

Nonconscious effects of peculiar beliefs on consumer psychology and choice

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Abstract

Irrational or illogical beliefs are referred to variously as magical thinking, peculiar beliefs, superstitious beliefs, and half-beliefs. We first distinguish the various terms according to their most common and relevant usage for consumer psychologists and define a conceptual structure for the roles of conscious and nonconscious processes associated with peculiar beliefs in decision-making. We present a study that provides initial evidence of the effect of nonconscious, experiential processing on the impact of peculiar beliefs in a consumer auction-based sales scenario. We also offer propositions that extend the theory on peculiar beliefs to their nonconscious effects on consumer psychology and choice.
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Nearly half (48%) of Americans believe in ghosts (Alfano, 2005), 23% of Americans have seen one or been in the presence of one, and one in five believe that spells or witchcraft are real (Handwerk, 2009). Likely, many readers of this article will note these statistics, scoff at the absurdity of others, and then unwittingly proceed to knock on wood, don a lucky hat for the football game, or refrain from sharing news of a potential positive event for fear of jinxing it. Such common irrational or illogical beliefs, which often play an important part in people's lives (Berenbaum, Boden, & Baker, 2009), illustrate that peculiar beliefs may be consciously rejected yet still have an impact on consumer psychology and decision-making on a nonconscious level.

Irrational or illogical beliefs are referred to variously as magical thinking, peculiar beliefs, superstitious beliefs, and half-beliefs. Moreover, the definitions of these terms vary across fields and across researchers, which can make it difficult to generalize results across studies. In this article, we first distinguish and define the various terms according to their most common and relevant usage for consumer psychologists. Given the increase in articles

appearing in consumer behavior journals on superstition and magical beliefs, it is important to distinguish these types of peculiar beliefs because such conceptual clarity will enable greater theoretical progress. As well, the current state of the literature does not adequately address whether the underpinnings of peculiar beliefs are consciously or non-consciously derived. While the simultaneous activation of conscious and nonconscious components of peculiar beliefs is implied in the anthropological, psychological, and consumer work in this domain, to date only a few studies provide direct empirical evidence of the same. To address this limitation of the literature, we report findings from a study that provides initial evidence of the effect of nonconscious, experiential processing on the impact of peculiar beliefs in a consumer auction-based sales scenario. Finally, extant research on peculiar beliefs has progressed in isolation; we provide theoretical bridges to other conceptually related domains in consumer psychology through propositions that extend the theory on peculiar beliefs to their nonconscious effects on consumer psychology and choice. Our intention with this manuscript is to foster future academic work in this area by (1) suggesting a common language through definitions, (2) presenting a conceptual framework for analysis of the conscious and nonconscious components of peculiar beliefs, and (3) offering potential areas for future consumer research via proposition testing.

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Defining the concepts

*The peculiar bent of the genius of each*¹

Peculiar beliefs

Peculiar beliefs represent the broadest, most comprehensive category of illogical beliefs. Peculiar beliefs are beliefs that are “presumed (by scientists, at least) to not be veridical” (Berenbaum, Kerns, & Raghavan, 2000). As the most general type of irrational beliefs, we define peculiar beliefs as beliefs that are non-veridical and do not have a rational, empirical, or scientifically established link to an outcome they are intended to influence. As such, peculiar beliefs are rather common and include magical thinking (e.g., beliefs that people’s essence is transferred into objects they touch), superstitious beliefs (e.g., beliefs that black cats bring bad luck), religious beliefs (e.g., beliefs that angels exist), psi (e.g., beliefs that people can move objects with their thoughts), and precognition (e.g., beliefs that psychics can predict the future) (Dudley, 1999). At its extreme, peculiar beliefs are considered delusions and are the core of several forms of psychopathology, most notably psychotic disorders (Berenbaum et al., 2009).

Two specific types of peculiar beliefs have recently received attention in the consumer psychology literature, namely, magical thinking and superstition. To foster a more unified use of the terminology among researchers, we define these two next, and then discuss their differences, as well as their intersection. The other types of peculiar beliefs indicated above are not referred to interchangeably (e.g., religious beliefs) or not as relevant for consumer researchers (e.g., psi or precognition).

Magical thinking

Magical thinking was broadly defined by Meehl (1964) as “belief, quasi-belief, or semiserious entertainment of the possibility that events which, according to the causal concepts of this culture, cannot have a causal relation with each other, might somehow nevertheless do so” (as cited by Berenbaum et al., 2009). For example, Subbotsky (2004) found that adults seem to exhibit magical thinking when making irrational causation judgments, showing that people were reluctant to stick their hands into an empty box when the suggestion was made that this might cause some harm to their hands. In addition, Pronin, Wegner, McCarthy, and Rodriguez (2006) demonstrated that participants who were instructed to have evil thoughts about a confederate victim felt more responsible for the victim’s later reported physical pain. This erroneous judgment of cause and effect is quite common, with people assuming responsibility or guilt due to the co-occurrence of an ill-wish and a conceptually related negative event.

Nemeroff and Rozin (2000, p. 5) recently popularized a more narrow definition of magical thinking (sometimes referred to as sympathetic magical thinking) as “an intuitive, and possibly universal, aspect of human thinking that follows the principles of similarity and contagion.” The law of similarity is based on

the illogical belief that if two objects share a superficial similarity, they also share deeper similarities. In layman’s terms, the law of similarity suggests that “appearance equals reality” or “like causes like.” Rozin et al. have demonstrated the “appearance equals reality” heuristic with food and consumer choice, including subjects’ hesitancy to put fake rubber vomit (vs. a rubber sink stopper) or chocolate shaped like dog poo (vs. round) into their mouths. Finally, even after subjects themselves labeled a jar “Sodium Cyanide, Poison,” they exhibited an unwillingness to consume sugar from it (Rozin, Markwith, & Ross, 1990; Rozin, Millman, & Nemeroff, 1986).

The law of contagion proposes that physical contact between a source and a target results in a permanent transfer of essence between the two entities. This contact may be direct or may be mediated through a third object or vehicle, which either simultaneously or subsequently touched both objects (Rozin & Nemeroff, 2002). Several properties govern the laws of contagion, including the necessity of actual or perceived physical contact, the permanency of the essence transfer (“once in contact, always in contact”) and dose insensitivity [essence transfer does not require a large amount of contaminant; see Rozin & Nemeroff (2002) for a review of the characteristics of contagion]. For example, Rozin and Nemeroff suggest that a sweater worn but not owned by a person they dislike is more concerning to people than a sweater owned but not worn by the same person (law of physical contact). To illustrate the law of permanency, they use the example of a cockroach briefly running across a bowl of mashed potatoes; if the potatoes are frozen for a year and then defrosted, they are still judged to be inedible. Staying within the food paradigm, Rozin, Ashmore, and Markwith (1996) demonstrated dose insensitivity, such that even small or trace amounts of essential nutrients (e.g., salt and fat) renders food to be labeled as unhealthy.

Perhaps the common acceptance of magical thinking as beliefs conforming to the laws of similarity and contagion is due to the influential and vast work of Rozin and Nemeroff (2002), or perhaps it is due to their express statement that these laws are “more tractable to experimental study” and “easy to manipulate in the laboratory.” In this paper, we define magical thinking consistently with this most commonly accepted definition as peculiar beliefs that conform to the laws of similarity and contagion.

As such, recent work in the marketing literature demonstrates the pervasiveness of magical thinking in consumer contexts and retail environments. Specifically, Argo, Dahl, and Morales (2006) and Morales and Fitzsimons (2007) present a series of studies that collectively demonstrate that consumers’ evaluations of products change in response to perceived physical contact that elicits disgust. Developing a theory of consumer-to-product contagion, Argo et al. (2006) and Argo, Dahl, and Morales (2008) demonstrate that consumers are believed to contaminate products through physical contact. For example, when a clothing item is thought to have been tried on by a previous customer, such perceived contact can result in decreased product evaluations, purchase intentions, and willingness to pay (Argo et al., 2006) or increased evaluations if the

¹ “Do not train a child to learn by force or harshness; but direct them to it by what amuses their minds, so that you may be better able to discover with accuracy the peculiar bent of the genius of each.” Plato.

previous customer was attractive (Argo et al., 2008). Contagion effects such as the above are based on the belief that negative and positive essence from one customer can get transferred to another via the clothing item.

Although the transfer of essence from a source to a recipient via an intermediary object is a mechanism unique to magical thinking that does not exist in other peculiar beliefs, there are instances when beliefs based on the law of contagion and superstition intersect. A particularly common example of the types of two peculiar beliefs working in tandem relates to lucky objects, whereby luck residing in consumer items, such as a lucky charm or a lucky piece of clothing, is hoped to transfer to the individual wearing it. We discuss superstition next.

Superstition

The terms superstition, superstitious beliefs, and superstitious behavior have been used to describe a broad range of phenomena, including beliefs in astrology and magic (Vyse, 1997). In this paper, we define superstitions more narrowly as peculiar beliefs—socially shared or idiosyncratic—that actions or objects can be invoked to control both good luck and bad luck. As such, superstitious beliefs and behavior are instances of consumers' tendency to subjectively believe they have an influence over outcomes where no such objective influence exists. For example, individuals who choose their own lottery ticket are significantly less willing to exchange their ticket for another compared to those who are handed a lottery ticket by the experimenter, even when the exchange does not impact their objective chances of winning (Langer, 1975). Interestingly, research has also found that the degree to which individuals believe that their luck is a stable quality that they possess and control versus just random and beyond their control is a measurable individual trait (Darke, 1993; Darke & Freedman, 1997).

Common socially shared superstitions include the beliefs that black cats bring bad luck and that Friday the 13th is an unlucky day; superstitious behaviors include knocking on wood, or crossing one's fingers for good luck. Examples of personal superstitions or rituals relevant to marketers include consumers' buying and wearing lucky accessories, like charm bracelets, lockets, pens, or cufflinks. Consumption rituals also include using a particular product before important events that are associated either with high likelihood of failure or a high level of uncertainty (Case, Fitness, Cairns, & Stevenson, 2004), such as sporting events, where superstitious beliefs are quite pervasive. Nearly everyone has an anecdote of a friend or acquaintance (or self) who indulge peculiar beliefs by turning off (or deliberately not watching) the last few moments of a game so as not to jinx their team; or wearing the same clothing to each team event; or watching the game in the same venue, with the same friends and ordering the same beer so as to replicate the winning victory of the last game.

Common wisdom and a vast body of anthropological and sociological studies suggest that people are more likely to engage in superstitious behavior in uncertain situations (Keinan, 2002; Malinowski, 1954). For example, Padgett and Jorgenson

(1982) reported an increase in superstitious behavior in times of economic uncertainty, such as the great depression. Similarly, Keinan (2002) found that Israeli residents living in areas more likely to be exposed to Scud missile attacks during the Gulf War were more superstitious than those living in safer zones. More recently, US soldiers driving tanks in the current Iraq war refused to eat apricots, believing they brought bad luck (Phillips, 2003). However, far fewer studies have specifically explored increased use of peculiar beliefs in a context of consumer uncertainty. In one stream of work, Schindler and colleagues study the effects of superstitious beliefs for insurance decision-making (Schindler, Conlin, & Kornberger, 2007; Schindler, Dolansky, & Adams, 2009). Jiang, Cho, and Adaval (2009) recently extended this work into financial investment decision-making. In a study on risk-taking, Jiang et al. demonstrated that consumers were likely to invest more money in an online trading account than into a less-risky IRA when they were primed with lucky numbers than when they were primed with unlucky numbers. Finally, Kramer and Block (2008) showed that superstitious beliefs related to Friday the 13th had a greater impact on consumer choice in relatively more uncertain gambles.

Although peculiar beliefs are generally considered a universal aspect of human thought, there are many examples of magical thinking and superstition whose particular expressions are culture-bound. As an example of distinct cultural contagion beliefs, Rozin and Nemeroff (2002) cite that Japanese family members often share their bath water, whereas Western cultures find such a practice disgusting, ostensibly succumbing to the law of contagion. Examples of distinct cultural superstitious beliefs impacting consumer behavior include the number 8 bringing good luck and the number 4 bringing bad luck in Chinese cultures (e.g., Simmons & Schindler, 2003), whereas the numbers 7 and 13 are associated with good luck and bad luck, respectively, in the United States and other Western cultures.

Furthermore, superstitious beliefs and magical thinking may both be based on rational assumptions of how the world works, such as, for example, contamination by germs. A common superstition is that bad luck (i.e., death to a family member) comes to a person who places shoes on a table, or that mashed potatoes will be permanently contaminated once touched by a cockroach. At the core of these peculiar beliefs is the notion that germs can cause illness. However, many other beliefs that have been documented in the literature related to superstition (e.g., paying 2.4 million yuan for the telephone number 88888888; Yardley, 2006) and magical thinking (e.g., individuals refusing to consume sugar from a bottle they themselves labeled "Sodium Cyanide, Poison"; Rozin et al., 1986; Rozin et al., 1990; a brand new, boxed feminine hygiene product contaminating another product in a supermarket basket, Morales & Fitzsimons, 2007; people refusing to put their hand into an empty box when it has been suggested that it is dangerous, Subbotsky, 2004; or educated Americans refusing to eat chocolate shaped into realistic-looking dog feces, Rozin et al., 1986) are irrational and not based on scientific principles or empirical evidence.

Conscious and nonconscious components of peculiar beliefs

I have only one superstition. I touch all the bases when I hit a home run. (Babe Ruth)

Behavior emanating from peculiar beliefs is engaged in by individuals who tend to know that their actions cannot influence a particular outcome but perform them anyway (“half-believers;” Campbell, 1996), as well as exercised by individuals who actually believe that events can be controlled through their actions (“believers”). Ironically, both believers and half-believers may consciously rely on peculiar beliefs to guide behavior. For example, 40% of the nation’s college football teams have touch traditions before running onto the field to start the game: Gators tap a gator head, Notre Dame players slap a “Play Like a Champion Today” sign, Virginia Tech rubs a Hokey stone, and Nebraska hits a horseshoe (Ward, 2009).

However, recent research demonstrates that peculiar beliefs also work on a nonconscious level. In a series of studies, Kramer and Block (2008), provide the first empirical evidence for a nonconscious component to the process of superstitious beliefs on consumer behavior. Using a process dissociation technique set forth in Jacoby (1991) and advanced by Fitzsimons and Williams (2000), Kramer and Block separated the effect of superstition on decision-making into its distinct conscious and nonconscious components. These researchers found that the nonconscious component was greater than the conscious one by a factor of three. The relative magnitude of the nonconscious to the conscious component demonstrates the significant effect that specific peculiar beliefs can have on consumer behavior.

Support for the nonconscious nature of processing stems from the conceptually similar work on the processing of stereotypes. Like stereotypes, peculiar beliefs represent a set of cultural associations that are learned through socialization processes and socially transmitted (Devine, 1989). Research show that these sets of associations are automatically, or unintentionally, activated by the presence of a cue in the environment (Devine, 1989), but can be adjusted through conscious thought. Similarly, when faced with a superstitious cue, like a Friday the 13th calendar date, or a magical belief, like negative contagion from clothing previously worn by an AIDS patient, peculiar beliefs are likely to be automatically activated but can subsequently be controlled consciously.

Risen and Gilovich (2007, 2008) provide further support for the co-occurrence of conscious and nonconscious components in peculiar beliefs. To better understand why so many people who do not believe in fate refuse to tempt it (e.g., engage in behavior consistent with beliefs, such as not taking an umbrella increases the chances of rain, a slow check-out line will speed up once the shopper deserts it, or a student is more likely to get called on if she has not done the prior reading assignment), Risen and Gilovich (2008) conducted a series of studies on “tempting fate.” Based on six studies, Risen and Gilovich conclude that the belief that it is bad luck to “tempt fate” is in large part due to the automatic tendency to attend to negative

prospects and to use accessibility as a cue when judging likelihood. Importantly, when the ability to override the automatic tendencies is reduced (as in under cognitive load) beliefs consistent with tempting fate increased. In other words, such peculiar beliefs are activated nonconsciously. Moreover, when participants were instructed to respond rationally, the intuitive belief in tempting fate diminished, thus demonstrating a partial conscious component to the peculiar belief system (Risen & Gilovich, 2007).

In sum, the extant studies (Kramer & Block, 2008; Risen & Gilovich, 2008; Schindler et al., 2009) suggest that the influence of stimuli that activate peculiar beliefs on behavior functions via a combination of conscious and nonconscious processes. Demonstrating this, Block and Kramer (2009) explored the effect of superstitious beliefs on purchase likelihood of consumer products across people with varying levels of cognizance of the superstitious meaning of the stimuli. For participants for whom the stimulus did not activate superstitious meaning, purchase likelihood followed rational beliefs (e.g., greater purchase likelihood for a product with a greater number of units inside the package than for one with fewer units). However, those who interpreted the stimuli as “lucky” were more likely to purchase the “lucky” products—even when the purchase ran counter to rational economic theory. For example, Taiwanese consumers were more likely to purchase and willing to pay more for a package containing eight (which is a “lucky” number) tennis balls than a package containing ten tennis balls. Similarly, when Schindler et al. (2009) primed conscious awareness of superstitious meanings, consumers with insurance against breakage rated their prized possession as less likely to break (but not less likely to suffer other mishaps like being lost). This belief in insurance against “tempting fate” was not evident for non-primed consumers.

To the best of our knowledge, there are only these few studies that document the effect of conscious and nonconscious components of peculiar beliefs, and yet an implied understanding of this underpins most work on superstitions and magical beliefs. We propose that, whether peculiar beliefs impact choice, and if so, whether that choice is based on a predominantly conscious, a nonconscious, or a combined conscious and nonconscious process will depend on a) whether consumers have a relevant peculiar belief stored in memory that is activated by a stimulus and b) whether they accept as true that the peculiar belief should impact their decision. For example, imagine that a consumer must choose between taking a flight on Thursday the 12th or on Friday the 13th. The potential for bad luck will not be activated in memory for consumers who do not have culturally based superstitious beliefs concerning Friday the 13th, and for them, attributes other than the date of the flight will influence their choice. On the other hand, for other consumers Friday the 13th will make the potential for bad luck accessible. Believers are likely to consciously decide not to take the flight on the unlucky day. Half-believers and non-believers are likely consciously to reject the irrationality associated with the unlucky date, yet still become less likely to choose the flight on Friday the 13th without being at least partially aware that their choice is driven by the peculiar belief.

Thus, even in the absence of their conscious activation, peculiar beliefs may still influence behavior via a nonconscious route. Further, the relative weight of peculiar beliefs' conscious and nonconscious components will determine the degree to which variations in one of the components will impact behavior. For example, Kramer and Block (2008) found that inhibiting conscious processing by imposing cognitive load on respondents did not influence the degree to which activation of a negative superstition (i.e., Friday the 13th) resulted in risk-averse decisions, which is consistent with their subsequent finding that the effect of superstition on choice was mostly driven by a nonconscious process.

Furthermore, research has found that whether information processing and decision-making are based on a predominantly conscious or nonconscious process is influenced by the degree to which individuals' rational/analytical versus experiential/intuitive processing system is activated. In particular, Cognitive–Experiential Self-Theory (or CEST; Epstein, 1994) proposes that people process information through two independent but interacting modes of processing, the rational and the experiential systems. The rational system is slow and intentional, and behavior guided by the rational system is mediated by conscious appraisals. In contrast, the experiential system is fast and automatic, and operates mostly at the nonconscious level (Epstein, 1990, 1993, 1994; Epstein, Pacini, Denes-Raj, & Heier, 1996). Since the experiential system operates instantaneously and nonconsciously, people who are high experiential processors hold more unrealistic beliefs than others. Indeed, research has shown that experiential processing is positively correlated with beliefs in superstition, witchcraft, precognition, and other paranormal beliefs (Aarnio & Lindeman, 2005; Lindeman & Aarnio, 2006). Providing a recent empirical demonstration of the impact of experiential processing on peculiar beliefs, King, Burton, Hicks, and Drigotas (2007) found evidence of greater magical thinking among high (vs. low) experiential processors, who had greater difficulty throwing darts at a picture of a baby than at a face-shaped circle (law of similarity), and who positioned their chairs further away from someone who had supposedly earlier come into contact with excrement but had gone home and changed (law of contagion).

Finally, it is important to note that both the experiential and rational system are present in all individuals, although the degree to which they typically operate in one processing mode or the other is likely to depend on individual and situational factors. Therefore, even predominantly rational information processors who consciously reject a particular peculiar belief nevertheless are more likely to act nonconsciously in accordance with it when environmental cues activate the experiential processing mode.

Decisions made by consumers in the course of product evaluation, choice, or purchase while operating primarily in the experiential mode of processing will therefore be subject to biases resulting from peculiar beliefs more so than when the rational system is primarily engaged. One of the goals with this manuscript is to foster future academic work by suggesting propositions that extend our theorizing on the effects of the experiential, nonconscious mode of processing peculiar beliefs on consumer choice. However, before outlining our proposi-

tions, it is important to first present empirical evidence in this domain. Therefore, we next briefly discuss a study that provides initial evidence of the effect of experiential processing on the impact of peculiar beliefs in marketplace decisions. As indicated in our above review, the extant studies of peculiar beliefs in the consumer behavior domain are limited to the effects of such beliefs when a consumer is seeking to purchase the product (e.g., Argo et al., 2006, 2008; Kramer & Block, 2008). Therefore, to further extend the literature on peculiar beliefs, we provide the first instantiation of the impact of nonconscious processing of such beliefs on the selling, rather than buying (choice) decision, thus demonstrating backward contagion effects in the marketplace.

Nonconscious effects of peculiar beliefs in consumer decision-making: The sex offender study

The objective of the study was to test for the moderating roles of the experiential system (operating at the nonconscious level) and rational system (operating at the conscious level) on backward contagion. Backward contagion is characterized by a discomfort or unwillingness to allow one's personal effects to come into the possession of people one dislikes. In this study, we tested our theorizing that greater experiential processing would be associated with a seller's lower (higher) willingness to accept an auction reservation price for a personal item when the bidder was a sex offender (mother of a young child).

One hundred eighty-four students from an East Coast university participated in a study on consumer preferences for class credit, and were randomly assigned to a manipulated buyer condition (mother of a young child vs. registered sex offender). Participants were asked to imagine that they were going to sell a teddy bear, which they had owned for 15 years, on a new online interactive auction website. Next, they were told that they had received a bid in the amount of their reservation price from either the mother of a young child or from a registered sex offender, depending on randomly assigned condition.

Participants then indicated on two 7-point scales how likely they were to accept this bid, where 1 = not likely at all, definitely won't accept; and 7 = very likely, definitely will accept this bid ($r = .98$, $p < .001$). As manipulation check for the likeability of the mother ($\alpha = .96$) and the sex offender ($\alpha = .95$), participants next marked their evaluations of both (where 1 = not at all likeable, unfavorable, negative, bad; and 7 = likeable, favorable, positive, good). Analysis showed that participants disliked the registered sex offender significantly more than the mother ($M = 1.54$ vs. 5.62, respectively; $t = 33.72$, $p < .001$). To assess their processing style, they then completed the rational–experiential inventory (Epstein et al., 1996). The experiential subscale ($\alpha = .80$) includes items such as, "I am a very intuitive person," and "I believe in trusting my hunches;" and the rational subscale ($\alpha = .81$) includes items such as, "I would prefer complex to simple problems," and "I find satisfaction in deliberating hard and for long hours."

Experiential processing

We predicted an interaction between level of experiential processing and buyer. We first mean-centered the level of experiential processing scores and then conducted a multiple regression analysis, predicting participants' willingness to accept the bid in the amount of the reservation price for the teddy bear from the mean-centered level of experiential processing, buyer (coded 0 for sex offender, 1 for mother), and their interaction. Analysis showed a significant effect of level of experiential processing ($\beta = -.792$, $t = -2.24$, $p < .05$) and of buyer ($\beta = 3.117$, $t = 13.01$, $p < .001$) on respondents' willingness to accept the reservation bid. Importantly, the level of experiential processing \times buyer interaction was significant ($\beta = 1.355$, $t = 2.94$, $p < .01$). As expected, when the buyer was a sex offender, greater levels of experiential processing resulted in a lower willingness to accept the reservation bid amount ($\beta = -.792$, $t = -2.05$, $p < .05$). However, when the buyer was a mother, greater levels of experiential processing resulted in a greater willingness to accept the reservation bid amount ($\beta = .563$, $t = 2.11$, $p < .05$).

Rational processing

We mean-centered the level of rational processing scores and then conducted a multiple regression analysis, predicting participants' willingness to accept the reservation bid from the mean-centered level of rational processing, buyer, and their interaction. Analysis only yielded a significant effect of buyer ($\beta = 3.129$, $t = 12.45$, $p < .001$). Neither participants' level of rational processing ($\beta = -.237$, $t = -.73$, $p > .10$) nor the level of rational processing \times buyer interaction ($\beta = .568$, $t = 1.19$, $p > .10$) had a significant effect.

With this study, we show that the effects of beliefs about backward contagion manifest under the more nonconscious, experiential processing mode but not the more conscious, rational processing mode. Having thus found support for the impact of experiential processing on peculiar beliefs in the context of consumer marketplace decisions, we now offer propositions that bridge to other consumer psychology and decision-making literature streams.

Nonconscious effects of peculiar beliefs in consumer decision-making: Propositions for future research

I have, thanks to my travels, added to my stock all the superstitions of other countries. I know them all now, and in any critical moment of my life, they all rise up in armed legions for or against me. (Sarah Bernhardt)

Although consumers may have stable preferences for familiar, simple, or directly experienced preference objects (Fischhoff, Slovic, & Lichtenstein, 1980), the current view of preferences suggests that individuals may not always have well-defined, coherent preferences to retrieve and reveal, but instead construct them when making a choice (Bettman, Luce, & Payne, 1998). These preferences may be labile, and

preference reversals can occur because preference construction under uncertainty is sensitive to many contextual factors, including the particular alternatives under consideration (e.g., Huber, Payne, & Puto, 1982; Simonson & Tversky, 1992) and the nature of the response required (e.g., Hsee, 1996; Nowlis & Simonson, 1997; Tversky, Sattath, & Slovic, 1988). Importantly, research has shown that peculiar beliefs (e.g., superstition; Kramer & Block, 2008) have a greater impact on choice under uncertainty, that is, in those situations in which preference reversals are likely.

There are many decisions that may be impacted by peculiar beliefs outside of consumers' awareness that heretofore have not received attention in the literature. Although reliance on peculiar beliefs in choice is likely to involve a conscious component as discussed in our model, we expect the proposed effects to be primarily driven by nonconscious, experiential processes. Further, although "luck" may develop idiosyncratically in consumer objects (e.g., a pair of sneakers that one was wearing during a successful exam is worn to subsequent exams in the belief they will keep bringing luck), in our examples we focus on lucky attributes (e.g., numbers, colors) more directly under the control of marketers. Below, we start by examining the asymmetric impact of peculiar beliefs in situations when consumers are forced to choose, as compared to when they are free to defer choice. We then focus on contextual factors influencing preference construction, namely, differences in the nature of the options under consideration, response or evaluation mode, and task complexity in predicting the impact of peculiar beliefs on consumer psychology.

Free versus forced choice

Although consumers are often free to delay making a purchase, at times they are forced to choose one of the options under consideration (e.g., Dhar, 1997; Dhar & Simonson, 2003). For example, consumers may defer purchase of a bag of potato chips in the hope of a good sale the following week but have to choose one of the available pain medications because of a severe migraine. Research has shown that the impact of the no-choice option is not symmetric (proportional) across all options under consideration. Instead, the option not to choose (i.e., to defer purchase or not purchase at all) has a disproportionate impact on those options that consumers select when uncertain about their preferences (Dhar & Simonson, 2003), such as compromise options or asymmetrically dominating options. Choosing not to choose is especially likely when the options under consideration are similarly attractive, such that trade-offs among their attributes elicits conflict and discomfort (Dhar, 1997; Luce, 1998; Tversky & Shafir, 1992). Thus, when choosing freely, consumers can solve their choice conflict by selecting the no-choice option. Given that the option not to choose is not available when they are forced to choose, consumers need to find an alternative way to resolve the choice conflict, such as by relying on their peculiar beliefs.

In addition, one can argue that individuals will act on their peculiar beliefs as a way to establish or exert control, especially in situations when their option to choose freely is eliminated

(Brehm, 1966). The relationship between an individual's illusion of control and peculiar beliefs is well established in the literature (e.g., Matute, 1995; Rudski, 2001, 2004; Rudski & Edwards, 2007). For example, Keinan (2002) found that individuals with a relatively higher desire for control were more likely to knock on wood to establish control in uncertain situations.

Therefore, the lucky red color of a bike should have a greater impact when Asian consumers are forced to choose between a red bike and a blue bike, as compared to when they choose between a red bike, a blue bike, or deferring the purchase altogether. Similarly, the fact that a sweater on display previously has been touched by an unattractive consumer will have a greater impact when choosing between that sweater and an untouched one, as compared to when deciding among those two sweaters and going to another store. Hence, we propose:

P1. Peculiar beliefs will have a greater impact in forced (vs. free) choice when consumers are primarily operating in the experiential processing mode.

Nature of the options

Options that consumers consider for purchase can be broadly classified based on their conventional versus unconventional properties and, in particular, their level of risk, position in the choice set, or their hedonic/utilitarian properties (Simonson, Kramer, & Young, 2004; Simonson & Nowlis, 2000). Specifically, in choices between gambles that differ in their level of risk, individuals tend to select the lower-risk option by default, consistent with the notion that safe or lower-risk options are perceived as more conventional choices (Simonson & Nowlis, 2000, Simonson et al., 2004). In the studies conducted by Simonson and colleagues, the majority of participants rated the selection of a sure thing option over a gamble as the conventional choice, and tended to prefer less risky to more risky options unless they anticipated the possibility of regret. Similarly, an option's relative position in a choice set can determine its conventional or unconventional nature. For example, research has shown that choice of a compromise (vs. an extreme, non-compromise) option is perceived to be the conventional choice (Simonson & Nowlis, 2000; Simonson & Tversky, 1992). An option also gains share when it becomes the compromise, middle option in a set (Dhar, Nowlis, & Sherman, 2000; Simonson, 1989) because its selection reduces the conflict associated with giving up one attribute for another. Furthermore, asymmetrically dominating (vs. dominated) options tend to be chosen by default, making them the conventional choice (Huber et al., 1982). Finally, utilitarian/virtue (vs. hedonic/vice) options are more likely to be perceived as conventional choices because they tend to satisfy lower-level needs (Maslow, 1970) and evoke less guilt (Kivetz & Simonson, 2002).

Status quo options can also be considered to be conventional choices, since consumers tend to prefer options that cause no change to their world (Ritov & Baron, 1992; Samuelson & Zeckhauser, 1988). That is, in choice, consumers are biased

towards default options. For example, employees tend to stay with their initially chosen investments rather than switch to alternative funds (Samuelson & Zeckhauser, 1988). The status quo bias is also apparent in differences between opt-in and opt-out decisions; participation in retirement accounts is greater when their provision is the default and employees need to opt out, compared to when retirement accounts are not provided by default and employees need to opt in (Madrian & Shea, 2001). Finally, Johnson and Goldstein (2003) show that willingness to become an organ donor increases from 42% when having to opt in to 82% when having to opt out.

Overall, based on research showing a greater reliance on superstition in uncertain or risky situations, we propose that peculiar beliefs are likely to differentially impact choices of unconventional versus conventional options. In particular, since choices of unconventional options go against norms and are associated with greater risk and uncertainty, peculiar beliefs should also have a relatively greater impact in their choice. Conversely, conventional choices, given that they tend to be the default options that normatively should be chosen, are relatively less likely to be impacted by peculiar beliefs. For example, lucky (vs. neutral) product colors or numbers should have a greater impact on choices of extreme, risky, asymmetrically dominated, hedonic, or non-status quo options than on compromise, safe, asymmetrically dominating, utilitarian, or status quo options. Similarly, contagion effects are likely to be greater for unconventional, as compared to conventional, options; for instance, contact with disgusting products should lower purchase intentions for risky options more than for safe options. We propose:

P2. Peculiar beliefs will have a greater impact on choice of unconventional (vs. conventional) options when consumers are primarily operating in the experiential processing mode.

Response mode

All consumer judgments and choices are made in one of two basic evaluation modes: namely, jointly or separately (Hsee, Blount, Loewenstein, & Bazerman, 1999). For example, in choice, consumers evaluate options in their consideration set jointly and then choose one of them. Conversely, in judgment tasks, consumers evaluate the options separately and in isolation. Contrary to economic theory suggesting that preferences are stable giving rise to procedure invariance, much research has shown that the preference elicitation task or response mode often impact the preferences expressed (e.g., Hsee, 1996; Nowlis & Simonson, 1997; Tversky et al., 1988).

We expect that the impact of peculiar beliefs on choice is likely to be influenced by the response mode. That is, evaluating options jointly (vs. separately) lends itself to stimulus-based processing, since the attribute values of the options can be more easily compared. That is, consumers are likely to compare and make trade-offs between the options under consideration, focusing on the given attributes and attribute values. Conversely, evaluating options separately (vs. jointly) lends itself more to memory-based processing rather than stimulus-based processing (e.g., Lynch &

Srull, 1982). In this case, peculiar beliefs may be an additional piece of information in deciding whether to choose a particular option. For example, when choosing between a 900-ft², \$2500 per month apartment on the 13th floor and a 650-ft², \$1900 per month apartment on the 10th floor, the fact that the former is located on an unlucky floor is likely to have less of an impact, compared to when evaluating the two apartments separately. Similarly, consumers will be more likely to choose an apartment previously lived in by an attractive person when evaluating it in isolation, as compared to evaluating it with other apartment options. We propose:

P3. Peculiar beliefs will have a greater impact in separate (vs. joint) evaluations when consumers are primarily operating in the experiential processing mode.

Task complexity

There are several important properties in a decision task that impact how difficult it is for consumers to make a choice, including the number of alternatives from which to choose, time pressure, and the ease with which considered options can be compared. In general, the more complex or difficult the task of choosing, the more likely consumers are to rely on simplifying heuristics in arriving at a decision (Payne, Bettman, & Johnson, 1993). For example, consumers may use a mental shortcut such as “Never buy a coat that has been tried on” or “Never choose a product whose price ends with a 4” when there is high task complexity. Therefore, peculiar beliefs should have a greater impact under high, as compared to low, task complexity.

In particular, uncertainty inherent in the decision task increases as the number of alternatives from which to choose or the number of attributes for each alternative increases. This increase in complexity following the greater amount of information to be processed is also associated with shifts in decision strategies employed by consumers, who tend to move away from compensatory to non-compensatory strategies (e.g., Payne, 1982). Given that it will be more difficult to choose the optimal option from larger consideration sets, consumers are increasingly likely to use heuristics, such as accessible peculiar beliefs. For example, the fact that one of the bike helmets considered for purchase comes in lucky color red will have a greater impact when consumers choose among 23 helmets, as compared to 3 helmets. Similarly, knowing that a bike helmet was previously owned and worn by a champion cyclist will have a greater impact on its evaluation or purchase likelihood when it is 1 of 10 rather than 1 of 2 helmets to choose among. We propose:

P4. Peculiar beliefs will have a greater impact as the number of alternatives or the number of product attributes increases when consumers are primarily operating in the experiential processing mode.

In addition to the number of alternatives or attributes, task complexity is also impacted by the amount of time consumers have to make a decision. Severe time pressure has been found to be similar in its impact on consumer choice as other types of stress, such as noise or electric shocks (Svenson & Edland,

1987). Yet even under relatively moderate time constraints, consumers tend to shift to simplifying heuristics. Thus, given the impact of superstition in stressful situations and their use as a decision shortcut, the effect of peculiar beliefs should be greater when consumers are under relatively greater time pressure. For example, consumers will be more likely to choose a lucky day (e.g., 07/07/07) to get married when having only seconds, as compared to days, to decide on a date. We propose:

P5. Peculiar beliefs will have a greater impact under high (vs. low) time pressure when consumers are primarily operating in the experiential processing mode.

Finally, task complexity is also impacted by the ease with which alternatives can be compared. Specifically, consumers often choose not only from among products within a specific category but also among options from different product categories (Johnson, 1984), such as when shopping for items for a new home (Bettman & Sujan, 1987). Such non-comparable alternatives only have few, if any, attributes in common, which increases the difficulty of evaluation and choice. We suggest that peculiar beliefs associated with product attributes will have a greater impact in such situations compared to when the product options are comparable. For example, the perceived unluckiness of the price of a box of chocolates (\$13) will have a greater impact when choosing between the chocolates and t-shirt, as compared to choosing between two boxes of chocolates. Furthermore, the vomit shape of a piece of chocolate will have greater impact when choosing between the chocolate and a t-shirt than when choosing between two pieces of chocolate. We propose:

P6. Peculiar beliefs will have a greater impact on choice of non-comparable (vs. comparable) options when consumers are primarily operating in the experiential processing mode.

General discussion

It is the customary fate of new truths to begin as heresies and end as superstitions. T. H. Huxley

This article provides an exposition of peculiar beliefs and their potential impact on decision-making outside of consumers' awareness. Such a discussion is warranted by the fact that research on peculiar beliefs has started appearing in consumer and marketing journals, yet terms have been inconsistently applied, and investigations into the differential impact of conscious and nonconscious components on consumer psychology are scarce. We started by defining and distinguishing between types of peculiar beliefs that are most relevant to consumer psychologists to aid in the advancement of theories in the field. We then presented a study that extended the literature on peculiar beliefs by providing the first instantiation of the impact of nonconscious, experiential processing of such beliefs on selling decisions, thus demonstrating backward contagion effects in the marketplace. We advanced a framework to illuminate the roles of conscious and nonconscious processes associated with peculiar beliefs in

decision-making, and ended with propositions that extend the theory on peculiar beliefs to their conscious and nonconscious effects on consumer decision-making and choice.

Although we examined the general impact of peculiar beliefs in decision-making, their effect clearly will not be the same for all consumers alike. Two important individual difference variables likely to impact the reliance on peculiar beliefs are a consumer's level of self-efficacy and level of competitive tendencies. Self-efficacy describes one's perceived ability to perform a task (Bandura, 1982; Hu, Huhmann, & Hyman, 2007), such that individuals low in self-efficacy tend to be less motivated to perform a particular task because they believe their current skills are not sufficient to achieve the desired outcome (Noe & Wilk, 1993). For example, Srivastava, Strutton, and Pelton (2001) found that the greater salespeople's self-efficacy, the greater their sales effort. This literature suggests that consumers low in self-efficacy might be more likely to resort to peculiar beliefs because of their perceived inability to perform a particular task.

In addition to self-efficacy, reliance on peculiar beliefs should also be greater for individuals who chronically focus on winning or being the best, namely, those with greater competitive tendencies. Much research has demonstrated that athletes are a highly superstitious group. Further, Langer (1975) showed that competition increased the illusion of control. Competitiveness as a trait has received only scant attention in the marketing literature (e.g., Mowen, 2004; Puri, 1996). However, greater consumer competitiveness should be associated with a greater impact of peculiar beliefs. For example, consumers high (vs. low) in competitive tendencies might be more likely to tie the knot on a lucky date to guarantee a good marriage.

Nemeroff and Rozin (2000) lamented that magical and superstitious thinking was “a label for a residual category—a garbage can filled with various odds and ends that we do not otherwise know what to do with.” Fortunately, with the recent proliferation of marketing studies on superstitions and magical thinking, their lament is less applicable today. In addition to the clarification and links to decision-making presented in this paper, what are also needed at this stage are theoretical bridges to other conceptually related domains in consumer psychology. Important extensions of the effects of peculiar beliefs on consumer behavior can potentially be derived from studying the literature on automatic brand effects. Fitzsimons, Chartrand, and Fitzsimons (2008) presented seminal work documenting the translation of social priming effects to the consumer brand context. Specifically, they demonstrate the existence of brand priming effects on behavior such that consumers behave in line with the characteristics of the brand, and that they do so without conscious awareness of the brand's influence. However, these automatic effects are limited to goal-relevant brands that evoke goal-directed behavior. Similar motivational processes (rather than purely cognitive evaluative processes) underlie the automatic, or non-conscious, effects of peculiar beliefs on behavior. For superstitious behaviors, for example, the need to control or reduce uncertainty might emulate goal-directed motivation. Interestingly, there is no research specifically

linking superstitions or other peculiar beliefs to goal activation or fulfillment. The intersection between these two as of yet disparate literatures might reveal valuable brand and product specific effects of peculiar beliefs.

One specific product domain particularly applicable to the intersection of peculiar beliefs and goal-directed behavior is homeopathic medicine. Homeopathic medicine is a medical system developed in Germany more than 200 years ago. Interestingly, the principles of homeopathy mirror those of magical thinking. The first principle of similarity, that “like cures like,” states that a disease can be cured by producing similar symptoms in healthy people (National Center for Complementary and Alternative Medicine, 2009). The second principle, the law of dilutions (“law of minimum dose”), postulates that the lower the dose, the greater the effect because the process of potentization transmits original energy (or information or essence) to the new substance. According to an NIH survey, almost 4 million US adults and 1 million children spent \$3 billion on homeopathic remedies for a variety of wellness and prevention remedies including ear infections, depression, and headaches (NCCAM, 2009). With health care costs continually rising along with the number of uninsured Americans, the popularity of alternative medicine, like homeopathic medicines, is increasing. Understanding the consumer psychology behind these decisions in general and homeopathic purchase decisions in particular in light of consumers' magical thinking is therefore increasingly important. Currently, homeopathic remedies are regulated by the FDA but do not have to undergo the same rigorous safety and efficacy testing as prescription drugs and new OTC drugs because of the low dosage (NCCAM, 2009). If systematic patterns in consumers' search for, purchase, or use of these homeopathic “magical” remedies exist, this could have substantial policy implications.

Future research should also explore the interaction or synergistic effects of various forms of peculiar beliefs. For example, a report just released by the Pew Forum on Religion and Public Life documents that superstitious and magical thinking is on the rise in the United States, with those who identify as Christians more likely to believe (Blow, 2009). According to the report, 16% of Protestants and 17% of Catholics believe that there are people who can cast “evil eyes” to cause harm to other individuals (Blow, 2009). Since understanding consumer cultures is the underpinning of marketing success, it is important for consumer researchers to acknowledge these trends and document their effects on consumer attitudes and decision behaviors in order to better support marketing practitioners, policy makers, and consumers themselves.

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