Introduction

Ritual is a pervasive feature of human behavior, yet has been understudied from a psychological perspective. Until recently (Atkinson and Whitehouse 2011; Legare and Souza 2012, 2014), ritual has been studied primarily by anthropologists using qualitative methodologies, making it difficult to establish robust generalizations about the causes and effects of features of rituals on social cognition and behavior (Rappaport 1999; Rossano 2012).

The complexity and diversity of rituals is bound by both cognitive and socioecological constraints (Atkinson and Whitehouse 2011). For example, different elements of ritual form have been associated with costly signaling (Irons 1996; Sosis and Alcorta 2003; Sosis et al. 2007), obsessive compulsive disorder and the human hazard precaution system (Boyer and Lienard 2006), cognitive constraints on memory systems (Whitehouse 1995), the role ascribed to supernatural agency (McCauley and Lawson 2002), modes of codification and transmission (Whitehouse 1995), and the scale and structure of religious communities (Gellner 1969; Goody 1986; Werbner 1989; Whitehouse 2001).

The development of ritual studies as an independent and interdisciplinary area of scholarly study demonstrates the complexity of ritual as an analytical tool and as a universal human experience. Theoretical discourse on ritual has also focused primarily on belief and action, in isolation and interaction (Bell 1992). Rituals often represent sacred beliefs, express inner states of feeling and emotion, symbolize theological ideas or social relations, and invoke psychophysical states (Shore 1996; Csordas 2002; Ruffle and Sosis 2003; Sax 2010; Sax et al. 2010; Whitehouse and Lanman 2014). Whitehouse and Lanman (2014) argue for the
“fractionating strategy” for studying ritual. They propose that, “Under this folk category [ritual] are numerous cognitively and behaviorally universal patterns that are normally associated with the term ‘ritual,’ including such phenomena as synchronic movement, causally opaque action, and both euphoric and dysphoric arousal” (675). Like similar trends in the study of religion (Lawson and McCauley 1993), the fractionating strategy opens the door for a scientific account of how various phenomena normally associated with the folk term “ritual” influence thought and behavior.

Across cultures, and the historical record, rituals are widely used for protective, restorative, and instrumental purposes (Sørensen 2007; Sax et al. 2010). Records of rituals used for problem-solving purposes date back to ancient Egypt (The Papyrus Ebers 1931, 1937), and the use of rituals to treat problems as diverse in etiology as asthma and unemployment is widespread in contemporary cultural contexts such as the United Kingdom (Hutton 1999), the United States (Crowley 1989), Brazil (Cohen and Barrett 2008; Souza and Legare 2011; Legare and Souza 2012, 2014), and South Africa (Ashforth 2001; Legare and Gelman 2008). If rituals are used to solve problems, the individuals engaging in ritual must consider the causal efficacy of the actions involved (Csordas 2002; Sax 2004; Sax et al. 2010). Ritual, however, is opaque from a physical-casual perspective. How do individuals evaluate the efficacy of ritual actions in the absence of direct causal information into their effectiveness?

The objectives of this chapter are threefold. First, we provide a cognitive psychological account of the use of ritual for instrumental, problem-solving purposes. Next, we provide a review of new psychological research on reasoning about the efficacy of ritual. Finally, we discuss evidence for the relationship between ritual and perceptions of control.

The use of ritual for problem-solving purposes:
Reasoning about ritual efficacy

Rituals, which we define as socially stipulated, causally opaque behavior (Legare and Herrmann 2013), present a challenge to theoretical accounts of causal reasoning because they are not defined in terms of physical-causal mechanisms or processes. Even when rituals are widely understood in the context of a certain belief, there is often not an expectation of a direct causal connection between the set of actions involved in the ritual and the material outcomes that are desired and observed (Sørensen 2007; Schjoedt et al. 2013). Because rituals
are not bound by the same kinds of intuitive physical-causal constraints that characterize non-ritualistic actions, they can be considered irretrievably causally opaque. Thus, even though rituals are intended to have particular effects on the world (e.g., rituals used to promote crop fertility or to heal disease), they are not expected to do so by means that are transparent or even in principle knowable based on principles of physical causality.

Even though rituals cannot be interpreted from the perspective of physical-causal reasoning, rituals used for problem-solving purposes still reflect intuitive beliefs about causal reasoning and the efficacy of goal-directed action sequences. Consider Tambiah’s (1979) classic definition of ritual—“patterned and ordered sequences of words and acts, (…) characterized in varying degrees by formality (conventionality), stereotypy (rigidity), and redundancy (repetition).” In previous work, we have proposed that the defining characteristics of ritual are the product of an evolved cognitive system of intuitive causal principles (i.e., that repetition, number of procedural steps, and the specificity of procedural detail will lead to efficacious outcomes) (Legare and Souza 2014). In the section that follows, we provide a review of recent experimental evidence supporting this proposal.

The historical and ethnographic record has documented substantial variation in the content, practices, and artifacts used in rituals around the world and over historical time. Despite this variation, the way in which ritual efficacy is evaluated is constrained by intuitive causal principles. For example, first consider this ritual, taken from the Papyrus Ebers that was used to treat blindness, featured by Legare and Souza (2012): “Crush, powder, and make into one, the two eyes of a pig (remove the water therefrom), true collyrium (i.e., mineral eye salve), red-lead (i.e., red oxide), and wild honey [in a clay bowl]. Inject [mixture] into the ear of the patient. When thou hast seen properly to this mixing repeat this formula: ‘I have brought this thing and put it in its place. The crocodile [god Sobek] is weak and powerless.’ Repeat twice. Thereby he will at once recover” (The Papyrus Ebers 1931, 104). Now consider a ritual used to find a romantic partner in Brazil: “Buy a new sharp knife and stick it four times into a banana tree on June 12th at midnight. Catch the liquid that will drip from the plant’s wound on a crisp, white paper that has been folded in two. The dripping liquid captured on the paper at night will form the first letter of the name of your future partner” (Scharf 2010).

On the surface, there are many differences between the ritual described in the Papyrus Ebers and the ritual found in Brazil. For example, they involve the use of different substances (i.e., red-lead vs. sap from a banana tree), use different
procedural steps (i.e., mixing vs. paper folding), use different artifacts (i.e., clay bowl vs. a knife), and are meant to address different problems (i.e., blindness vs. attracting a partner). At a deeper, conceptual level, however, there are many similarities. For one, they involve repetition of the procedural steps involved in the ritual (i.e., repeat twice vs. twice a day for two weeks), a large number of procedural steps (i.e., seven vs. six), specificity of time for when the actions should be performed (i.e., early rising vs. June 12th at midnight), procedural detail (i.e., mixing wild honey vs. buying a new sharp knife), and the invocation of supernatural agents (i.e., Sobek, an ancient Egyptian deity vs. Saint Anthony, a Catholic marriage saint).

Biases in causal reasoning are used to evaluate the efficacy of any type of action, yet we propose that their influence on action efficacy judgments is especially salient and influential when information about causal mechanisms is unavailable (Legare and Souza 2012, 2014). This rationale is based on a long-standing philosophical tradition that supports the claim that beliefs about causal connections arise from impressions of repeated instances of similar relations (Hume 1740). Below, we describe the causal biases associated with ritual action that may influence the perception of ritual efficacy:

(1) Repetition: The repetition of similar actions (e.g., pressing a button repeatedly to call an elevator) may be perceived to be causally efficacious because repetition makes behavioral information more psychologically available (Oppenheimer 2008), familiar (Scott and Dienes 2008), and attractive (Zajonc 1968).

(2) Number of steps: A larger number of procedural steps, over a smaller number of procedural steps, may increase the perception of causal efficacy by giving the impression that multiple actions may contribute to the production of a particular effect (Depue et al. 2006).

(3) Specificity: Given that human beings are good at perceiving or attributing intentions, seeing someone engaging in a detailed course of actions (e.g., catching the liquid that will drip from the plant's wound on a crisp, white paper that has been folded in two) may give the impression that particular details of the action sequence (i.e., time specificity, item specificity) have the potential to produce the desired outcome, even if the connection between the specific actions and the outcome is unknown or unavailable (Legare and Souza 2012, 2014).

(4) Supernatural agency: Intuitions about ritual efficacy may invoke the involvement of a supernatural agent at some level in the ritual sequence
(Barrett and Lawson 2001; Sørensen et al. 2006), in addition to intuitive causal principles (Sax et al. 2010). Involving supernatural agency in the ritual efficacy evaluation process may increase the likelihood that ritual actions are not perceived as bound by the same physical-causal expectations as non-ritualistic actions (Boyer 2001; Barrett and Malley 2007).

Given the role of supernatural agency in many rituals, there may be differences in the way believers (those who incorporate the supernatural into their worldviews) and nonbelievers, or those who do not adhere to or do not know about the specific ritual contexts and beliefs, reason about ritual efficacy. Even among believers, there are important cultural differences in terms of how people reason about supernatural agents and religious beliefs and practices. For instance, religious practices are emphasized more strongly than religious beliefs in Jewish relative to Christian traditions (Cohen et al. 2003). Other research has documented that even the scale of the society (small vs. large) may have important implications for how ritual is conceptualized: In societies with the belief in an all-knowing supernatural being, the primary concern is on acting morally as part of consensus with shared cultural beliefs (as often found in large-scale societies); in cultures in which supernatural beings are not concerned with, or privy to, social or moral knowledge, the emphasis is on performing costly rituals as a means of demonstrating socially shared behaviors (as often found in small-scale societies) (Purzycki and Sosis 2011). This suggests that the relative importance of religious behaviors (i.e., actions) versus mental states (i.e., beliefs) is also likely to play a role in reasoning about ritual efficacy.

Experimental research on evaluating ritual efficacy

Recent experimental research by Legare and Souza (2012) examined the “hidden logic” of ritual (Sax 2010). Rather than investigating the efficacy of ritual by examining outcomes or experience (Csordas 2002), they examined the kinds of information that influence perceptions of the efficacy of ritual action using experimental methodology to be able to make generalizations as well as draw causal inferences. Using ecologically valid content, they collected data in Brazil, a cultural context in which rituals or “recipes”—called simpatias—are available, endorsed, and used for everyday problem-solving purposes.
Simpatias are ritualistic remedial procedures and are not confined to any particular Brazilian religious group (even though some of them do include religious information). They are used to solve a variety of everyday problems (e.g., sinusitis, asthma, depression, anxiety, lack of luck, and infidelity). Simpatias are available to the general population, are relatively low-cost, and require no specialized expertise to be performed. Legare and Souza (2012) designed novel simpatias, modeled after content and information in real and widely available simpatias. The design of novel simpatias with ecologically valid content allowed for the experimental manipulation of the kind of information predicted to influence the evaluation of ritual efficacy (i.e., frequency of repetition, number of procedural steps, specificity of procedural detail, and presence of supernatural agents).

Four studies were conducted in this line of research. Study 1 was designed to develop and assess the ecological validity of the experimental stimuli. Study 2 examined potential kinds of intuitive information or criteria that may influence how ritual efficacy is evaluated. Study 3 provided a more systematic investigation of the intuitive criteria that were found to influence the evaluation of ritual efficacy in Study 2 and explored the impact of these criteria on reasoning about ritual efficacy among believers. Study 4 examined the extent to which the findings from Studies 1–3 represent universal features of human cognition, using identical stimuli in a cultural context unfamiliar with these ritualistic practices (US sample).

In Study 1, participants were presented with the experimental simpatias in written format and asked to evaluate whether or not they thought the simpatia would bring about the desired outcome. The results of this study demonstrated that nine criteria were potentially relevant to efficacy judgments: (1) specificity of time, (2) specificity of place, (3) specificity of material, (4) repetition of procedures, (5) number of procedural steps, (6) number of items used, (7) edibility (presence or absence of edible items), (8) digestibility (presence or absence of any sort of ingestion), and (9) religious icon (presence or absence of a religious icon).

Study 2 was designed to explore the extent to which these nine criteria affect the evaluation of ritual efficacy. Similar to Study 1, participants were presented with 18 experimental simpatias in written form that varied along the dimensions of frequency of performance, number of steps, and specificity of procedures. The results demonstrated that the rituals specifying greater frequency of performing the ritual act and the rituals specifying a greater number of specific steps or specifying a particular time the acts should take place were perceived
as reliably more effective than rituals lower on these dimensions or lacking in this information. Study 3 used a sample of religious believers and replicated the findings of the previous study. Additionally, Study 3 also found evidence that rituals that included a religious icon were rated as significantly more effective than the ones without a religious icon. Study 4 replicated the same findings with a sample of US undergraduates that were unfamiliar with this type of ritual. The results of these studies support the hypothesis that the structure of ritual can be interpreted in light of intuitive causal beliefs about action efficacy.

To our knowledge, these were the first studies to investigate how ritual efficacy is evaluated from a psychological perspective. The results provided support for the proposal that information reflecting intuitive causal principles (i.e., repetition of procedures, number of procedural steps (Studies 2–4), and procedural specificity (specificity of time, Studies 2 and 3) increased evaluations of ritual efficacy. Repetition and a greater number of procedural steps might be activating biases in intuitive causal reasoning that evolved to reason about cause and effect relationships.

In addition to the effects of repetition, greater number of procedural steps, and procedural specificity, the results of Studies 3 and 4 demonstrated that simpatias that included a religious icon were perceived as more efficacious than simpatias without a religious icon. One possible explanation for this difference between Studies 2 and 3 may be that the participants in Study 3 were believers and that the participants in Study 2 included both believers and nonbelievers. The participants in Study 4 (university undergraduates) were unfamiliar with simpatias, yet appealing to religious idols (saints) for restorative or protective purposes is a common practice in Catholicism and thus may have been familiar to US participants. Thus, data from Studies 3 and 4 support the proposal that association with a supernatural agent (Barrett and Lawson 2001; Sørensen et al. 2006) impacts perceptions of ritual efficacy, especially for believers.

Familiarity with the content of the simpatias alone is not likely to account for these effects; the data do not support the possibility that any kind of familiar information (or information typically found in simpatias) increases perceptions of ritual efficacy. If familiarity alone were responsible for these effects, any kind of information frequently available in simpatias would influence the evaluation of ritual efficacy. Importantly, however, information about all 9 of the criteria tested in Study 1 are available in commonly used simpatias, and yet, the results of Study 2 demonstrated that information about where the simpatia should be performed, the number of items involved, where these items should come from or whether these items were edible or ingestible had no effect on ritual
efficacy ratings. The core effects were also replicated with US undergraduates, a population that is entirely unfamiliar with the culturally specific content of *simpatias* (Study 4).

Whereas the number of experimental studies examining ritual has increased dramatically in recent years (Whitehouse 2001; Boyer and Liénard 2006), prior research on ritual cognition has not been based on real rituals that exist within particular cultural contexts and has focused almost exclusively on artificial or novel rituals (Barrett and Lawson 2001; Sørensen et al. 2006). The kind of ritual examined in these studies (simpatias) does not require specialized expertise, which allowed for the study of the evaluation of ritual efficacy experimentally using ecologically valid content. The use of culturally meaningful content by Legare and Souza (2012) to create experimental stimuli provides a novel methodological tool for investigation of ritual cognition.

**Ritual and perceived control**

Whereas the above studies demonstrated how ritual efficacy might be evaluated, until recently, little has been known about how manipulating perceived lack of control could influence perceptions of ritual practices. Examining the relationship between perceived control and ritual is of pervasive interdisciplinary interest with roots in both anthropology (Malinowski 1948; Boyer and Liénard 2006) and experimental psychology (Rudski and Edwards 2007; Kay et al. 2009). Malinowski (1948) proposed that in times of uncertainty, stress, and danger, people turn to magical rituals as a means of coping with stress and enacting some measure of control. When Malinowski visited the Trobriand Islands of New Guinea, for example, he noted that at times the Trobrianders would base their behavior on practices with clear causal rationales when fishing in a reliable and safe setting such as the lagoon; they described their successes and failures in terms of skill, whereas extensive ritual preceded the uncertain and dangerous conditions of deep-sea fishing. This behavior is not confined to the Trobriand Islands, up to 70 percent of college students in the United States employ ritualistic strategies to assist with performance on exams (Gallagher and Lewis 2001) or athletic competitions (Van Raalte et al. 1991; Cibrowski 1997; Vyse 1997; Bleak and Frederick 1998; Todd and Brown 2003).

There is also evidence that cultural ritual practices reduce stress during uncertain and dangerous times. For example, psalm recitation was successful in helping Israeli women cope with the stress of war (Sosis 2007). This suggests
that “psalm recitation is likely to have emerged as an expected cultural norm during times of crises within Israeli communities because of its ability to buffer against the stress of uncontrollable conditions” (Sosis and Handwerker, 2011, 50). Psalm recitation may serve as a form of palliative coping with stressful, uncertain, and uncontrollable conditions. This work, as an updated version of Malinowski’s theory of magical ritual, can be readily integrated with models of the mechanisms of ritualized behavior, such as that of Boyer and Liénard (2006).

Boyer and Liénard (2006) provide a model of ritualized behavior, accounting for behaviors seen in the Obsessive Compulsive Disorder spectrum, normal individual ritualized behaviors, and individual ritualized behaviors at different points in the lifespan (i.e., childhood, pregnancy, the early years of parenthood). The “Hazard Precaution System” is a psychological system geared toward dealing with inferred threats, as opposed to manifest threats encountered in the environment. Inferred threats, such as social exclusion, clues to the presence of predators or threatening conspecifics, and contamination are thought to activate mental “security systems” (Szechtman and Woody 2004; Boyer and Liénard 2006) that result in security-related behavior and coping strategies. Many collective rituals involve attention to potential danger and prescriptive, rigid behavioral patterns for averting the perceived danger and in this way resemble ritualized behaviors in OCD and childhood. As the authors note, “in collective rituals, people’s insistence on the potential danger of not following the rules—expressed as moral reprimand (moral threat), as possible exposure to gossip or ridicule (threat of social exclusion), or as worry about misfortune—is very likely to activate the hazard-precaution system” (Liénard and Boyer 2006, 823).

In this model, anxiety generated by inferred threats focuses attention on low-level units of behavior instead of goal-related aspects of an action sequence, resulting in goal demotion. They argue that cultural rituals mimic the psychological system’s normal inputs, making them attention grabbing and compelling. Ritual provides relief from anxiety through the “swamping” of working memory provided by reproducing actions that require a high level of cognitive control. Because anxiety is reduced through engagement in cognitively demanding actions, ritualized action cannot become automatic and routinized (Boyer and Liénard 2006). Engaging in security-related behavior such as ritual could also contribute to an increased sense of control (Hinds et al. 2010). These possibilities are not mutually exclusive and, to our knowledge, have not yet been examined experimentally. Future research should aim to
determine the relationship between anxiety and sense of control in association with ritualized behaviors.

Most rituals have little or no actual bearing on the success of instrumental outcomes (Lobmeyer and Wasserman 1986), thus rituals are produced and maintained by an illusion of control, a phrase coined by Langer (1975). Research has found that an illusion of control is inferred when participants believe or respond as if contingencies between their behavior and the outcome exist, even if the outcomes are random (e.g., Alloy et al. 1981; Matute 1994). All dependent measures of the illusion of control reflect a belief that one's actions can influence an outcome that is, in fact, outside of their control.

Feelings of control promote increased self-esteem, optimism, and greater sense of agency (Scheier et al. 1994). Despite the benefits associated with feelings of control (Kofta et al. 1998), people frequently experience situations in which they lack the capacity to exert the control they desire. Believing that one cannot predict or influence future events (feeling a lack of control) contributes to depressive and pessimistic behavior when facing challenging situations (Fast et al. 2009). Attributional biases are activated and strategies are implemented to restore feelings of control when people are unable to influence and predict their environment (Underwood 1996; Weary and Jacobson 1997; Weary et al. 2001; Vaughn and Weary 2003). For example, when primed with feelings of lack of control, individuals detect correlations among random sets of stimuli that are presumably unrelated (Whitson and Galinsky 2008; Kay et al. 2009).

A common procedure used in experimental research on the illusion of control involves presenting participants with various buttons or levers and exposing them to noncontingent outcomes associated with pressing the buttons (Rudski 2001; Rudski and Edwards 2007). These studies have focused on participant variables (i.e., who is likely to engage in ritual or superstitious behavior), which are important in predicting and understanding behavior, however situational and contextual variables also play a crucial role.

Engaging in causally opaque practices such as rituals may seem to be a paradoxical means of increasing perceived control, yet rituals provide individuals with an opportunity to exert agency through action, thereby giving the illusion of increased control, this could also be related to anxiety reduction as described above (Kay et al. 2009). Priming randomness may increase the perception of a lack of control through the activation of attributional biases to detect a connection between action and outcome as a means of reestablishing feelings of control. The perception of a connection thus increases the evaluation of ritual efficacy.
Legare and Souza (2014) examined whether priming randomness (lack of control) affects the perception of the efficacy of rituals. Study 1 was conducted in Brazil, using the same rituals (i.e., *simpatias*) used by Legare and Souza (2012). Participants were first primed either with perceptions of randomness or with a neutral control. To prime lack of control through feelings of randomness, a previously validated task called The Scrambled Sentence Task—SST (Kay et al. 2010) was used. In this task, participants are asked to unscramble ten sets of five words each so that four of the words form a grammatical sentence and an extraneous word is dropped. For example, this five-word set “folder me behavior puzzle their” would become the four-word sentence “their behavior puzzles me,” and the extraneous word “folder” is dropped. Five sets contain words related to randomness (e.g., puzzle, confusion) and the other five contain only neutral words. Following priming, participants were asked to evaluate the effectiveness of the eighteen *simpatias* used in the previous studies. Their data demonstrate that participants primed with randomness rated the rituals as more efficacious than participants primed with a neutral control. A possible explanation for this effect is that the manipulation of randomness activated a need to reestablish perceived control. Rituals may provide a mechanism for accomplishing this goal.

To explore the validity of the findings, Study 2 was conducted with a US sample using identical stimuli. As in Study 1, they directly compared the mean efficacy ratings of rituals in the randomness and control conditions. The US sample rated the rituals as less effective than did the Brazilian sample. Across samples, however, participants primed with randomness rated the rituals as more efficacious than participants in the control condition. These results demonstrate that even with unfamiliar content (as was the case with the US sample), priming randomness increased ritual efficacy evaluations, providing convergent support for the results of Study 1.

The results of both studies support the hypothesis that perceptions of ritual efficacy are influenced by the urge to regain a sense of control. This effect may occur because rituals present an opportunity for the perception of a potential connection between action and outcomes. Priming randomness may also change the perceived cost of performing the ritual versus the perceived benefit of the intended outcome. Future research should seek to elucidate the evolved function of this behavior by exploring the relationship between perceptions of control and actual control as they relate to ritualistic behavior. Research of this kind could provide a more nuanced picture of the proposed psychological mechanism and if the effect produces positive consequences in behavioral outcomes and is not limited to psychological states. For instance, there is research suggesting that
ritualization of treatment administration appears to affect patient confidence, therefore increasing the healing power of the treatment (Miller et al. 2009; Kaptchuk et al. 2010).

There is widespread interdisciplinary interest in the relationship between perceived control and ritual (Humphrey and Laidlaw 1994; Whitehouse 2001; Csordas 2002; Bloch 2004; Boyer and Liénard 2006; Rudski and Edwards 2007; Sørensen 2007); however, the studies by Legare and Souza (2012, 2014) are the first to examine the relationship between a perceived lack of control and reasoning about the efficacy of ritualistic practices used by others. The research described in this section has provided experimental evidence that ritual may serve as a mechanism for reestablishing the perception of control and has provided insight into the cognitive foundations of the evaluation of ritual efficacy.

Conclusions

The objectives of this chapter were threefold. First, we provided a cognitive psychological account to explain the use of ritual for instrumental functions. Next, we provided a review of new psychological research on reasoning about the efficacy of ritual. Examining perceptions of ritual efficacy provides unique insight into the cognitive biases that constrain human behavior and account for cross-culturally recurrent practices. Finally, we provided evidence for the relationship between ritual and perceptions of control. The studies presented in this chapter examined the cognitive foundations and consequences of ritual experimentally. Examining the evaluation of ritual efficacy experimentally provides a means to explore the connection between some of the defining features of ritual and intuitive causal reasoning that may impact the evaluation of ritual efficacy. We also provided a potential explanation for why individuals are motivated to engage in ritual as means of exerting control over potentially dangerous and anxiety-provoking situations. Until recently, these connections were solely examined from a qualitative perspective. Future research in this area is needed to provide further evidence for the causal connections between perceptions of ritual efficacy, control, and the use of ritual for instrumental purposes.

The studies we described highlight the use of mixed-methodologies from a variety of disciplines to inform the examination of complex cognitive and social phenomena, such as ritual. The use of ecologically valid experimental paradigms
maximizes the best possible trade-off between internal and external validities (Markman et al. 2009). The methods and materials used in these studies closely approximated the real-life cultural practices under investigation. This innovative interdisciplinary methodology is a core contribution of this research.

Ritual provides a uniquely informative context for studying causal cognition. Examining intuitive causal reasoning provides unique insight into the cognitive underpinnings of the evaluation of ritual efficacy. Studying ritual from a cognitive psychological perspective contributes to the body of research (Rudski 2001; Boyer and Liénard 2006; Kay et al. 2008, 2010) demonstrating that one of the functions rituals serve is to make the world seem more comprehensible, certain, and predictable.

Notes

1 This is Valentine’s Day in Brazil, a day before Saint Anthony’s Day. Saint Anthony is considered the saint of marriages in Brazil.

Bibliography

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