stories were approximately the same length and presented in a short picture book. The experimenter also probed children about key plot points to ensure that they grasped the basic elements of the story.

After reading the story, the experimenter asked "What do you think? Is it OK to tell lies or not OK to tell lies?" If the child heard "The Boy Who Cried Wolf" or "Pinocchio," the experimenter said to the participant, "I'm going to ask you a question, and I don't want you to be like the boy who cried wolf [or Pinocchio]. I want you to tell me the truth, OK?" After the participant agreed to tell the experimenter the truth, she asked, "Did you turn around and peek at the toy when I left the room?" The same procedure was used for children who heard "George Washington and the Cherry Tree," but the experimenter told the children, "I'm going to ask you a question, and I want you to be like George Washington in the story. I want you to tell me the truth, OK? Did you turn around and peek at the toy when I left the room?" Children who heard "The Tortoise and the Hare" were told, "I am going to ask you a question, and I want you to tell me the truth, OK? Did you turn around and peek at the toy when I left the room?"

Children were coded as "peekers" if they peeked at the target toy while the experimenter was out of the room. Using criteria consistent with previous research (Talwar & Lee, 2002, 2008), we identified children as peekers if they turned their heads more than 90° with their eyes open and looked at the toy behind them. Participants who did not meet these criteria were coded as "nonpeekers." Peekers were further divided into two categories on the basis of their answers to the question, "Did you turn around and peek at the toy when I left the room?" Peekers who answered affirmatively were classified as "confessors." Peekers who denied peeking at the toy were classified as "liars." Two independent observers viewed the video files of all children to determine whether they had peeked and lied. Interobserver agreement was 100%.

Results and discussion

Preliminary analyses revealed no significant effects or interactions of gender, and the data were collapsed for this factor in the subsequent analyses. All dependent variables and measures that were analyzed for our target research question are reported.

To examine the differences in children's tendency to cheat and lie in different conditions, we conducted a series of logistic regression analyses with (a) the number of children who peeked versus did not peek and (b) the number of peekers who lied or confessed as the predicted variables. For all logistic regression analyses, the

Table 1. Percentage of Children Who Peeked at the Target Toy in Experiments 1 and 2

Experiment and age group	Percentage of children
Experiment 1	
3-year-olds	88 (42 out of 48)
4-year-olds	81 (50 out of 62)
5-year-olds	70 (38 out of 54)
6-year-olds	62 (29 out of 47)
7-year-olds	68 (39 out of 57)
Experiment 2	
3-year-olds	92 (34 out of 37)
4-year-olds	82 (41 out of 50)
5-year-olds	73 (33 out of 45)
6-year-olds	78 (28 out of 36)
7-year-olds	61 (23 out of 38)

predictors were age group (in months, a continuous variable) and story condition (a categorical variable). Significance was assessed using a block chi-square test (also known as a χ^2 difference test). In this test, the retention of the interaction term in a model must increase the variability accounted for to justify using a more complex model (Menard, 2002).

Peeking versus no peeking. The logistic regression analyses with children's peeking behavior as the predicted variable revealed that the best-fitting model included age group and condition, without their interaction term, as significant predictors of children's peeking behavior, $\chi^2(4, N = 268) = 14.15$, Nagelkerke $R^2 = .08$, $p = .007$. The model showed that only age group was a unique significant predictor of children's peeking behavior, $b = 0.028$, $SE = 0.009$, Wald(1) = 9.64, odds ratio = 1.03 (95% confidence interval = [1.010, 1.046]), $p = .002$. As shown in Table 1, most children peeked at the toy, but with age, the percentage of children who peeked decreased. The odds ratio indicated that with each month increase in age, children were 1.03 times less likely to peek.

Peekers who lied versus peekers who confessed. Logistic regression analyses with peekers who lied or confessed as the predicted variable revealed that the best-fitting model included age group and condition, without their interaction term, as significant predictors of children's honesty, $\chi^2(4, N = 198) = 11.74$, Nagelkerke $R^2 = .08$, $p = .019$. The model showed that only condition was a unique significant predictor of peekers' lying behavior, Wald(3) = 11.43, $p = .01$. An a priori contrast with "The Tortoise and the Hare" story as the reference (Fig. 1) showed that significantly fewer participants lied about peeking in the "George Washington and the Cherry Tree" condition compared with the control condition, $b = 1.14$, $SE = 0.40$, Wald(1) = 7.98, odds ratio = 3.13 (95% confidence interval = [1.42, 6.92]), $p = .005$. Specifically, the children who heard the "George Washington" story were more than three times less likely to lie about peeking at the toy compared with the children who heard "The Tortoise and the Hare." The contrasts between the other two experimental stories and the control story were not significant.

In summary, the only story that significantly increased children's honesty was "George Washington and the Cherry Tree." Children of all ages were significantly less likely to lie about their transgression after hearing this story, compared with children who heard the control story, "The Tortoise and the Hare."

Experiment 2

Why did the "George Washington and the Cherry Tree" story have a significant impact on children's honesty? Perhaps the answer is that, unlike "Pinocchio" and "The Boy Who Cried Wolf," "George Washington and the Cherry Tree" emphasizes the virtue of honesty and conveys the message that positive consequences will result when one tells the truth.

To test this possibility, we used exactly the same procedure as in the "George Washington and the Cherry Tree" condition from Experiment 1, except that we used a modified story. In the modified story (referred to henceforth as the "Negative George Washington" story), the ending of the classic "George Washington and the Cherry Tree" story was changed. As a result, the story no longer extolled the positivity of honesty, but rather highlighted the negative consequences of lying. If extolling the positivity of honesty enhances truth telling in children, children who heard the "Negative George Washington" story would be more likely to lie than children who heard the classic "George Washington and the Cherry Tree" story.

Method

Participants. Sixty 3- to 7-year-olds, who were recruited from two metropolitan cities in Canada, participated: fourteen 3-year-olds (mean age = 31.4 months, $SD = 3.6$; 7 males, 7 females), twelve 4-year-olds (mean age = 54.3 months, $SD = 3.2$; 5 males, 7 females), fourteen 5-year-olds (mean age = 64 months, $SD = 3.6$; 7 males, 7 females), eleven 6-year-olds (mean age = 75.3 months, $SD = 4.2$; 4 males, 7 females), and nine 7-year-olds (mean age = 88.7 months, $SD = 3.6$; 4 males, 5 females).

Materials and procedure. The materials and procedure were identical to those used in the "George Washington and the Cherry Tree" condition described in Experiment 1, with one modification. In the "Negative George Washington" story, George Washington lies to his father by telling him that he did not cut down the cherry

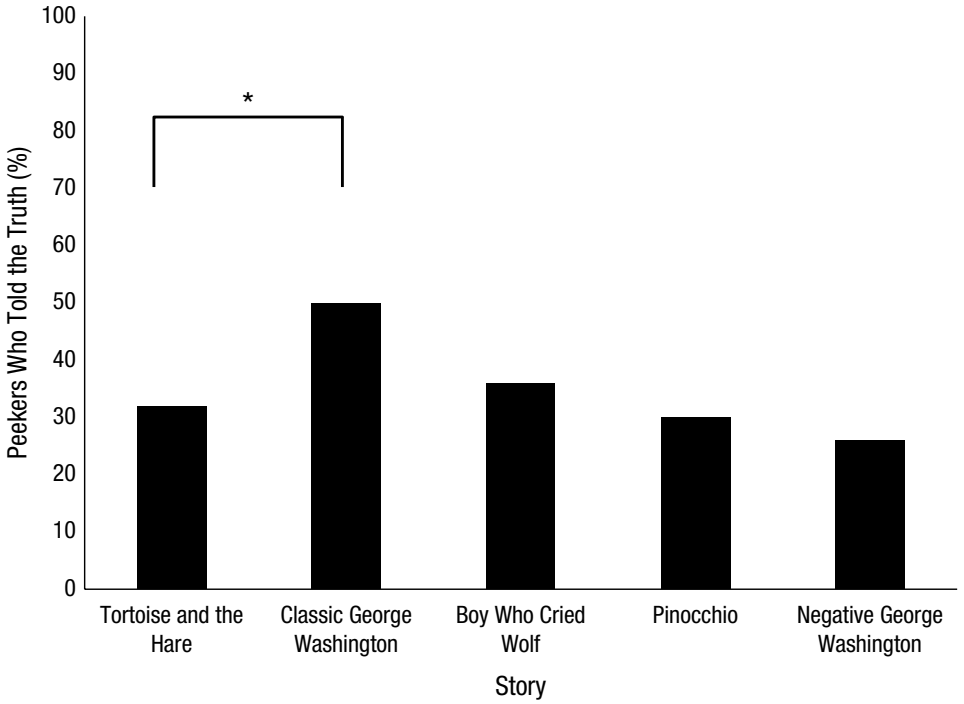

Fig. 1. Results from Experiments 1 and 2: percentage of peekers who told the truth about looking at the toy after hearing each story. The "Negative George Washington" story was read in Experiment 2; all other stories were read in Experiment 1. The asterisk indicates a significant difference between conditions ($p < .05$).

tree, but his father later finds out the truth. As punishment for lying, George's father takes away George's ax and tells him that he is very disappointed in him because he told a lie. All participants heard the "Negative George Washington" story prior to being asked questions about their peeking. The scoring and classification of participants was conducted as in Experiment 1.

Results and discussion

We combined the data from this experiment with those of the classic "George Washington and the Cherry Tree" story and "The Tortoise and the Hare" story in Experiment 1 for the subsequent analyses. All dependent variables and measures that were analyzed for our target research question are reported.

Peeking versus no peeking. The logistic regression analyses with children's peeking behavior as a predicted variable and age group (in months) and condition ("Negative George Washington" story vs. classic "George Washington and the Cherry Tree" story vs. "The Tortoise and the Hare" story) revealed that the best-fitting model included age group and condition, without their interaction term, $\chi^2(3, N = 206) = 13.28$, Nagelkerke $R^2 = .10$, $p = .004$. The model revealed that only age group was a significant predictor of children's peeking behavior, $b = 0.03$, $SE = 0.01$, Wald(1) = 9.16, odds ratio = 1.03 (95% confidence interval = [1.01, 1.06]), $p = .002$. Thus, most children peeked at the toy, but as age increased, the percentage of children who peeked decreased (see Table 1).

Peekers who lied versus peekers who confessed. Logistic regression analyses with peekers who lied or confessed as the predicted variable revealed that the best-fitting model included age group and condition, without their interaction term, as significant predictors of children's honesty, $\chi^2(3, N = 159) = 12.04$, Nagelkerke $R^2 = .10$, $p = .007$. The model revealed that only condition was a unique significant predictor of whether children lied about peeking at the toy, Wald(2) = 8.92, $p = .01$. A priori contrasts with "The Tortoise and the Hare" control story as the reference group revealed that significantly fewer participants lied about peeking after hearing the classic "George Washington and the Cherry Tree" story than after hearing the control story, $b = 1.22$, $SE = 0.41$, Wald(1) = 8.82, odds ratio = 3.40 (95% confidence interval = [1.52, 7.52]), $p = .003$. Specifically, children who heard the classic "George Washington" story were more than 3.4 times less likely to lie about peeking at the toy compared with children who heard the control story (Fig. 1). The difference in lying behavior between the "Negative George Washington" story and "The Tortoise and the Hare" control story was not significant.

Thus, Experiment 2 showed that modifying the message contained in the classic "George Washington and the Cherry Tree" story so that it no longer emphasized the positivity of honesty, but rather conveyed the negative consequences of dishonesty, made the story ineffective in promoting honesty.

General Discussion

We compared the effectiveness of several classic moral stories in promoting honesty in young children. Contrary to our expectations, results showed that hearing "Pinocchio" and "The Boy Who Cried Wolf" failed to decrease children's tendency to lie about their own transgression. In contrast, hearing "George Washington and the Cherry Tree" significantly increased the likelihood that children would tell the truth about their own transgression, regardless of their age.

One factor contributing to the effectiveness of "George Washington and the Cherry Tree" is its emphasis on the positivity of honesty. As Experiment 2 showed, when the story was changed to emphasize the negative consequence of dishonesty, the honesty-promoting effect of "George Washington and the Cherry Tree" disappeared. The key elements of "George Washington and the Cherry Tree" include the fact that it makes salient to children the principles of honesty and the motivation for being honest, and it suggests appropriate behavior after one transgresses. It shows George receiving approval from his father after engaging in such appropriate behavior (i.e., confession), which is a consequence that may be particularly salient to young children who typically wish to please adults (Bandura, 1986).

Notably, the messages conveyed by "George Washington and the Cherry Tree" are similar to many of the characteristics associated with empathic inductive-parenting methods, which are positively correlated with children's compliance and prosocial behaviors and negatively correlated with their rule violations and antisocial behaviors (Carlo, McGinley, & Hayes, 2007; Jensen & Buhanan, 1974). It should be noted, however, that the "Negative George Washington" story also contains some of the key characteristics. For example, it highlights the lie-recipients' feelings and disapproval of being lied to, and the negative consequences are explained to George. Even so, there was no decrease in lying when children heard this story. Thus, moral stories containing the key characteristics of empathic inductive parenting may not be sufficient to promote honesty in young children. Rather, our results, taken together, suggest that emphasizing the positivity of honesty may be more effective than emphasizing the negativity of dishonesty. Curiously, there is evidence that parents actually tend to show the opposite pattern of emphasis by punishing deception more than rewarding honesty (Abbink, Irlenbusch, & Renner, 2000; Brandts & Charness, 2003; Fehr & Gachter, 2000; Offerman, 2002; but see also Wang, Galinsky, & Murnighan, 2009).

It should be noted that even though the classic "George Washington and the Cherry Tree" story was effective in promoting honesty, the effect was modest: Relative to the control story, lying decreased by about 18%. Clearly, researchers need to explore additional means to reduce the lying rate further. Also, our study assessed only the immediate effect of moral storytelling on children's honesty. Future research needs to explore whether telling children such moral stories as "George Washington and the Cherry Tree" can have lasting effects on their honest behavior. Further, to ensure our moral-story-reading procedure was strong enough to promote honesty, we not only read the stories to children but also asked children whether it was OK to lie and told them to emulate the protagonist of the story. Future studies also need to explore whether reading "George Washington and the Cherry Tree" alone will have any honesty-promoting effect.

The above caveats notwithstanding, our results indicate that extolling the positive consequences of honesty rather than emphasizing the negative consequences of dishonesty can promote honest behavior in young children. One general implication of our finding is that highlighting prosocial values may have beneficial effects on young children's moral behavior. Another implication is that people must not blindly accept that classic moral stories are educationally beneficial simply because of their long history of use. Empirical studies are needed to ascertain their true educational value.

Author Contributions

K. Lee developed the study concept. K. Lee, V. Talwar, and A. McCarthy designed the study. K. Lee, V. Talwar, A. McCarthy, I. Ross, A. Evans, and C. Arruda performed the testing and data collection. K. Lee and A. McCarthy analyzed the data. K. Lee, V. Talwar, A. McCarthy, and I. Ross drafted the manuscript, and A. Evans provided critical revisions. All authors approved the final version of the manuscript for submission.

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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