University of Montana

ScholarWorks at University of Montana

Undergraduate Theses and Professional Papers

2016

Effects of Priming the Concept of Luck on Task Persistence

Koryn R. Haight koryn.haight@umontana.edu

Follow this and additional works at: https://scholarworks.umt.edu/utpp

Part of the Cognitive Psychology Commons, Experimental Analysis of Behavior Commons, Other Psychology Commons, Personality and Social Contexts Commons, and the Social Psychology Commons Let us know how access to this document benefits you.

Recommended Citation

Haight, Koryn R., "Effects of Priming the Concept of Luck on Task Persistence" (2016). *Undergraduate Theses and Professional Papers*. 92.

https://scholarworks.umt.edu/utpp/92

This Thesis is brought to you for free and open access by ScholarWorks at University of Montana. It has been accepted for inclusion in Undergraduate Theses and Professional Papers by an authorized administrator of ScholarWorks at University of Montana. For more information, please contact scholarworks@mso.umt.edu.

Effects of Priming the Concept of Luck on Task Persistence

Koryn R. Haight

Senior Honors Thesis Project

Faculty mentor: Dr. Shannon C. Houck

The University of Montana

PRIMING LUCK ON PERSISTENCE

2

Abstract

Does feeling lucky influence the way we perform? Do we try harder and persist at tasks if we think luck is involved, or are we more prone to give up? To help answer these questions, this research examines the effect of priming the concept of luck on persistence. In particular, some participants completed a word descramble task designed to prime luck; others completed a neutral word descramble task. All participants then completed a set of reasoning puzzles, one of which they were told was 'difficult' but in reality was unsolvable. Persistence was measured by (a) the amount of time participants invest trying to solve the reasoning puzzles, and (b) the number of novel attempts participants make to solve the unsolvable puzzle. Contrary to expectations, there were no significant differences between the luck prime and neutral prime conditions on either persistence measure. However, a significant interaction emerged between the type of prime (luck vs. neutral) and participant beliefs about luck on persistence, such that those who were primed with the concept of luck and reported strong beliefs in luck persisted longer compared to those who did not report a strong belief in luck. On the other hand, participants who were *not* primed with the concept of luck but reported strong beliefs in luck were *less* persistent compared to those who did not hold strong beliefs in luck. These results provide insight into the pervasiveness of the concept of luck in modern culture and how subtle cues in the environment may affect subsequent performance behaviors such as persistence.

Keywords: luck, persistence, illusion of control, priming

Effects of Priming the Concept of Luck on Task Persistence

Does feeling lucky influence our behavior? Many stories that have been written about the difficulties and triumphs of individuals claim that luck is an integral part of our everyday experiences. For example, consider the CNN International Edition report of the story of Bill Morgan:

Australian truck driver Bill Morgan's extraordinary string of luck began, strangely enough, when he was crushed in a truck accident and suffered a fatal heart attack. Clinically dead for more than 14 minutes, Morgan was revived. After 12 days in a coma -- during which time his family was advised to unplug life support -- he awoke with all of his facilities intact....And then two weeks ago, he bought a scratch-off lottery ticket and won a car worth \$17,000. A Melbourne TV station was so impressed with his run of luck, it decided to do a story on Morgan and reenact his scratching of the ticket. As the cameras rolled, Wells won a jackpot worth \$170,000 (250,000 Australia dollars). ("Australian Comes Back From the Dead to Win Lottery – Twice," 1999).

This story exemplifies our common views of luck, a concept that seems to pervade modern culture. The idea of luck is prevalent in sports, gambling, economics, and daily decision-making. People use expressions such as "knock on wood" and "fingers crossed" to either gain good luck or avoid bad luck, and the phrase "good luck" is a common gesture of encouragement. Indeed, many successes and failures are attributed to luck.

Despite the fact that the idea of luck is a clearly important psychological phenomenon that is observed in a multitude of our everyday experiences, there is nevertheless very little empirical research that addresses how luck affects our behavior. The prior work that does exist has

focused primarily on the situational factors that elicit superstitious behaviors (e.g., Keinan, 2002; Matute, 1994) or has investigated the effects of the concept of luck on overall performance, attitudes, and expectations of success (e.g., Damisch, Stoberock, & Mussweiler, 2010; Dark & Freedman, 1997).

While this prior research is useful, little is known about the effects of feeling lucky on people's behavior, and specifically how subtle cues in the environment about luck may influence subsequent performance for both people who strongly believe in luck and those that do not believe in luck. This is important because we are frequently experiencing subtle cues of luck in our everyday lives, and thus it is worthwhile to try to understand how these reminders of luck might influence the way we think and behave. For instance, do we try harder and persist at tasks if we think luck is involved, or are we more prone to give up? And do our own beliefs about luck matter? This study aims to fill this gap in the literature by examining the effects of subtly priming the concept of luck on one behavior in particular: Persistence.

Operationalizing luck

First, the concept of luck must be defined in order to effectively contribute to this growing body of knowledge. Luck has a rather broad range of meanings and is often a term used interchangeably with similar concepts like superstition, supernatural, magical, and paranormal beliefs, all of which have at times been inconsistently defined in the available literature (Lindeman & Svedholm, 2012). But while there is some inherent fuzziness in the definition of luck, a good deal of research suggests that luck can be conceptualized as an illusion of control (Matute, 1995; Rudski, 2004; Wohl & Enzle, 2002). Langer (1975) defined the illusion of control phenomenon as "expectancy of personal success probability inappropriately higher than objective probability" (Langer, 1975, p. 313). More specifically, believing in luck (or holding

superstitious beliefs in general) often leads people to assume they can control outcomes based on their own beliefs or behaviors, when in reality there is no empirical evidence that this is the case. For example, if a person suspects an undesirable outcome might occur (such as an injury to someone they care about) they might believe they could prevent that negative outcome by engaging in a luck-related behavior like "knocking on wood." Given prior research connecting the concept of luck and the illusion of control (Matute, 1995; Rudski, 2004; Wohl & Enzle, 2002), the present paper uses these terms interchangeably.

Prior Research: Luck and the Illusion of Control

What leads us to feel and act as though we have a sense of control in uncontrollable situations? Prior work has shown that certain situational circumstances can induce the illusion of control (Keinan, 2002; Matute, 1995), such as exposure to aversive stimuli that are, in reality, unpredictable and unpreventable (e.g., an unpleasant noise that sounds at random). In particular, these uncontrollable aversive stimuli lead to a false belief that one can do or "think" something to prevent the aversive occurrence (Matute, 1994; Matute, 1995). Other situational factors that induce the illusion of control include feeling that one is unlikely to succeed at a difficult task, the expectation that one will inevitably fail, and the option to make choices that have no bearing on the actual outcome of a situation (Case, Fitness, Cairns, & Stevenson, 2004; Langer, 1975; Matute, 1995). Further, the illusion of control can, in turn, generalize to other situations. For example, people who are conditioned through false feedback to associate an object with success prefer that object in situations unrelated to the initial association (Hamerman & Morewedge, 2015). This prior work demonstrates the strong, cross-situational connections people often make with "lucky" objects.

Causes and consequences of feeling lucky. It is not difficult to see that the idea of luck is an important psychological phenomenon that is prevalent in our everyday experiences, but how does feeling lucky (or believing in luck in general) influence the way we think and behave? Our attitudes and behaviors are influenced in many ways when we feel a sense of luck or an illusion of control. For example, people who believe they have experienced a lucky event exhibit greater confidence and risk taking in subsequent, unrelated, and uncontrollable situations (Dark & Freedman, 1997). Other research suggests that people who believe in luck behave as though they can transfer their luckiness to objects that are central to games of pure chance, such as blowing on dice before casting them (Wohl & Enzle, 2002). Further, while engaging in performance based activities, people not only tend to prefer lucky objects over neutral objects, but they also experience a significant increase in confidence when using a lucky object (Hamerman & Morewedge, 2015).

Similarly, other work has found that holding superstitious beliefs in general, and choosing a lucky object specifically, is significantly greater when people are told that their success at a task is highly improbable compared to probable (Case et al., 2004; Hamerman & Morewedge, 2015; Matute, 1995; Rudski, 2004). Indeed, when people feel that they are more likely to fail, their use of superstitious strategies increase. These effects have been observed regardless of participants' levels of superstitious belief (Case et al., 2004). Of particular interest to the present study, belief in good luck increases peoples' reported level of confidence to achieve their goals (Day & Maltby, 2005), and believers in luck who have a personal luck charm present during a task persist longer at that task than believers in luck who do not retain their charm (Damisch et al., 2010). Taken together, this prior research illustrates that feeling lucky has many

consequences on subsequent behaviors, and one of these consequences is how persistent people tend to be (Damisch et al., 2010; Day & Maltby, 2005).

Luck, the illusion of control, and persistence. Given the body of evidence that suggests feeling an illusion of control arises when people perceive a high likelihood of failure, it is important to examine how this affects subsequent performance. Indeed, some prior work has found that priming the concept of luck has increased performance, confidence, self-efficacy, and goal setting (Damisch et al., 2010; Dark & Freedman, 1997; Day & Maltby, 2005). Other work has demonstrated that people for whom a situational illusion of control was induced persisted longer at an unsolvable anagram task than participants for whom the induction of an illusion of control did not take place (Woods, 2013). While increased overall performance has been observed after priming the concept of luck (Damisch, et al., 2010), and increased persistence has been observed after inducing an illusion of control (Woods, 2013), there has not been any research that has investigated if subtle luck-related cues will, in turn, impact how persistent people are.

The Present Study

While the previously discussed research is useful, the effect of priming the concept of luck on persistence behavior – both for believers and doubters of luck – has yet to be examined. Previous research has (a) examined the relation between the concept of luck and overall performance (e.g., Dark & Freedman, 1997), (b) observed the effects of circumstances on eliciting superstitious behaviors (e.g., Keinan, 2002; Matute, 1994), (c) has used subtle manipulations of luck to examine effects on goal setting and expectations of success (e.g., Day & Maltby, 2005; Dudley, 1999), or (d) has used overt manipulations (e.g., asking a participant to bring a lucky charm to the experiment) to measure effects on persistence for believers in luck

(Damisch et al., 2010). The current study investigates the effects of a subtle manipulation on subsequent behavior. Specifically, this study investigates the effects of priming the concept of luck on persistence.

Findings from this study will add to a growing body of knowledge and may support the idea that feeling lucky blocks one's sense of helplessness, thus preventing subsequent performance impairment and, specifically, that persistence is an integral factor in the effects of priming the concept of luck on increased performance. This study also seeks to expand current awareness about the pervasiveness of the concept of luck in modern culture. It could be that a subtle cue in the environment can motivate both those with a strong belief and those who lack a belief in luck to persist in the face of repeated failure.

Expectations

It is expected that, (a) there will be a main effect of the type of prime (luck vs. neutral) on persistence, such that priming the concept of luck will lead to more persistent behavior. (b)

There will be a main effect of the type of prime on reported belief in luck, such that, compared to participants in the neutral prime condition, those who are primed with luck will report a higher overall belief in luck. (c) There will be an interaction between the type of prime and feeling an illusion of control on persistence, such that the effect of the prime on persistence will be stronger for those who indicate an illusion of control compared to those who do not. (d) Finally, it is expected that there will be an interaction between type of prime and one's degree of belief in luck on persistence, such that the effect of the luck prime on persistence will be greater for those who strongly believe in luck compared to those who do not.

Method

Study Overview

To test these expectations, participants were randomly assigned to two groups. In one group, participants were primed with the idea of luck (experimental condition), while participants in the control condition were exposed to a neutral prime. Participants then completed two perceptual reasoning puzzles, the first of which they were told was "difficult." This difficult puzzle was, in reality, unsolvable. Participants began with the "difficult" (unsolvable) puzzle, but were given the option to move on to a more intermediate puzzle at any point. Persistence was measured by (a) the amount of time spent attempting to solve the unsolvable task and (b) the number of novel attempts made.

Participants

Fifty-five undergraduate psychology students (37 Females, 17 males, 1 unreported; Mean Age: 24.6) at the University of Montana participated in this study for course credit. There were no exclusion criteria.

Priming Manipulation

Some participants completed a word descramble task designed to prime the concept of luck, whereas others (in a control/neutral prime condition) completed a word descramble task laden with neutral words. This priming method has been frequently used in prior work (e.g., see Laran & Salerno, 2012; Vohs, Mead, & Goode, 2006). Both word descramble tasks consisted of 30 scrambled phrases (e.g., 'we later will mountain swim'), and participants were instructed to write the correct phrase using only 4 of the words (e.g., 'we will swim later'). The experimental group completed a version of the descramble task that included words about luck and luckiness (e.g., 'lucky numbers win lotteries') while the control group completed a version of the descramble task that included neutral words. Please see Appendix A for the descramble tasks.

Primary Dependent Measure

Persistence. Persistence was measured by (a) the amount of time participants invest trying to solve the reasoning puzzles, and (b) the number of novel attempts participants make to solve the unsolvable puzzle. Specifically, participants in both conditions were asked to complete two different perceptual reasoning tasks (see Figure 1). Both tasks were parallel in nature: Participants were instructed to recreate a shape without lifting their pen and without tracing over the same line twice. These reasoning tasks have been used extensively in prior research (e.g., see Feather, 1961; Feather, 1963; Andrews & Debus, 1978). Consistent with methods in prior research using this task (e.g., Feather, 1963; Andrews & Debus, 1978), participants were told that the first task was difficult when it was in fact unsolvable. Participants had the choice at any point during the unsolvable perceptual reasoning task to move on to a different, intermediate version of the task. The intermediate version was indeed solvable, and it was thus possible for participants to successfully complete this task.

In order to establish an end point for the experiment, in the event that participants persisted at the initial, unsolvable task for 20 minutes, the experimenter stated, "As a reminder, you are free to move to the intermediate version at any point." In the event that participants persisted at the initial, unsolvable task for 35 minutes, the experimenter repeated the reminder. Each session lasted a maximum of 60 minutes and in the event that participants persisted at the initial, unsolvable task until the end of this 60-minute time frame, they were asked to cease their attempts due to the session ending.

Additional Questionnaires

Belief in Luck Scale. After participants completed both the descramble prime and the perceptual reasoning tasks, they were asked to complete The Belief in Superstition Scale (Fluke, Webster, & Saucier, 2014; also see Wiseman & Watt, 2004), which measures overall belief in

luck as well as the degree to which people believe in good luck, bad luck, and that luck can change.

Illusion of Control. Participants were asked to answer an illusion of control survey commonly used in prior work (e.g., see Rudski, 2004). The present study focused primarily on one specific question from this survey that posed a hypothetical situation in which participants were asked if they would give up one lottery ticket with their lucky numbers for two lottery tickets with numbers selected by a computer. Those who choose to give up the lottery ticket chosen with their lucky numbers for two tickets chosen by a computer (i.e., doubling their probability of winning) exhibit no illusion of control; whereas, those who would not give up the ticket with their lucky numbers (i.e., maintaining a lower objective probability of winning) are said to exhibit an illusion of control. Finally, all participants answered a standard set of demographic questions at the end of the session.

Results

Primary Analyses

Effect of priming the concept of luck on persistence. Independent means t-tests were conducted to examine the effect of the type of prime (luck vs. neutral) on persistence on the unsolvable task. Contrary to expectations, there was not a significant difference in the time spent attempting to solve the unsolvable task between the luck prime (M = 13.40) and the neutral prime (M = 10.15) conditions, t(53) = -1.3, p = 0.20. There was also no main effect of the type of prime (luck vs. neutral) on the number of novel attempts made to solve the unsolvable task, t(53) = -.77, p = .44. Similarly, there were no main effects of the type of prime either on the time spent solving the intermediate task, or in the number of attempts to solve the intermediate task, $p^*s > .20.1$

Effect of priming the concept of luck on participants' belief in luck. An independent means t-test was conducted to compare the overall belief in luck (as measured by the Belief in Superstition Scale; Fluke et al., 2014) between the two priming conditions (luck vs. neutral). Contrary to expectations, there was not a significant difference in overall belief in luck between the luck prime (M = 4.07) and the neutral prime (M = 3.41) conditions, t(52) = -1.65, p = 0.10.

In order to more closely look at different types of people's beliefs in luck, we also examined three subscales of the belief in luck questionnaire that measure the degree to which participants believe (a) in good luck, (b) in bad luck, and (c) that luck can change. There were no significant differences between the luck prime and neutral prime conditions with respect to reported belief good luck (p = .27), belief in bad luck (p = .18), or belief that luck can change (p = .14).

Additional analyses: Potential Moderating Variables

In order to examine the potential interactions between (a) the type of prime and feeling an illusion of control on persistence and, (b) the type of prime and level of belief in luck on persistence, we also conducted some moderation analyses. For the sake of brevity, and because the descriptive and inferential patterns for both measures of persistence are consistent (i.e., time spent on the unsolvable task and number of novel attempts), these results only focus on persistence as measured by amount of time spent attempting to solve the unsolvable task and not on persistence on the intermediate task.

Illusion of Control. In order to examine the potential interaction between the type of prime (luck vs. neutral) and feeling an illusion of control on persistence, a Factorial ANOVA was conducted. Contrary to expectations, no significant interaction emerged, F(1,50) = .102, p = .102

.75, indicating that experiencing an illusion of control did not moderate the effect of the prime on subsequent persistence.

Belief in Luck. We also wanted to see if participants' belief in luck moderated the effect of the type of prime (luck vs. neutral) on persistence. Interestingly, the ANOVA test revealed a significant interaction between the type of prime (luck vs. neutral) and belief in luck on persistence, F(1, 50) = 4.07, p < 0.05. Specifically, participants who were primed with the concept of luck and reported a strong belief in luck (M = 14.32) persisted longer at the unsolvable task than those who did not hold a strong belief in luck (M = 9.88). On the other hand, participants in the neutral prime condition who also reported a strong belief in luck were *less* persistent (M = 7.04) compared to those with low belief in luck (M = 12.48).

Discussion

First and foremost, these results were largely unsupportive of the primary hypotheses. Contrary to expectations, priming the concept of luck did not significantly increase persistence, and did not impact participants' reported belief in luck. Also inconsistent with expectations, there was no interaction between the type of prime (luck vs. neutral) and the illusion of control on persistence, meaning that those in the prime group who indicated an illusion of control did not persist longer than their counterparts in the neutral prime group. However, a significant interaction effect between priming the concept of luck and level of belief in luck on persistence emerged. Specifically, those who were primed with luck persisted significantly longer when they had high belief in luck compared to those with low belief in luck; whereas those who were not primed with the concept of luck persisted significantly longer when they had low belief in luck compared to those who had high belief in luck. What implications might these findings have?

Implications

First, the interaction between priming the concept of luck and level of belief in luck on persistence is particularly interesting because it supports the idea that believing in luck provides some benefits in certain situations, and may serve to prevent a sense of helplessness that leads people to give up in difficult situations (Dudley, 1999; Matute, 1995). However, in the present study, those who strongly believe in luck and who were exposed to the luck prime, spent more time attempting to succeed in the face of repeated failure. Thus, contrary to leading to a sense of helplessness, these data suggest that believing in luck can lead to a sense of control and greater attempts to succeed in certain situations. Other prior work has further hypothesized that superstitious beliefs prevent subsequent performance impairment by providing a justification for personal failure (Dudley, 1999) and the present results may provide evidence to support this. Specifically, believing in luck may have led participants to make justifications for failure that allowed them to avoid blaming themselves, thus leading to greater persistence; however, this increase in persistence was only observed for those who were exposed to the luck prime. This suggests that bringing the concept of luck to someone's attention is an important factor. While superstitious beliefs may provide a justification for personal failure, the current data suggest that the degree to which people believe in luck does not, by itself, influence how persistent they are. Those with high belief in luck persisted longer than those with low belief in luck only when primed with the concept of luck; the opposite was observed for those exposed to the neutral prime. One inference that might be drawn is that it is necessary for people who hold superstitious beliefs to be thinking about those beliefs in order to prevent a sense of helplessness, thereby preventing subsequent performance impairment.

Second, results from the present study support the idea that persistence is an integral component of the effects of the concept of luck on performance. The effects of belief in luck on overall attitudes, such as increased confidence, observed in prior research (Day & Maltby, 2005) may not fully account for this increase in performance. Often, people must take great effort and multiple attempts to succeed at a task, and persistence is a factor that facilitates this success.

Third, some prior research has shown that the idea of superstition has similar effects on all people, regardless of their level of superstitious belief. For example, superstitious strategies have been shown to increase as perceived likelihood of failure increases, regardless of peoples' superstitious beliefs (Case et al., 2004) and priming the concept of luck has been shown to increase performance on a variety of tasks regardless of belief in luck (Damisch et al, 2010). However, data from the present study indicate that the effect of activating a sense of luck is, at least in part, dependent upon level of belief in luck.

Finally, the concept of luck is pervasive in modern culture and these results add to a growing body of knowledge about the effects of the concept of luck on subsequent behavior. Luck is prevalent in our daily lives and subtle cues in the environment frequently activate the concept of luck. Many cultural symbols, gestures, and phrases are related to the concept of gaining good luck or avoiding bad luck. It is important to understand the effects of these subtle cues on subsequent behavior. The present study indicates that the effects of these cues depend on the individual's level of belief in luck. Wishing friends "good luck" may increase their persistence toward their goals, but only if they have a strong belief in luck; whereas, it may have the opposite effect if they do not believe in luck.

Possible Limitations of Study

As in all research, this study is not without its limitations. First, this study used a single-blind design and is thus potentially vulnerable to experimenter bias, such that the experimenter knew the participants' prime condition (luck vs. neutral) and could have cued those exposed to the luck prime to persist longer. Given the results, however, this limitation is unlikely because there was no main effect of the type of prime (luck vs. neutral) on persistence. Further, experimenter bias regarding the significant interaction between the type of prime (luck vs. neutral) and level of belief in luck on persistence is highly unlikely due to the fact that the experimenter did not know participants' level of belief in luck; thus the experimenter could not have cued participants to persist more or less in either condition based on level of belief in luck.

Secondly, Dudley (1999) found that peoples' superstitious beliefs increase following exposure to an unsolvable task, which might mean that participants reported stronger beliefs in luck than they would have in a different situation because this study included an unsolvable task. However, this possibility seems unlikely given that all participants were exposed to the unsolvable task, meaning that if their reported level of superstitious belief did increase following exposure to the unsolvable task, this increase would have occurred for all participants across both conditions.

Lastly, it is possible that some participants were suspicious that the initial task (the task that participants were told was difficult) was unsolvable. Indeed, some participants did indicate some suspicion, but they did so either at the time they chose to move to the intermediate version or after they had chosen to move to the intermediate version. No suspicion was observed when participants began the unsolvable task. This limitation seems unlikely to have impacted the findings because those who inquired about others' ability to solve the task, or if it was indeed solvable, did so only after they decided that they were unable to solve it.

Directions for Future Research

Despite this study's possible limitations, these data provide clear avenues for future work. The prime descramble in the present study used words that pertained to good luck and the avoidance of bad luck, none of which were designed to prime the concept of bad luck. Future research could explore the effects of priming the concept of bad luck on persistence for both those with a strong belief in luck and those who do not believe in luck. In addition, the effects of priming the concept of luck on persistence at different types of tasks (e.g., chance tasks) for people with strong and no belief in luck could be explored to determine if the effects of priming the concept of luck on persistence changes with the type of task people engage in, as well as level of belief in luck. Future research could also explore variations in the priming manipulation to investigate whether different types of cues in the environment, such as cultural symbols of luck, would exhibit the same moderating effect of priming the concept of luck and level of belief in luck on persistence, as revealed in the present study.

Conclusion

We frequently encounter cues of luck in daily life and it is important to investigate the effects of these cues on subsequent performance behaviors. While the results of this study indicate that priming the concept of luck does not increase persistence for those with a strong belief in luck and no belief in luck, findings indicate that a strong belief in luck provides benefits in certain situations and leads people to persist in the face of repeated failure, but only if those beliefs are brought to attention. Thus, wishing someone "good luck" may be beneficial for some, and detrimental for others.

References

- Andrews, G. R., & Debus, R. L. (1978). Persistence and the causal perception of failure:

 Modifying cognitive attributions. *Journal of Educational Psychology*, 70(2), 154-166.

 doi:8080/10.1037/0022-0663.70.2.154
- Australian comes back from the dead to win lottery -- twice. (1999, May 27). *CNN International Edition*. Retrieved from http://edition.cnn.com/
- Case, T. I., Fitness, J., Cairns, D. R., and Stevenson, R. J. (2004). Coping with uncertainty: Superstitious strategies and secondary control. *Journal of Applied Social Psychology*, 34(4), 848-871. doi:8080/10.1111/j.1559-1816.2004.tb02574.x
- Damisch, L., Stoberock, B., & Mussweiler, T. (2010). Keep your fingers crossed! How superstition improves performance. *Psychological Science*, 21(7), 1014-1020. doi:8080/10.1177/0956797610372631
- Darke, P. R., Freedman, J. L. (1997). Lucky events and beliefs in luck: Paradoxical effects on confidence and risk-taking. Personality and Social Psychology Bulletin, 23(4), 378-388. doi:8080/10.1177/0146167297234004
- Day, L., & Maltby, J. (2005). "With good luck": Belief in good luck and cognitive planning.

 *Personality and Individual Differences, 39(7), 1217-1226.

 doi:8080/10.1016/j.paid.2005.04.011
- Dudley, R. T. (1999). The effect of superstitious belief on performance following an unsolvable problem. *Personality and Individual Differences*, 26(6), 1057-1064. doi:8080/10.1016/S0191-8869(98)00209-8

- Feather, N. T. (1961). The relationship of persistence at a task to expectation of success and achievement related motives. *Journal of Abnormal and social Psychology*, 63(3), 552-561. doi:8080/10.1037/h0045671
- Feather, N. T. (1963). Persistence at a difficult task with alternative task of intermediate difficulty. *Journal of Abnormal and Social Psychology*, 66(6), 604-609. doi:8080/10.1037/h0044576
- Fluke, S. M., Webster, R. J., & Saucier, D. A. (2014). Methodological and theoretical improvements in the study of superstitious beliefs and behaviour. *British Journal of Psychology*, 105(1), 102-126. doi:10.1111/bjop.12008
- Hamerman, E. J. & Morewedge, C. K. (2015). Reliance on luck: Identifying which achievement goals elicit superstitious behavior. *Personality and Social Psychology Bulletin*, 41(3), 323-335. doi:8080/10.1177/0146167214565055
- Laran, J. & Salerno, A., (2013). Life-history strategy, food choice, and caloric consumption.

 *Psychological Science, 24(2), 167-173. doi:8080/10.1177/0956797612450033
- Keinan, G. (2002). The effects of stress and desire for control on superstitious behavior.

 *Personality and Social Psychology Bulletin, 28(1), 102-108.

 doi:080/10.1177/0146167202281009
- Langer, E. J. (1975). The illusion of control. *Journal of Personality and Social Psychology*, 32(2), 311-328. doi:8080/10.1037/0022-3514.32.2.311
- Lindeman, M. & Svedholm, A. M. (2012). What's in a term? Paranormal, superstitious, magical, and supernatural beliefs by any other name would mean the same. *Review of General Psychology*, *16*(3), 241-255. doi:8080/10.1037/a0027158

- Matute, H. (1994). Learned helplessness and superstitious behavior as opposite effects of uncontrollable reinforcement in humans. Learning and Motivation, 25(2), 216-232. doi:8080/10.1006/lmot.1994.1012
- Matute, H. (1995). Human reactions to uncontrollable outcomes: Further evidence for superstitions rather than learned helplessness. *The Quarterly Journal of Experimental Psychology Section B: Comparative and Physiological Psychology*, 48B(2), 142-157.
- Rudski, J. (2004). The illusion of control, superstitious belief, and optimism. *Current Psychology: A Journal for Diverse Perspectives on Diverse Psychological Issues*, 22(4), 306-315. doi:8080/10.1007/s12144-004-1036-8
- Vohs, K. D., Mead, N.L, & Goode, M. R., (2006). The psychological consequences of money. Science, 314(5802), 1154-1156. doi:8080/10.1126/science.1132491
- Wiseman, R., & Watt, C. (2004). Measuring superstitious belief: Why luck charms matter.

 *Personality and Individual Differences, 37(8), 1533-1541.

 doi:10.1016/j.paid.2004.02.009
- Wohl, M. J. & Enzle, M. E. (2002). The deployment of personal luck: Sympathetic magic and illusory control in games of pure chance. *Personality and Social Psychology Bulletin*, 28(10), 1388-1397. doi:8080/10.1177/014616702236870
- Woods, G. L. (2013). *Illusory control, unrealistic optimism, and persistence* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3605020)

Footnotes

¹Using the same two dependent measures as previously discussed, independent means *t*-tests were also conducted to compare the performance on the intermediate task. Of the available data, all participants solved the intermediate task except one participant who chose to move to the next part of the study before completing the task. The data from four participants are missing from the measure of time spent to solve the intermediate task. Three of these data points were not recorded due to experimenter error, and the data for one participant are missing from both measures of performance due to the participant persisting on the initial, unsolvable task, until the maximum time limit of the session.

²Data for one participant's belief in luck are missing due to the participant persisting at the initial, unsolvable task, until the maximum time limit of the session.

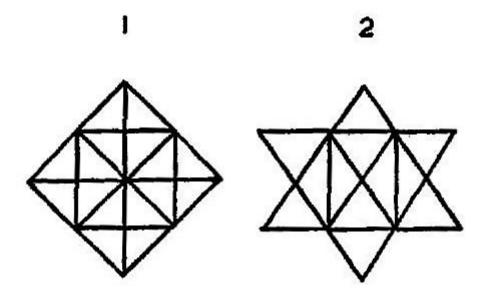


Figure 1. Item 1 is unsolvable. Item 2 is solvable (Feather 1961; Feather 1963).

Appendix A

Neutral (Control) Descramble Task

1. you held pencil building the	16. is hard he win studying
2. received a flower blue she	17. secure I words financially am
3. I a cashed pen check	18. sky went gray the is
4. to she music listened jump	19. eyes she book blue has
5. metal I wrote letter the	20. we cup afford can it
6. has the capital line he	21. again late worked watch we
7. received they large city profits	22. the manages fire he jump
8. we later will mountain swim	23. paper long going was the
9. revenues our rising book are	24. is outside cold desk it
10. is green the sweater bottom	25. liberally money she paperclip spends
11. hundred bill one bottle dollar	26. on printer grass she walked
12. you coming are here purple	27. he very is night poor
13. camping ten went girls book	28. took tight he a glass
14. won green the I lottery	29. salary paying high desk a
15. he cup holds the very	30. opens he door his top

Luck Prime Descramble Task

1. you held pencil building the	16. a rabbit's he get foot
2. in believes flower luck he	17. secure I words financially am
3. I a cashed pen check	18. sky went gray the is
4. is number music seven lucky	19. good she book luck has
5. metal I wrote letter the	20. we cup afford can it
6. bad is failure line luck	21. our late cross fingers we
7. received they large city profits	22. the manages fire he jump
8. he horseshoe swim a has	23. paper long going was the
9. wood on rising knocks she	24. avoids mirrors cold breaking he
10. is green the sweater bottom	25. luck she change people's can
11. work charms good bill luck	26. on printer grass she walked
12. you coming are here purple	27. she thirteenth is floors avoids
13. avoids book unlucky he situations	28. took tight he a glass
14. lucky lotteries people blue win	29. clovers four high find leaf
15. he cup holds the very	30. opens he door his top