Like Mike: Ability contagion through touched objects increases confidence and improves performance

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Magical thinking refers to irrational peculiar beliefs, including those that conform to the laws of contagion. We propose that touching an object that was previously touched by a high performer increases confidence via magical thinking (ability contagion) and improves actual performance among individuals high in experiential processing. A series of studies provides support for this main proposition. Our results cast doubt on an alternative explanation based on priming, and are obtained controlling for participants’ level of rational processing, motivation, and affect.

Introduction

One of the authors of this paper was a fairly consistent high scorer on tests during undergraduate days, as well as fairly broke, and so wore the same pair of Nike sneakers every exam day. One day, in the midst of a shoe crisis, the author’s college roommate borrowed these Nikes and scored very highly on her own test. Convinced that her academic success was due to a transfer of intelligence through the sneakers, a ritual that lasted for the next 2 years was born. Indeed, the popularity of movies such as Like Mike, in which a 14-year-old orphan of diminutive size and even more diminutive athletic ability becomes an NBA superstar when he wears a pair of discarded sneakers presumably previously owned by Michael Jordan, suggests that the belief that performance abilities can be transferred resonates with many people. Such apparently irrational beliefs and behavior (i.e., borrowing sneakers improves performance) fall under the law of contagion in the domain of sympathetic magical thinking. Although such beliefs are often at odds with known and otherwise accepted scientific paradigms, even rational adults may fall prey to its laws (Pronin, Wegner, & McCarthy, 2006; St. James, Handelman, & Taylor, 2011).

Research has begun to explore physical contagion in venues like retail stores and celebrity auctions (Argo, Dahl, & Morales, 2006, 2008; Morales & Fitzsimons, 2007; Mishra, 2009; Newman, Diesendruck, & Bloom, 2011). Although these papers are important for providing the first evidence of attribute-based contagion effects in marketplace environments, no one has explored whether contagion effects can similarly occur in the workplace. Importantly, despite the common belief that a wide range of properties is potentially contagious (Rozin & Nemeroff, 2002), belief in the transfer of abilities from person to person via intermediary vehicles has never been tested explicitly. Yet, evidence of ability contagion in the workplace has many important and unexplored consequences; namely, if such a belief exists, can the transfer of higher (vs. lower) ability manifest as increased performance requiring that ability, and if so, by which process?

The current research seeks to demonstrate the existence of a magical belief that ability essence can reside in everyday objects and transfer through touch. In doing so, we add to the magical thinking and contagion literatures in three important ways. First, we show that individuals with a tendency to process experientially believe that ability can transfer through touch via intermediary objects. Second, we find that such ability contagion impacts actual performance. Third, we demonstrate that the effect is driven by contagion elevating receivers’ confidence that they can do well on a task of the same ability, raising performance expectations.

Theoretical background

Peculiar beliefs and magical thinking

Peculiar beliefs are non-veridical beliefs that do not have a rational, empirical, or scientifically established link to outcomes
they are intended to influence (Kramer & Block, 2011). Such beliefs have been inconsistently and interchangeably referred to in the literature as paranormal, superstitious, magical, and supernatural (Lindeman & Svedholm, 2012). For example, peculiar beliefs that objects or actions can influence one’s luck (e.g., beliefs that a pair of sneakers is inherently lucky and thus improves performance when worn) are commonly referred to as superstitions, while peculiar beliefs that adhere to the laws of similarity and contagion (e.g., beliefs that the ability of a high performer transfers into a pair of sneakers and subsequently to a new owner and thus improves performance when worn) are most often referred to as magical thinking. Based on a comprehensive review of the literature, Lindeman and Svedholm (2012) conclude that there are no essential conceptual differences that define these terms independently. Nonetheless, to be consistent with the existing research to date, we will use the term “magical thinking” when referring to the laws of similarity and contagion.

Although magical thinking is most often thought to be relegated to young children and people living in tribal cultures, research has recently begun to document just how common and ordinary it is among otherwise rational adults (Pronin et al., 2006; Subbotsky, 2004). The two magical thinking laws of similarity and contagion were originally proposed as universal truths over a century ago (Frazer, 1959), but are modernly conceptualized as rules of thumb that help people make sense of the world (Rozin & Nemeroff, 2002). The law of similarity holds that things that resemble one another share fundamental properties, or that “appearance equals reality” (Rozin, Millman, & Nemeroff, 1986). Rozin and colleagues (1986) and Rozin, Nemeroff, Wane, and Sherrod (1989) have demonstrated the law of similarity with food and choice, including participants’ hesitancy to consume sugar from a jar labeled “Sodium Cyanide, Poison,” despite the fact that participants themselves labeled the jar.

The law of contagion holds that physical contact between a source and a target results in a perceived transfer of some essence or quality between the two entities. While actual physical contact is critical in magical contagion (as opposed to merely proximal), this contact may be direct or may be mediated through a third object that either simultaneously or subsequently touches both objects (Rozin & Nemeroff, 2002). Importantly, transfer can occur irrespective of valence (i.e., contagion can be both positive and negative), and the exchanged qualities can be physical attributes of the source, moral qualities and dispositions, or abilities.

**Beliefs in the transfer of physical attributes**

Mishra (2009), Morales and Fitzsimons (2007), and Argo et al. (2006) present studies that collectively demonstrate the physical attribute model of contagion in the marketplace. For example, Morales and Fitzsimons (2007) found that when a product that elicits disgust (e.g., feminine napkins) has had supposed contact with other products (e.g., cookies), their evaluations are lowered. Further, Argo and colleagues showed that physical attributes of consumers are believed to contaminate products through perceived contact. For example, when a clothing item is believed to have been tried on by a previous customer, such perceived contact can arouse disgust, which in turn results in less favorable evaluations (Argo et al., 2006). In follow-up studies, the same researchers explored if positive contagion can occur; in other words, contagion not mediated by feelings of disgust (Argo et al., 2008). In these studies, customers increased evaluations of a clothing item if the previous customer was attractive.

**Beliefs in the transfer of moral qualities and dispositions**

Rozin and colleagues demonstrate the transmission of moral qualities and general dispositions through contact. For example, Rozin et al. (1989) found evidence of contagion effects in the transfer of clothing and personal belongings from unsavory or personally disliked people. Nemeroff and Rozin (1994) identified the belief in contagion transfer for both positive and negative qualities and dispositions. For instance, sexiness can be perceived to transfer from personal objects worn by a favorite sex symbol, general goodness from a person considered to personify goodness, and evil from a villain or someone who personifies evil (e.g., Hitler). Finally, Kramer and Block (2011) explicitly examined the transfer of moral qualities in backward contagion, which is characterized by an unwillingness to allow one’s personal effects to come into the possession of disliked people. Findings indicated that consumers may be less willing to accept their own auction reservation price for a teddy bear they were selling when the bidder was of low (i.e., a sex offender) than of high (i.e., a mother of a young child) moral quality.

**Beliefs in the transfer of abilities**

Surprisingly, to date research has never explicitly tested beliefs in the transfer of source abilities, which is a gap in the contagion literature the current research seeks to fill. Specifically, the literature is silent on two important research questions: first, can a person’s specific abilities, like creativity, transfer from a source to a target through physical contact with an object, and second, can such essence transfer manifest as increased performance on tasks requiring that ability, rather than in merely increased valuation of the intermediary item? In this research, we propose that abilities can be perceived to transfer via intermediary vehicles and impact subsequent performance on related tasks. Further, we expect that differential performance on a task will be driven by a change in confidence caused by the ability contamination of the intermediary vehicle.

Specifically, there is robust evidence in the literature that performance tends to be influenced by self-efficacy or confidence (Bandura, 1997). The more confidence individuals have in their abilities, the better they tend to perform (Feltz, Short, & Sullivan, 2008; Stajkovic & Luthans, 1998). Importantly, we propose that one antecedent of confidence is ability contagion. This argument is consistent with findings concerning the effect of other irrational beliefs, such as luck-related superstitions, on confidence. For example, Langer (1975) found that confidence increased when individuals were given the illusion of control over outcomes that were actually determined by chance. Darke and Friedman (1997a, 1997b) showed that individuals who believe that they have control over their luck (i.e., those scoring high on the belief in good luck scale) feel more confident about a subsequent task performance after experiencing a lucky event. More recently, across a series of studies, Damisch, Stoberock, and Mussweiler (2010) demonstrated that activating good luck, whether via lucky charms or lucky sayings (e.g., “I’ll keep my fingers crossed”), prior to performing a task leads to increased performance on the task, and that this increased performance is mediated by higher self-efficacy judgments. For example, participants who brought their own lucky charms to the experimental session (Damisch et al., 2010) reported higher levels of self-efficacy and actually did better on a memory task (Experiment 3) or an anagram task (Experiment 4) than those who arrived without a lucky charm. Thus, actual performance may improve even when the confidence boost is based on irrational beliefs, such as wearing a lucky charm or a general belief in good luck (Damisch et al., 2010; Darke & Friedman, 1997a). Similarly, we propose that ability contagion impacts confidence, which, in turn, will drive subsequent performance.

Note that the transfer of ability from a source to a recipient via an intermediary object is a mechanism unique to magical thinking (particularly the law of contagion) that does not exist in other peculiar beliefs, like lucky superstitions. Lucky superstitious beliefs and behavior are instances of peoples’ tendency to subjectively
believe they have an influence over outcomes where no such objective influence exists. People are most likely to invoke lucky superstitions under feelings of high uncertainty, high psychological stress, or low levels of perceived control (Keinan, 2002). For example, US soldiers driving tanks in the Iraq war refused to eat apricots, believing they brought bad luck (Phillips, 2003). Ability contagion, on the other hand, is governed by the laws of contagion (the necessity of actual or perceived physical contact, the permanency of the essence transfer, and dose insensitivity, see Rozin & Nemeroff, 2002 for a review of the characteristics of contagion). Of course, there are instances when beliefs based on the law of contagion and superstition intersect, notably instances like the above Damisch study in which luck is thought to reside in ordinary objects. Indeed, many superstitious rituals involve an element of touch, as when ball players ritualistically touch a lucky object before play, or even crossing one's fingers for good luck. Zhang and colleagues suggest that the physical rituals that incorporate avoidance actions (e.g., knocking downward on wood vs. knocking upward; tossing a ball vs. holding a ball) are more effective at lowering the perceived stress, or low levels of perceived control (Keinan, 2002). For example, NFL linebacker Brian Urlacher ate exactly two cookies before every game. Wayne Gretzky put his gear on in always the same order: left shin pad, left stocking, right shin pad, right stocking; then pants, left skate, right skate, shoulder pads, elbow pads, first the left, then the right; and finally, the jersey, with the right side tucked into his pants. In both these examples, it is not so much about the object (i.e., the cookies or the pads), but the ritual that is believed to enhance performance. Together, the growing body of research that examines how superstitions and rituals can potentially be useful (Damish et al., 2010; Wiseman & Watt, 2004; Zhang et al., 2013), and the current work on ability contagion provide a solid theoretical base for how two distinct, yet conceptually related in their roots of irrationality, peculiar beliefs can impact actual performance.

Our proposition that ability contagion drives subsequent performance is also consistent with evidence establishing that people’s actions may be unintentionally affected by the activation of traits and stereotypes (Bargh, Chen, & Burrows, 1996; Fitzsimons, Chartrand, & Fitzsimons, 2008). For example, Dijksterhuis and Knippenberg (1998) found that priming the stereotype of “smart person” by asking participants to imagine the lifestyle and behavior of a typical professor resulted in a higher number of correct answers to the game of Trivial Pursuit. Similarly, Lee, Linkenauger, Bakdash, Joy-Gaba, and Profitt (2011) found that participants who were given a putter ostensibly used by well-known golfer Ben Curtis perceived the hole as larger and sank more putts than those in the control group who were not given any information on the putter. Although this study was motivated by the contagion literature, as the authors themselves note, it is not possible to determine if the results are due to contagion or priming, since there was no condition in which “golf skill” was primed without touch, nor are there measures that would detect the mechanism.

We propose that ability contagion differs from priming in two important ways. First, whereas in the Dijksterhuis and Knippenberg (1998) priming studies intellectual performance was mediated by greater accessibility of the “smart” construct following a priming procedure (and potentially greater accessibility of the “golf skill” construct in Lee et al., 2011), our contagion process proposes changes in performance to be caused by physical contact and mediated by confidence and not to be the result of mere priming. Secondly, we do not expect that the effect of ability contagion will be observed for every individual. Indeed, King, Burton, Hicks, and Drigotas (2007) demonstrated reliable effects of individual differences on susceptibility to magical thinking. Their research explores the prevalence of magical thinking as a product of the experiential processing system, which is present in varying degrees in each individual. Accordingly, as discussed next, we suggest that ability contagion is more likely to have implications for individuals who are high experiential processors.

Experiential processing and ability contagion

Over the last decades, many dual-process accounts of human behavior have been proposed in the social and cognitive psychological literatures. Regardless of the terminology they employ or the nuanced differences across these many models, they all share the basic tenet that there are two modes of processing that guide human behavior. One system, often referred to by the neutral term “System 1” (Evans, 2008; Kahneman & Frederick, 2002), represents processing that is more automatic, less effortful, associative, rapid, and more holistic. The other system (“System 2”) characterizes processing that is more rational, controlled, analytical, and conscious. Regardless of the specific labels given to these two processing modes (e.g., heuristic vs. systemic: Chaiken, 1980; System 1 vs. System 2: Kahneman & Frederick, 2002; associative vs. rule based: Slobman, 1996), by and large they align with the assumptions of a generic System 1/System 2 theory (Evans, 2008). Some dual-process theories dominate in particular domains because the underlying assumptions are more suitable to account for the behaviors observed in those specific types of judgments and decision making. While a review of the various dual process theories and their underlying assumptions is beyond the scope of this paper, we refer readers to Evans (2008) for a comprehensive review. However, as one example, the dual-process systems that propose that the reflective reasoning system endorses or inhibits default intuitive judgments seemingly dominate in studies of probability and risk. By contrast, theories that posit competing processing styles, such as cognitive experiential self theory (CEST; Epstein, 1994), seemingly dominates the study of religious and magical beliefs.

Cognitive experiential self theory (Epstein, 1994) proposes that people process information through two independent but interacting modes of processing, the rational and the experiential systems. Similar to System 2, the rational system is slow and intentional, and behavior guided by it is mediated by conscious appraisals. Thus, processing under the rational system is analytic and logical. In contrast, the experiential system (similar to System 1) is fast and automatic, guided by holistic associations and broad generalizations (Epstein, 1990, 1994; Epstein, Pacini, Denes-Raj, & Heier, 1996). The rational system is primarily under the conscious control of the individual and acts in accordance with conventional rules of inference, sharing most assumptions of generic Systems 1 models (Epstein, Lipson, Holstein, & Huh, 1992). However, CEST proposes the rational system is far less important to everyday behavior and judgment than people assume. The experiential system is “the system of greatest interest to CEST, because it is in this system that people’s personal theories of reality reside – theories that automatically interpret, encode, and organize experience and direct behavior” (Epstein et al., 1992, p. 328).

Given the independent nature of the two systems, individuals who are low in experiential (rational) processing are not necessarily high in rational (experiential) processing. Rather, some individuals have strong differences in their preferences for using one system over another, and the experiential and rational systems are orthogonal (Pacini & Epstein, 1999) and have access to distinct forms of knowledge (Evans, 2008). Indeed, one major distinction of CEST is the explicitly theorized linkage between cognitive systems and dispositional thinking styles. The idea that people have dispositional thinking styles led to research that correlates
processing style with unique personality traits. For example, high experiential processors’ greater reliance on gut feelings and intuition lead them to be more emotionally expressive, trusting, tolerant, and spontaneous (Pacini & Epstein, 1999) and, interestingly, to have greater life satisfaction (Schutte et al. 2010; see Pacini & Epstein, 1999; Schutte et al., 2010, for a more detailed description of CEST and personality profiles). Additionally, this greater reliance on gut feelings and intuition also affects decision making, as high experiential processors value and use expert advice in financial decision making to a lesser degree (Godel & Murray, 2008). While the experiential and rational systems are present in all individuals, the degree to which people typically operate in one processing mode or the other is likely to depend on situational as well as individual factors. Therefore, even predominantly rational information processors who consciously reject a particular irrational belief nevertheless are more likely to act nonconsciously in accordance with it when environmental cues activate the experiential processing mode.

Thus, the role of intuitive beliefs in general, and experiential processing specifically, is of particular importance in domains of religion and magical thinking (e.g., superstitions and sympathetic magical beliefs). Intuitive expectations are thought to be at the origin of religious beliefs that make gods and spirits plausible, divine communication possible, and taboo sensible (Baumard & Boyer, 2013). In their work on irrational beliefs and experiential processing, King and colleagues propose that “Within the experiential system, seeing is believing. Thus, this system may be crucial to the emergence of paranormal and superstitious beliefs and the persistence of these beliefs in the face of contradictory information.” (King et al., 2007, p. 907).

Indeed, there is growing empirical evidence that experiential processing is germane to the development of magical beliefs. Epstein and colleagues initially showed that experiential processing is highly correlated with superstitious beliefs (Epstein et al., 1996). Several more recent studies provide supporting evidence that high experiential processing is highly correlated with superstitious, magical, paranormal and religious beliefs (Aarnio & Lindeman, 2005; Lindeman & Aarnio, 2006; Wolfaid, Straube, Bischoff, & Mischo, 1999). Of most relevance to the current work, King et al. (2007) extend this to the realm of magical thinking, and the laws of similarity and contagion. In particular, high (vs. low) experiential processors behave more consistently with the law of similarity; they have greater difficulty throwing darts at a picture of a baby than at a face-shaped circle. Likewise, high (vs. low) experiential processors behave more consistently with the law of contagion, positioning their chairs further away from someone who had supposedly come into contact with excrement but had gone home to change (King et al., 2007). Thus, the impact of ability contagion on task performance should be moderated by the extent to which individuals rely on experiential processing. Specifically, high experiential processors should perform better on a task requiring ability following physical contact with objects containing essence of prior users high, as compared to low, in that ability.

Overview of studies

Our studies collectively answer the research questions posed earlier by demonstrating that a specific ability, like creativity, is believed to transfer through intermediary objects, and that higher vs. lower ability contagion can indeed manifest as differential performance of high experiential processors on tasks requiring that ability. In Study 1, we also differentiate our account based on ability contagion from an account based on priming. In Study 2, we document evidence of the role of confidence in the relationship between creative ability contagion and performance. A follow-up study replicates the ability contagion effect in the intellectual ability domain, with confidence shown to be the underlying process. In Study 3, we then find that performance expectations, via confidence, mediate the effect of contagion on performance. Our analyses control for several potentially competing explanations and influences on performance, including differences in rational processing, motivation, affect, perceived task difficulty, and luck perceptions.

Study 1

The objectives of Study 1 were twofold. First, we sought to find initial support for our proposition that ability contagion impacts actual performance of high experiential processors, but not of low experiential processors. Second, we wanted to differentiate our account based on ability contagion from an alternative one grounded in priming.

We operationalized higher (vs. lower) ability contagion as a prior respondent’s relatively higher (vs. lower) creativity based on his supposed performance on a word-association task requiring creativity. As explained below, in the touch conditions, participants received a study guide in hard copy, whereas in the no-touch conditions it was displayed on the computer screen. Participants in the control condition were not exposed to a guide. All respondents then completed a creative ability word association task (Bowden & Jung-Beeman, 2003). We expected that high experiential processors would perform better on a creativity task when using a guide previously touched by a respondent relatively higher, as compared to lower, in creative ability. This effect should be eliminated in the no-touch conditions if ability contagion, and not priming, is underlying the effect, since only the former, but not the latter, requires touch. Lastly, a previous respondent’s ability should not impact the performance of low experiential processors.

Method

Two hundred and three students from an East Coast university participated in a study on creativity for class credit. Six participants whose thinking style scores were more than three standard deviations away from the sample mean and three participants who did not complete the study materials in their entirety were eliminated, leaving a final sample of 194.

Study 1 used two manipulated factors (contagion condition: prior respondent’s creative ability higher vs. lower; touch condition: touch vs. no-touch) and one measured factor (level of experiential processing, continuous), plus a separate control condition. Participants were given two sets of materials (see Appendix A): the instruction sheet with a “creativity guide” listing five ways to enhance creativity ostensibly to provide help on how to become more creative (e.g., “Think outside the box;” “Develop a healthy disregard for common opinion”), and a questionnaire with the main dependent variable and additional measures. The instruction sheet informed participants that each guide would be used by multiple students (“to help save on data entry time”), and that they should write their names on the next available line at the bottom of the sheet. This sheet and the accompanying guide constituted the ability contagion manipulation.

In all conditions, participants supposedly were the second person to use the guide; the first respondent was always the same fictitious student. Whereas the guide was in hard-copy and participants hand-wrote their names on line 2 in the touch conditions, the guide was displayed on the computer monitor, and participants typed their names on line 2 in the no-touch conditions. To manipulate the contagion conditions of higher vs. lower creative ability, the ostensible
creative performance of the previous respondent on the word association problems was evaluated by the experimenter. Specifically, next to the spaces for subjects' names was a box labeled, “Do not write in this space – for experimenter use only,” followed by lines supposedly reserved for the experimenter to write down the performance of each respondent, which was judged a 19 (3) out of a possible high score of 20 in the higher (lower) creative ability condition (see Appendix A).

After reading the guide either on the computer screen or in hard-copy, all participants completed the creativity task on paper, which consisted of a word association problem taken from Bowden and Jung-Beeman (2003). Before the main task, they were given two word association examples: for the three words “cracker / fly / fighter” a fourth word related to all three was “fire” (firecracker, firefly, fire fighter); for the three words “flame / mobile / cone” the fourth word was “snow” (snowflake, snowmobile, snow cone). This task allows for the measurement of creativity because the word participants generate first is often incorrect, requiring them to think creatively of words more distantly related to the three words as the solution (Bowden & Jung-Beeman, 2003; Mednick, 1968). Participants were then asked to complete three word association tasks: (1) “dew / comb / bee” (answer: honey); (2) “pile / market / room” (answer: stock); and (3) “pine / crab / sauce” (answer: apple). The score on the three tasks constituted our main dependent variable.

We next took several ancillary measures to control for in the analyses. First, participants evaluated their experience with completing the creative ability task to ascertain that the hypothesized effect was not simply driven by differences in positive affect elicited by enjoyment of the task (Isen, Daubman, & Nowicki, 1987). Specifically, participants evaluated the task using three semantic-differential scales (where 1 = hated it, not enjoyable, unexciting; and 7 = loved it, enjoyable, interesting; α = .91). To control for the potential influence of differential levels of motivation, we then asked participants how much effort they put into the creativity task (where 1 = not a lot, and 7 = a lot). We also assessed how similar participants thought they were to the previous respondent, and how similar they thought the previous respondent was to them (Tesser, 1988), where 1 = not at all, and 7 = very much; r = .84, p < .001. Finally, to ascertain that the contagion effect is not simply a reflection of the belief that the guide itself is lucky, participants rated how much luck the guide had brought them, and how lucky they thought the guide was (where 1 = not at all, and 7 = very much; r = .86, p < .001).

As a manipulation check for the touch manipulation, participants indicated how likely it was that the previous respondent had touched the guide, and how likely it was that the previous respondent had come in physical contact with it (where 1 = not at all, and 7 = very much; r = .71, p < .001). We then assessed level of experiential processing (Epstein et al., 1996; α = .77; see Appendix B1). Further, although research has shown that differential levels of magical thinking are limited to differences in experiential thinking (King et al., 2007), we sought to ascertain that indeed, the effect of experiential processing on ability contagion was independent of respondents’ level of rational processing. Thus, participants also completed the rational processing subscale (α = .83; Appendix B2) of the rational-experiential inventory. Lastly, they were debriefed and thanked.

**Results**

**Manipulation check**

A multiple regression analysis to predict the degree to which participants perceived that the guide had been touched by the previous respondent from the mean-centered level of experiential processing, contagion condition (0 = prior respondent’s creative ability higher, 1 = lower), touch condition (0 = no-touch, 1 = touch), the two- and three-way interactions, as well as the task evaluations, effort, perceived similarity, luckiness of the guide, and level of rational processing covariates yielded the expected main effect of touch condition (β = 1.7945, t = 4.59, p < .001), showing that the touched study guide was indeed more likely to be perceived to have been touched. No other effect was significant.

**Actual performance**

To test the interactive effect of experiential processing, contagion condition, and touch condition on creative performance, we employed the bootstrapping approach to derive confidence intervals with 10,000 resamples (Model 3 in Hayes, 2013), regressing task performance on the same variables as above. Results showed only the predicted level of experiential processing × contagion condition × touch condition three-way interaction (β = - .8657, t = - 2.05, p < .05), with a 95% confidence interval excluding zero (−1.7016 to −.0294). The effect of the perceived luckiness covariate was also significant (β = - .0900, t = −2.14, p < .05), such that performance improved as perceived luckiness of the guide decreased.

Next, we conducted separate analyses for participants in the touch vs. no-touch condition using the bootstrapping approach to derive confidence intervals with 10,000 resamples (Model 1 in Hayes, 2013). For participants who used a guide that had previously been touched, analysis found a marginally significant main effect of contagion condition (β = −.2588, t = −1.71, p < .10), such that participants’ performance directionally improved with increasing creative ability of the previous respondent. Importantly, we also found the predicted level of experiential processing × contagion condition interaction (β = −.6054, t = −2.03, p < .05), with a 95% confidence interval that excluded zero (−1.2010 to −.0098). No other effects were significant.

As shown in Fig. 1a, and consistent with our proposition, high experiential processors solved significantly more creativity problems correctly when using the guide previously touched by a respondent higher than lower in creative ability. Specifically, contagion predicted task performance among high experiential processors (β = −.5679, t = −2.59, p = .01), with a 95% confidence interval excluding zero (−1.0063 to −.1295). On the other hand, contagion condition did not impact performance of low experiential processors (β = 0.5030, t = 2.4, p > .10), with a 95% confidence interval that included zero (−.3692 to .4698). Further, and inconsistent with an alternative explanation based on priming, regression analyses parallel to those above found that none of the independent variables or the covariates was a significant predictor of performance among participants in the no-touch conditions (see Fig. 1b).

![Fig. 1a.](image-url) Interactive effects of level of experiential processing and prior respondent’s creative ability on number of creative word problems solved correctly in the touch and control conditions (Study 1).
In addition, to examine the relative influence of positive (higher creative ability) and negative (lower creative ability) contagion in high experiential processors’ differential performance, we tested if their performance differed between the control and the higher creative ability contagion conditions, as well as between the control and lower creative ability contagion conditions. Results showed that high experiential processors’ performance in the positive contagion (vs. control) condition was marginally higher ($\beta = -.3887, t = -1.80, p < .10$), but did not differ between the negative contagion and control conditions ($\beta = -.1205, t = -.62, p > .10$).

Discussion

Study 1 provided support for our theory about the effect of ability contagion on actual performance, while casting doubt on priming as an alternative explanation. Specifically, we found that high experiential processors, independent of their evaluations of the task, effort, perceived similarity to the previous respondent, luckiness of the guide, and level of rational processing, solved more creativity problems correctly when using a guide that had been touched by a previous respondent with higher, as opposed to lower, creative ability. However, consistent with our contagion explanation but inconsistent with a priming explanation, differences in performance obtained only when the guide had been touched. Finally, the finding that performance increased as perceived luckiness of the guide decreased casts doubt on an alternative explanation based on perceived luck, since this explanation would predict a positive relationship between performance and luck perceptions. While unanticipated, the negative relationship between performance and luck is nonetheless interesting because it suggests that use of a lucky item might result in some manner of relinquishment of control – in essence letting the lucky item “take over.” We leave it to future research that specifically manipulates levels of luck residing in objects to explore this speculation.

Additionally, we found that compared to a control condition, the effect of higher creative ability contagion was greater than that of lower creative ability contagion among high experiential processors. Interestingly, prior research comparing positive and negative physical attribute contagion effects in general has found that the latter tends to be greater than their positive counterparts (e.g., Rozin et al., 1986). In contrast, our study found a relatively greater impact of positive (i.e., higher creative ability) than of negative (i.e., lower creative ability) contagion. However, in prior research, the potency of negativity (vs. positivity) obtains because the negative contagion is “more negative than the corresponding positive events are positive” (p. 207, Rozin & Nemeroff, 2002). That is, Mother Theresa is not as positive as Hitler is negative; butterflies are not as positive as cockroaches are negative (Rozin & Nemeroff, 2002). Unlike in these studies, in which the comparison is generally equal; if anything, the idea of “creative ability” has a slight positive advantage (compared to creative disability).

Although we have thus found initial support for our proposition that ability contagion can impact actual task performance of high experiential processors, we do not yet know how ability contagion exercises its influence. In Study 2 we extend the findings from Study 1 by examining the psychological mechanism underlying this effect.

Study 2

The objectives of Study 2 were twofold. First, we tried to cast additional doubt on priming as an alternative explanation for the effect. Second, we wanted to examine differences in confidence as the process underlying the effect of ability contagion on performance.

We again operationalized higher (vs. lower) ability contagion as prior respondents’ relatively higher (vs. lower) performance on a task requiring creativity. To cast additional doubt on priming as the underlying process, the current study exposed participants equally to the possibilities of doing well (or not very well) on the creative task. If contagion, and not priming, drives our results, we expect that high experiential processors should perform better on a creativity task when using a guide previously touched by a respondent with relatively higher (vs. lower) creative ability scores, even when first exposed to both versions of the study guide (one presumably touched by respondents higher in creative ability and one touched by respondents lower in creative ability). This effect should again be eliminated in the no-touch conditions. Further, the interaction between experiential processing, contagion condition, and touch condition should be mediated by confidence.

Method

One hundred and eighty-seven students from an East Coast university participated in a study on creativity for class credit. Nine participants, whose responses to the creativity task were more than three standard deviations away from the sample mean, and 19 participants who did not complete the study materials in their entirety, were eliminated, leaving a final sample of 159.

Study 2 used two manipulated factors (contagion condition: prior respondents’ creative ability: higher vs. lower; touch condition: touch vs. no-touch) and one measured factor (level of experiential processing, continuous). As in Study 1, participants were given two sets of materials: the instruction sheet with a “creativity guide” listing five ways to enhance creativity as the contagion manipulation, and a questionnaire with the main dependent variable and additional measures. As before, the instruction sheet informed participants that each guide would be used by multiple students, and that they should write their names on the next available line.

In contrast to Study 1, in which participants were exposed to just one contaminated study guide (either to the higher or to the lower ability contagion one), in the current study all participants were exposed to both study guide types. Specifically, upon arrival at the lab, participants in the touch conditions found both versions of the study guide (with the list of previous respondents and their performance visible) on the desk in their cubicle, and were asked to sit down but not to begin until all study session participants had arrived. Once all participants had taken a seat, the experimenter apologized for a supposed mix-up, informed them that they should only have one study guide in front of them, and randomly removed either the higher or the lower ability study guide from the cubicles.
On the other hand, participants in the no-touch conditions saw the two guides displayed on their computer screen in the cubicle. The experimenter again apologized for a supposed mix-up, told participants that they should only have one study guide displayed on the screen in front of them, and clicked an arrow on the screen to proceed to the next instruction sheet and study guide, which was either the higher or lower ability one for participants to use.

In all conditions, participants supposedly were the fourth person to use the guide, with the first three respondents always being the same fictitious students. Since participants were exposed to two creativity guides in this study, we used two different sets of supposed prior respondents: one for the lower ability contagion condition and one for the higher ability contagion condition. Our participants in the touch conditions handwrote their names on line 4 of the hard-copy of the guide, and those in the no-touch conditions typed their names on line 4 of the guide displayed in the computer screen. To manipulate the contagion of higher vs. lower creative ability, the ostensible creative performance of the three previous respondents had been evaluated by the experimenter next to their names, receiving a grade of A, B+, and A– (C, C+, and C–), in the higher (lower) creative ability contagion condition.

After participants wrote down their names and read the study guide, we assessed their level of confidence using three items (confident, worried (reverse-scored), uneasy (reverse-scored); where 1 = not at all, and 7 = very much; a = .78, p < .001). Lastly, participants indicated their prior experience with completing creativity tasks (a = .1351, t = 2.39, p < .05), such that participants rated the task as more fun with increasing levels of effort and prior experience with creativity tasks.

Actual performance
To test the interactive effect of experiential processing, contagion condition, and touch condition on creative performance, we employed the bootstrapping approach to derive confidence intervals with 10,000 resamples (Model 1 in Hayes, 2013) and regressed task performance on the same variables as above. Only the predicted level of experiential processing x contagion condition x touch condition three-way interaction (a = –5.2049, t = –2.00, p < .05) was significant, with a 95% confidence interval excluding zero (–10.3426 to –0.673). The effect of the time spent covariate was also significant (a = .2193, t = 3.26, p < .01).

Next, we conducted separate analyses for participants in the touch vs. no-touch conditions using bootstrapping to derive confidence intervals with 10,000 resamples (Model 1 in Hayes, 2013). For participants who used a guide that had previously been touched, the predicted level of experiential processing x contagion condition interaction was significant (a = –3.4119, t = –2.56, p < .05), with a 95% confidence interval that excluded zero (–6.0704 to –.7535). As shown in Fig. 2a, and consistent with the results of Study 1, high experiential processors generated more unusual uses for a paperclip when using the guide previously used by respondents higher than lower in creative ability (a = –2.9152, t = –2.85, p < .01), with a 95% confidence interval excluding zero (–4.9555 to –.8749). On the other hand, contagion condition did not impact performance of low experiential processors (a = .8415, t = .85, p > .10), with a 95% confidence interval that included zero (–1.1205 to 2.8034). Further, and inconsistent with an alternative explanation based on priming, regression analyses parallel to those above in the no-touch conditions only found a main effect of the length of time spent covariate on performance (a = .5279, t = 5.01, p < .001); however, none of the independent variables was a significant predictor of task performance when participants were exposed to, yet unable to touch, the guide (see Fig. 2b).

Lastly, we examined if the effect of creativity contagion was limited to performance on tasks requiring creativity, or if it carried over to a second task in another ability domain. Regressing the

**Fig. 2a.** Interactive effects of level of experiential processing and prior respondent’s creative ability on number of unusual uses for a paperclip generated in the touch condition (Study 2).
number of math problems solved correctly on the mean-centered level of experiential processing, contagion condition, touch condition, the two- and three-way interactions, and level of rational processing experience with completing math problems, and creativity task performance (to control for any potential interaction between performance on the creativity task and the intellectual task) as covariates only yielded a significant main effect of the experience with math problems covariate (β = −1.5955, t = 2.89, p < .01), such that performance on the math problems improved the more experience participants had with completing math problems.

The role of confidence
To examine if confidence mediated the interactive effect of experiential processing, contagion condition, and touch condition on creative task performance, we again employed the nonparametric bootstrapping approach to derive confidence intervals (Hayes, 2013; Model 12) with 10,000 resamples. Results showed a significant main effect of experiential processing (β = −2.3924, t = −3.81, p < .001), of the experiential processing × contagion condition interaction (β = 2.5316, t = 3.69, p < .001), the experiential processing × touch condition interaction (β = 2.7117, t = 4.05, p < .001), and the three-way interaction (β = −3.0088, t = −3.83, p < .001) on confidence. The rational processing (β = .5983, t = 3.90, p < .001) and effort (β = −2.1122, t = −2.46, p < .05) covariates also significantly affected confidence.

Next, level of confidence had a significant effect on task performance (β = −.5652, t = −2.09, p < .05), controlling for all other variables. Importantly, and in support of differences in confidence driving the interactive effect of experiential processing, contagion condition, and touch condition on creative performance, the bootstrapping analysis showed that the indirect effect of highest order interaction was significant (β = 1.7006), with a 95% confidence interval excluding zero (.1753–4.1591).

Discussion and follow-up study
Study 2 replicated the results of Study 1, providing support for our theory about the effect of ability contagion on actual performance, even when participants were exposed to both sets of contagion materials. In particular, high experiential processors generated more unusual uses for a paperclip when using a guide that had been touched by previous respondents with higher, as opposed to lower, creative ability. Differences in creative performance were eliminated when the guide had not been touched previously. Further, ability contagion was limited to the creativity tasks, such that differences in creative ability contagion were reflected in high experiential processors’ subsequent creative performance, but not in their intellectual performance on math problems. Since the math ability tasks always followed the creative ability tasks, we cannot determine whether the effect occurs only within the domain of the previous success or is relatively short-lived. We leave this for future research to explore.

However, our finding begs the question if high experiential processors’ intellectual performance is at all prone to the influence of magical beliefs when the intermediary vehicle has been subject to intellectual ability contagion. We therefore ran a follow-up study asking participants to complete a task requiring intellectual ability. We operationalized higher (vs. lower) intellectual ability contagion as prior respondents’ relatively higher (vs. lower) academic ability based on college grade point average and associated performance on a task requiring intellectual ability. Specifically, 109 students from an East Coast university participated in a study on analytical reasoning skills. Six participants with thinking style scores more than three standard deviations away from the sample mean, and twelve participants who did not complete the study materials in their entirety, were eliminated, leaving a final sample of 91. The study used one manipulated factor (contagion condition: prior respondents’ intellectual ability higher vs. lower) and one measured factor (level of experiential processing, continuous).

Participants were asked to first write down their current cumulative GPA on the next free line available at the bottom of the instruction sheet, and to read the attached guide. In both contagion conditions, our participants were the 7th respondent. The six prior respondents’ GPAs averaged 2.33 (3.68) in the lower (higher) academic ability condition. Further, in the lower (higher) academic ability condition, the percentages of questions the previous respondents had supposedly answered correctly were 20, 40, 40, 10, 20, and 30 (90, 80, 80, 100, 90, and 90).

Participants answered five questions, which were in a multiple-choice format with five possible answers each, for each of two analytical reasoning problems adapted from an LSAT preparation guide (McLain, Holland, Avelar, & Webking, 2007). We also assessed perceived difficulty of the problems (difficult, straightforward = 1; easy, complicated (reverse-scored) = 7; r = .35, p < .001), to ascertain that the contagion manipulation did not influence expectations about the difficulty of the problems, resulting in a self-fulfilling prophecy. Next, they indicated how confident they felt about their performance (where 1 = not at all, and 7 = very), followed by the experiential (α = .78) and rational (α = .82) processing subscales of the rational-experiential inventory (Epstein et al., 1996).

Regressioning mean-centered level of experiential processing, contagion condition, and their interaction (Model 1 in Hayes, 2013) on task performance, with participants’ stated GPA, perceived problem difficulty, and rational processing as covariates, revealed a marginally significant effect of contagion condition (β = −.8114, t = −1.88, p = .10), such that performance directionally improved when participants used the guide previously touched by respondents higher (vs. lower) in intellectual ability. Importantly, we also obtained the expected level of experiential processing X contagion condition interaction (β = −1.7769, t = −2.14, p < .05). In particular, high experiential processors performed significantly better when the previous respondents had higher vs. lower intellectual ability (β = −1.7114, t = −2.88, p < .01), and the 95% confidence interval excluded zero (−2.8913 to −.5316). Prior respondents’ intellectual ability did not impact performance of low experiential processors (β = .0886, t = 1.4, p > .10), and the 95% confidence interval included zero (−1.1299 to 1.3070).

Mediation analysis (Model 8 in Hayes, 2013) showed a significant main effect of experiential processing (β = .9432, t = 2.02, p < .05) and a significant experiential processing × contagion condition interaction (β = −2.7239, t = −3.82, p < .001) on confidence.
The perceived problem difficulty covariate also significantly affected confidence ($\beta = 0.5111$, $t = 3.45$, $p < 0.001$). Confidence in turn had a significant effect on task performance ($\beta = 0.3383$, $t = 2.76$, $p < 0.01$), controlling for all other variables. Importantly, the bootstrapping analysis evinced that the indirect effect of highest order interaction was significant ($\beta = -0.9214$), with a 95% confidence interval that excluded zero ($-1.8801$ to $-0.3235$).

Therefore, the results of the current study were consistent with our proposition that ability contagion impacts individuals’ confidence, which in turn affects actual performance. Further, ability contagion appears not to be limited to creative ability. However, if decision-makers hold irrational beliefs of ability contagion as we propose, then their increased confidence ought to be evidenced in increased performance expectations as well as actual performance. Indeed, performance expectations have been shown to be a mediator of actual performance in other paradigms where the source stimuli rationally ought not to lead to difference performance (e.g., in placebo effects). For example, Shiv, Carmon, and Ariely (2005) demonstrate that performance expectations (e.g., via a price discount) mediate actual performance on puzzle solving tasks under varying conditions of presumed product efficacy. Therefore, in our final study we test the effect of ability contagion on confidence, performance expectations, and actual performance.

Study 3

The objective of Study 3 was to seek support for our theorizing that ability contagion is an antecedent to confidence, which in turn drives performance expectations, and that it is performance expectations that ultimately drive performance.

Method

Two hundred and thirty-three students from an East Coast university participated in a study assessing creative ability as in Study 2 (Fitzsimons et al., 2008). The study used one manipulated factor (contagion condition: prior respondents’ creative ability higher vs. lower) and one measured factor (level of experiential processing, continuous). Two participants with thinking style scores more than three standard deviations away from the sample mean, and nine participants who did not complete the study materials in their entirety, were eliminated, leaving a final sample of 222.

Upon arrival at the behavioral lab, participants were given two sets of materials: the instruction sheet with a creativity guide, and a questionnaire with the creative ability task and measurement scales. Specifically, as in the previous studies, participants were asked to first write down their name on the next free line available at the bottom of the instruction sheet and to read the attached guide. In all conditions, participants were the fourth person to use the guide; the first three respondents were always the same fictitious students. The supposed performance of the previous respondents on the creativity task had been evaluated and recorded by the experimenter and was shown next to their names; their creative performance had been judged an average of 18 (8) out of a possible high score of 20 in the higher (lower) creative ability condition.

After reading the guide, but before the creativity task, participants marked how confident they were that they would do well when completing the creative ability task (where 1 = not at all and 7 = very). Next, we assessed participants’ expectations for their performance on the creative ability task (where 1 = expect to perform not well at all, 7 = expect to perform very well). This was followed by the experiential ($x = 0.80$) and rational ($x = 0.83$) subscales of the rational-experiential inventory (Epstein et al., 1996). Finally, participants were debriefed and thanked.

Results

Actual performance

To test the interactive effect of experiential processing and contagion condition on creative performance, we used bootstrapping to derive confidence intervals with 10,000 resamples (Model 1 in Hayes, 2013), controlling for participants’ level of rational processing. We found a significant main effect of experiential processing ($\beta = 2.1928$, $t = 3.13$, $p < 0.01$), and the expected level of experiential processing X contagion condition interaction ($\beta = -2.5127$, $t = -2.36$, $p < 0.05$). The rational processing covariate was also significant ($\beta = 2.5829$, $t = 4.31$, $p < 0.001$), which, although we had no a priori expectations for it, is consistent with the literature that shows rational processing may sometimes impact creative performance (Couger, 1995; Kaufmann & Vosburg, 1997). As depicted in Fig. 3, high experiential processors generated significantly more unusual paperclip uses when previous respondents who had previously touched the guide were higher vs. lower creative ability ($\beta = -1.8209$, $t = -2.26$, $p < 0.05$), with the 95% confidence interval excluding zero ($-3.4074$ to $-2.345$). In contrast, prior respondents’ creative ability did not impact performance of low experiential processors ($\beta = .8762$, $t = 1.09$, $p > 0.10$), as further evidenced by the 95% confidence interval that included zero ($-.7076$ to $2.4601$).

Sequential mediation of confidence and performance expectations

To examine if confidence and performance expectations sequentially mediated the interactive effect of experiential processing and contagion condition on task performance, we employed the nonparametric bootstrapping approach to derive confidence intervals using the SPSS-macro syntax developed by Hayes (2012, model 6) with 10,000 resamples. Results showed a significant effect of the experiential processing X contagion condition interaction on confidence ($\beta = -0.8448$, $t = -2.02$, $p < 0.05$). Next, level of confidence had a significant effect on performance expectations ($\beta = 0.7692$, $t = 11.95$, $p < 0.001$), controlling for all other variables. Performance expectations, in turn, had a marginally significant effect on task performance ($\beta = 0.9287$, $t = 1.65$, $p < 0.10$), controlling for all other variables. Importantly, the direct effect of the experiential processing by contagion condition interaction on task performance was negative and no longer significant ($\beta = -2.1369$, $t = -1.66$, $p < 0.10$), indicating indirect-only mediation (Zhao, Lynch, & Chen, 2010), such that the interactive effect of experiential processing by contagion condition on task performance was fully mediated by performance expectations via confidence. Additionally, the mean indirect effect of the bootstrap analysis was negative and significant ($-0.6035$), with a 95% confidence interval excluding zero ($-1.8562$, $-0.0135$) for the hypothesized sequence of contagion, confidence, performance expectations, and task performance. On the other hand, the
confidence intervals for confidence (−0.5818, 1.4375) and for performance expectations (−1.1783, 0.7763) as single mediators included zero. Further, switching the order of the mediators and re-running the analyses for the sequence of contagion condition, performance expectations, confidence, and task performance showed that the mean indirect effect of the bootstrap analysis was not significant (0.0804), with a 95% confidence interval including zero (−0.3080 to 0.8236).

Discussion

The results of Study 3 replicated and extended those found in our previous studies. In particular, we showed that high experiential processors performed better on a creative task when using a guide that ostensibly had been used by previous respondents with higher as compared to lower creative ability. Importantly, we found evidence that performance expectations, via confidence, mediated the effect of ability contagion on performance.

General discussion

Across a series of studies we demonstrated the existence of a magical belief that abilities can contaminate intermediary objects and transfer through touch. Results showed that creativity is perceived to transfer from a source to a target through an object when touched. Contagion of higher vs. lower ability manifests in increased performance among high experiential processors on tasks requiring that ability through increased performance expectations via higher confidence. Our studies examined an alternative explanation based on priming, and control for effort, motivation, affect, rational processing, and perceptions of luck. While our results support a contagion explanation, we do acknowledge that in order to create a no-touch condition, we displayed the guide on a computer screen, which eliminated the necessity of physical touch. It is possible that computer guides and paper guides might differ on other dimensions such as visual fluency or some aspect of information processing. We encourage future research that explicitly explores whether varying levels of fluency (e.g., paper guides in standard fonts vs. hard-to-read, diminished fonts) might moderate contagion effects.

It would also be interesting in future research to tease apart how much of the change in performance is driven by increases in confidence vs. decreases in anxiety following ability contagion. Specifically, research has shown that both greater confidence (Darke & Freedman, 1997a; Weinberg & Gould, 2003) and reduced anxiety (Brooks & Schweitzer, 2011; Weinberg & Gould, 2003) may improve performance. Note that since anxiety was not the focus of the current research, we did not directly assess anxiety in our studies as other research has (e.g., Brooks & Schweitzer, 2011; Brooks et al., 2014). Specifically, Brooks and colleagues have recently embarked on examining the effect of performing rituals on subsequent performance, finding that performing rituals may decrease anxiety and improve subsequent performance on both singing and math tasks.

This is the first paper to show that specific abilities can transfer through contagion and impact actual performance by changing performance expectations and confidence. The existence of a magical belief that abilities are perceived to transfer through intermediary objects has interesting and unexplored managerial implications for the workplace. For example, employees who are high experiential processors may demonstrate better performance on assigned tasks when using objects (such as pens or computers) perceived to have been used previously by others high in creative or intellectual ability. These implications also extend to the marketplace, like second-hand markets where goods are transferred (resold) between consumers (e.g., eBay, flea markets), and markets where goods are only lent (e.g., libraries). Our research suggests that ability essence would be perceived to transfer from the seller (lender) to the buyer (lendee). We suggest that the area of marketplace products is particularly ripe for additional work on contagion transfer. For example, following a series of studies on consumer packaged goods, Morales and Fitzsimons (2007) conclude that disgust is the critical factor influencing marketplace contagion. They assert that non-disgust related negative feelings (like anger) cannot elicit contamination of consumer products; likewise they speculate that “positive contagion is not likely to occur between products in a retail context” (p. 281) as a result of physical contact. The current research, while not conducted in a retail context per se, casts doubt on this speculation. We endorse the view that belief in product contagion, both negative and positive, is rather pervasive across products and domains, and suggest that systematic study of the boundaries of such is particularly welcome.

An interesting opportunity for future research on contagion arises in situations where a service or company is merely passing an object from one individual to the next. For instance, museums regularly rent audio devices or iPod Touch devices for attendees to conduct self-guided tours and retrieve additional information. Since the previous user is anonymous, it is unlikely that a consumer-device-consumer contagion is relevant, but might some characteristic of the museum itself transfer through these devices? Might audio listeners at the Museum of Modern Art feel more artistic, or more modern, than those who do not borrow the audio device? This is conceptually similar to earlier work demonstrating that when a brand is linked to a human characteristic, primed exposure to the brand can result in increases in trait-consistent behavior (Fitzsimons et al., 2008). In the Fitzsimons et al. (2008) study, consumers exposed to the brand Apple outperformed consumers primed with IBM or a control prime on a standard measure of creativity. The effect of brands as behavioral primes obtains because of the complex brand representations, including goal-relevant associations, which have been learned over time and can be accessed upon brand exposure. Would similar effects of brand exposure obtain through physical contact rather than behavioral priming when no complex brand representations, or defined personality traits, exist in consumers’ memories? We have some preliminary evidence that it might. Results from a separate unpublished study show that lab participants who were handed a Smarties candy wafer roll by the experimenters outperformed those participants handed a DumDum lollipop on math problems. Consistent with the current research and a contagion (vs. priming) explanation, this effect was moderated by participants’ level of experiential processing. That participants who are higher (vs. lower) on experiential processing scored better on math problems after physical contact with a seemingly insignificant product like Smarties, for which only the brand name implies “intelligence” but no deeper level of meaning exists, suggests broader implications for services or consumer products. A brief Google search resulted in dozens of products with the word smart in the brand name (e.g. Smartwater, smartphone, Smart car, SmartMoney magazine, Smarties candies, SmartStart cereal, Smart chicken). Perhaps purchase of these brands is not only a smart choice as often communicated in their advertisements, but their consumption can have actual implications for subsequent ability performance of consumers who rely on their intuition in information processing.

Although contagion has primarily been studied in the context of objects, there is evidence of positive and negative contagion in land and spaces that hold value (Rosin & Wolf, 2008). For example, positive contagion can be transmitted through ownership or burial of ancestors to the land itself, land inhabited by enemies can become tainted (Rosin & Wolf, 2008). Further, religious behavior suggests a belief that spiritual essence can transfer through places. Well-known “holy” places where sanctity lingers include the Western Wall and Joseph’s tomb. Those and lesser-known places...
can become venerated and revered sites containing spiritual essence (Feuer, 2009). According to Feuer (2009) quoting the Talmud: “Holiness does not depart its place.” Apparently, success and failure do not depart their places either. While never documented empirically, magical beliefs that the ability of a business to succeed or fail can be transferred through location is anecdotally common. The New York Times reported on tenants of a rental building in Palo Alto willing to pay rents well above market level because the building formerly housed successful upstarts, including Paypal, Logitech, and Google (Helft, 2007). By contrast, the notion that some locations are jinxed is prevalent among small business and restaurant owners (Asimov, 1997). While analysts provide rational reasons for the repeated failure of certain location, business owners may suggest otherwise: “I’m a believer in spaces that are jinxed, and it scares the heck out of me;” and “Both my restaurants were jinxed. People think of me as the jinxed-space person” (restaurant owners as quoted by Asimov (1997)). Future research that explores curious phenomena in the workplace, like jinxed locations, from a contagion theory perspective will provide further insight.

Future research could investigate how long the contagion of prior owners’ characteristics is believed to reside in used objects, vehicles, or real estate locations. Also, we assessed participants’ performance in our studies immediately after they had touched the items containing others’ ability essence; research should examine for how long target individuals become more confident. That is, for how many days into the future will today’s contact with ability-contaminated object affect performance? And, would the presence of additional information related to the previous owner or respondent be reflected in the impact of the focal ability-related one? Also, it would be interesting to examine the amount of ability left in an object after an individual has come in contact with it. That is, once a source transfers ability essence into an object and subsequent touch transfers it into a target, will the object become less contaminated? Did the sneakers remain potent after the college roommate wore them? Future investigations of these and other issues will help us better understand magical thinking and ability contagion.

Acknowledgments

The authors would like to express their deepest appreciation to the AE and reviewers for their critical insights and support. They would also like to thank Christopher Ling and Katina Kulow for their helpful comments on earlier versions of this paper and Helene Heinrich Gugerty for wearing the sneakers.

Appendix A

Study 1 materials for higher creative ability contagion manipulation.

Creative Ability Study

This study tests the creative abilities of current undergraduate students at this university. You should have received two sets of materials:

1) a creativity guide (attached to this instruction sheet) that provides help in terms of how to become more creative
2) a questionnaire with word association problems to test your creative abilities

Please make sure that you received both parts of the study materials now.

Note: Given limited budgets for academic research, each instruction sheet and creativity guide are designed for use by multiple respondents, instead of the customary one set per respondent. This will reduce the costs of this study to us significantly (saving time on data entry).

Your tasks now consist of the following three parts:

1) First, write down your name on the next free line below
2) Next, read the attached creativity guide and answer some questions about yourself
3) Then, complete the creative ability tasks

---

Name:

1
2
3
4
5
6
7
8
9
10

Do not write in this space – For Experimenter use only!

Score on Creative Ability Tasks (20 points maximum):

1
2
3
4
5
6
7
8
9
10
A.1. Creativity guide

Creativity is generally regarded as desirable and as something to be enhanced. Although creativity is often thought of as relating to the creative and performing arts, remember that it can take many forms. The goal of this guide is to show you several quick ways to dramatically enhance your creativity.

A.2. 5 Ways to enhance creativity

To work on creativity-related tasks efficiently and effectively, we suggest that you take the time to read the following suggestions before you proceed to the attached task testing your creativity:

A.2.1. Think outside the box

Although thinking outside the box is easy, the phrase is around with reckless abandon. Few people stop to define it, and even fewer think about it in practical terms. Yet, thinking outside the box is a simple process that can make you more creative.

A.2.2. Develop a healthy disregard for common opinion

Commonly held opinions can quickly kill creative energy. People are creatures of habit who find it easy to disregard anything that is different. If you are constantly seeking the approval of others then your creativity will never flourish.

A.2.3. Ask “what if?”

Pick one aspect of an ordinary situation and imagine what would change if that one aspect were different. Follow this through in all its implications.

A.2.4. Accept your initial ideas without judgment

Give them time to grow and develop before you test them. The reason brainstorming has become such a standby when group creativity is involved is that all criticism is put on hold during the initial idea-generating phase. Allow yourself the same freedom.

A.2.5. Take risks

It’s okay to be wrong. By definition, to be creative you must consider new, and therefore untested, ideas.

Appendix B.1

Experiential processing subscale of the rational-experiential inventory (Epstein et al., 1996). Please rate how well the following statements describe you using the 5-point scale below.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Completely False</th>
<th>Completely True</th>
</tr>
</thead>
<tbody>
<tr>
<td>My initial impressions of people are almost always right.</td>
<td>1-----2----3----4----5</td>
<td></td>
</tr>
<tr>
<td>When it comes to trusting people, I can usually rely on my “gut feelings.”</td>
<td>1-----2----3----4----5</td>
<td></td>
</tr>
<tr>
<td>I can typically sense right away when a person is lying.</td>
<td>1-----2----3----4----5</td>
<td></td>
</tr>
<tr>
<td>I can usually feel when a person is right or wrong even if I can’t explain how I know.</td>
<td>1-----2----3----4----5</td>
<td></td>
</tr>
<tr>
<td>I am quick to form impression about people.</td>
<td>1-----2----3----4----5</td>
<td></td>
</tr>
<tr>
<td>I often have clear visual images of things.</td>
<td>1-----2----3----4----5</td>
<td></td>
</tr>
<tr>
<td>I am a very intuitive person.</td>
<td>1-----2----3----4----5</td>
<td></td>
</tr>
<tr>
<td>I believe in trusting my hunches.</td>
<td>1-----2----3----4----5</td>
<td></td>
</tr>
<tr>
<td>I am good at visualizing things.</td>
<td>1-----2----3----4----5</td>
<td></td>
</tr>
<tr>
<td>I have a very good sense of rhythm.</td>
<td>1-----2----3----4----5</td>
<td></td>
</tr>
<tr>
<td>I believe I can judge character pretty well from a person’s appearance.</td>
<td>1-----2----3----4----5</td>
<td></td>
</tr>
<tr>
<td>I trust my initial feelings about people.</td>
<td>1-----2----3----4----5</td>
<td></td>
</tr>
</tbody>
</table>
Appendix B.2

Rational processing subscale of the rational-experiential inventory (Epstein et al., 1996).
Please rate how well the following statements describe you using the 5-point scale below.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Completely False</th>
<th>Completely True</th>
</tr>
</thead>
<tbody>
<tr>
<td>I would rather do something that requires little thought than something that is sure to challenge my thinking abilities. (reverse-scored)</td>
<td>1-----2-----3-----4-----5</td>
<td></td>
</tr>
<tr>
<td>I like to have the responsibility of handling a situation that requires a lot of thinking.</td>
<td>1-----2-----3-----4-----5</td>
<td></td>
</tr>
<tr>
<td>I would prefer complex to simple problems.</td>
<td>1-----2-----3-----4-----5</td>
<td></td>
</tr>
<tr>
<td>I try to anticipate and avoid situations where there is likely chance I will have to think in depth about something. (r)</td>
<td>1-----2-----3-----4-----5</td>
<td></td>
</tr>
<tr>
<td>I find satisfaction in deliberating hard and for long hours.</td>
<td>1-----2-----3-----4-----5</td>
<td></td>
</tr>
<tr>
<td>Thinking is not my idea of fun. (r)</td>
<td>1-----2-----3-----4-----5</td>
<td></td>
</tr>
<tr>
<td>The notion of thinking abstractly is appealing to me.</td>
<td>1-----2-----3-----4-----5</td>
<td></td>
</tr>
<tr>
<td>I prefer my life to be filled with puzzles that I must solve.</td>
<td>1-----2-----3-----4-----5</td>
<td></td>
</tr>
<tr>
<td>Simply knowing the answer rather than understanding the reasons for the answer to a problem is fine with me. (r)</td>
<td>1-----2-----3-----4-----5</td>
<td></td>
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<tr>
<td>I don’t reason well under pressure. (r)</td>
<td>1-----2-----3-----4-----5</td>
<td></td>
</tr>
<tr>
<td>The idea of relying on thought to make my way to the top appeals to me.</td>
<td>1-----2-----3-----4-----5</td>
<td></td>
</tr>
<tr>
<td>I prefer to talk about international problems rather than to gossip or talk about celebrities.</td>
<td>1-----2-----3-----4-----5</td>
<td></td>
</tr>
<tr>
<td>Learning new ways to think doesn’t excite me very much. (r)</td>
<td>1-----2-----3-----4-----5</td>
<td></td>
</tr>
<tr>
<td>I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.</td>
<td>1-----2-----3-----4-----5</td>
<td></td>
</tr>
<tr>
<td>I generally prefer to accept things as they are rather than to question them (r)</td>
<td>1-----2-----3-----4-----5</td>
<td></td>
</tr>
<tr>
<td>It’s enough for me that something gets the job done; I don’t care how or why it works. (r)</td>
<td>1-----2-----3-----4-----5</td>
<td></td>
</tr>
<tr>
<td>I tend to set goals that can be accomplished only by expending considerable mental effort.</td>
<td>1-----2-----3-----4-----5</td>
<td></td>
</tr>
<tr>
<td>I have difficulty thinking in new and unfamiliar situations. (r)</td>
<td>1-----2-----3-----4-----5</td>
<td></td>
</tr>
<tr>
<td>I feel relief rather than satisfaction after completing a task that required a lot of mental effort. (r)</td>
<td>1-----2-----3-----4-----5</td>
<td></td>
</tr>
</tbody>
</table>

References


