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"Princess Alice is watching you": Children's belief in an invisible person inhibits cheating

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ABSTRACT

Two child groups (5–6 and 8–9 years of age) participated in a challenging rule-following task while they were (a) told that they were in the presence of a watchful invisible person ("Princess Alice"), (b) observed by a real adult, or (c) unsupervised. Children were covertly videotaped performing the task in the experimenter's absence. Older children had an easier time at following the rules but engaged in equal levels of purposeful cheating as the younger children. Importantly, children's expressed belief in the invisible person significantly determined their cheating latency, and this was true even after controlling for individual differences in temperament. When "skeptical" children were omitted from the analysis, the inhibitory effects of being told about Princess Alice were equivalent to having a real adult present. Furthermore, skeptical children cheated only after having first behaviorally disconfirmed the "presence" of Princess Alice. The findings suggest that children's belief in a watchful invisible person tends to deter cheating.

Introduction

A growing body of experimental research suggests that supernatural beliefs can promote altruistic behavior and adherence to social norms, at least among adults (Bering, McLeod, & Shackelford, 2005; Shariff & Norenzayan, 2007; Sosis & Ruffle, 2004). For example, Bering and colleagues (2005) found that college students who were led to believe they occupied the same room as a ghost were better than control participants at inhibiting their motivation to cheat on a competitive laboratory task.

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Likewise, Shariff and Norenzayan (2007) found that priming adults with religious words (e.g., God, sacred) increased their generosity in an economic game compared with a control group who received neutral primes. Presumably, supernatural beliefs promote prosocial behavior by eliciting reputational concerns about being watched and punished by "morally interested" supernatural agents (see Bering, 2006; Boyer, 2003; Johnson & Bering, 2006; Norenzayan & Shariff, 2008).

Despite the accumulating experimental evidence that supernatural beliefs promote altruism and rule following in adults, almost no evidence exists concerning the role of supernatural beliefs in children's rule following. To fill this gap, in the current experiment we sought to test the hypothesis that belief in an invisible person inhibits cheating among children in an unsupervised context. Children were introduced to a novel invisible person ("Princess Alice") and were explicitly asked whether they believed she was real. They then performed a challenging rule-based game in the absence of the experimenter. We hypothesized that children who professed belief in the invisible person would be less likely to cheat in the game compared with a control group of unsupervised children.

However, we also had reason to believe that the mere exposure of information about a watchful invisible person would inhibit cheating to a certain extent among "skeptical" children (i.e., children who reported not believing in Princess Alice) as well insofar as these children may harbor an unexpressed ambivalence about the invisible person's watchful presence. Thus, we assessed children's exploratory behavior aimed at testing the "presence" of Princess Alice (e.g., waving one's hand over a chair where she is said to be seated) in addition to their explicit beliefs. Based on observations drawn from a previous pilot study, we expected that skeptical children would attempt to test their unexpressed ambivalence about the existence of the invisible person prior to cheating on the task and that this disconfirmation of Princess Alice's presence would serve to undermine the inhibitory benefits of their exposure to information about the invisible person. Such a hypothesis is consistent with research suggesting that children actively test their assumptions about the natural world rather than blindly accepting every proposition presented to them by adults (Gopnik, Meltzoff, & Kuhl, 1999; Harris, 2007). For example, young children reject information from adult informants who repeatedly present falsifiably inaccurate information (Koenig & Harris, 2005). Thus, as our second hypothesis, we predicted that children who expressed disbelief in the invisible person would engage in agent-directed exploratory behavior prior to cheating on the task.

In addition to comparing a group of unsupervised children exposed to an invisible person with an unsupervised control group, in the current design we included a comparison group of actually supervised children. Research suggests that children's rule compliance in the absence of adult supervision improves as children's inhibitory control develops (Kochanska, Coy, & Murray, 2001; Kochanska, Murray, & Coy, 1997; Kochanska, Murray, Jacques, Koenig, & Vandegeest, 1996). Inhibitory control involves the capacity to suppress inappropriate responses or impulses. According to Kochanska (2002), children pass through at least two stages of behavioral compliance: from "situational compliance" (i.e., halfhearted compliance that is contingent on sustained parental control) to "committed compliance" (i.e., wholehearted self-regulated compliance with parental norms). This developmental shift from situational to committed compliance usually occurs within the first 4 years of life (Kochanska et al., 2001), although improvements continue on into school age (Kochanska et al., 1997). Given these developmental differences, we assessed several components of children's temperament that might affect their level of committed compliance, including inhibitory control and impulsivity, via parental ratings of children's temperament. We hypothesized that older children would have an easier time at following the rules than younger children due to their developmental advances in inhibitory control. Most important, however, we hypothesized that belief in a watchful invisible person would inhibit cheating over and above individual differences in children's temperament.

Method

Participants

Participants were 39 5- and 6-year-olds ($M = 5.76$ years, $SD = 0.58$) and 29 8- and 9-year-olds ($M = 8.86$ years, $SD = 0.74$) from Belfast, Northern Ireland. Among these children, 1 6-year-old failed