

# The Social Functions of Group Rituals

Rachel E. Watson-Jones and Cristine H. Legare

Department of Psychology, The University of Texas at Austin

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## Abstract

Convergent developments across social scientific disciplines provide evidence that ritual is a psychologically prepared, culturally inherited, behavioral trademark of our species. We draw on evidence from the anthropological and evolutionary-science literatures to offer a psychological account of the social functions of ritual for group behavior. Solving the adaptive problems associated with group living requires psychological mechanisms for identifying group members, ensuring their commitment to the group, facilitating cooperation with coalitions, and maintaining group cohesion. The intersection of these lines of inquiry yields new avenues for theory and research on the evolution and ontogeny of social group cognition.

## Keywords

cooperation, cultural evolution, cultural transmission, ritual, social group cognition

Rituals are pervasive, yet psychologically understudied, phenomena of human social group behavior. Ritual has received little empirical attention from psychologists because of the historical separation between the disciplines of psychology and anthropology. The complexity and diversity of ritual has also impeded its understanding (Rossano, 2012). This has made it difficult to generalize about the causes and effects of rituals on social cognition and behavior.

Definitional debates over the nature of ritual abound in the anthropological and religious-studies literatures (Boyer & Liénard, 2006; Humphrey & Laidlaw, 1994). Many theories have attempted to explain two aspects of ritual: belief and action (Bell, 1992). Religious beliefs are part of many group rituals, yet ritual action is the “ground from which religious conceptions spring” (Rappaport, 1999, p. 3).

Here, we take a cognitive and functional approach to examining ritual. We define ritual as socially stipulated group conventions (Legare & Souza, 2012). Although widely used across cultures for a variety of functions, rituals are opaque from the perspective of physical causality (i.e., there is no clear physical causal mechanism by which they are expected to have effects; Humphrey & Laidlaw, 1994; Legare, Wen, Herrmann, & Whitehouse, 2015; Watson-Jones, Legare, Whitehouse, & Clegg, 2014). Thus, when engaging in ritual, the focus of the behavior is on the process or procedure rather than the product or

outcome. The combination of causal opacity and social stipulation inhibits individual-level innovation and makes rituals ideally suited to high-fidelity cultural transmission over time (Legare & Nielsen, 2015).

There is a long tradition of research in the anthropological and sociological literatures arguing that rituals serve social functions, such as creating social cohesion and promoting shared beliefs (Whitehouse & Lanman, 2014). Durkheim’s (1915) seminal work on the “elementary forms,” or building blocks, of religion emphasized the role of ritual in strengthening group cohesion. More recently, Rappaport (1999) has argued that rituals are “the social act basic to humanity” (p. 26). Recent psychological research has provided empirical support for this claim (Xygalatas, Roepstorff, & Bulbulia, 2011).

Our objective is to draw upon evidence from the anthropological and evolutionary-science literatures to articulate a psychological account of the functions of ritual in social group behavior. Solving the adaptive problems associated with group living requires psychological mechanisms for identifying group members, ensuring commitment to the group, facilitating cooperation with coalitions, and maintaining group cohesion. We present

## Corresponding Author:

Cristine H. Legare, Department of Psychology, The University of Texas at Austin, 1 University Station #A8000, Austin, TX 78712  
E-mail: legare@austin.utexas.edu

evidence that rituals facilitate coordinated and cooperative group action, one of the greatest challenges of group living (Cosmides & Tooby, 2013).

### **The Functions of Ritual in Social Group Behavior**

Group membership has been essential to solving important human adaptive problems. Living in groups decreased predation risk (Shultz, Noe, McGraw, & Dunbar, 2004), allowed for coordinated caretaking of offspring (Hawkes, 2014), and facilitated technological innovation (Reader & Laland, 2002). Group living had such adaptive value that many have hypothesized that it contributed to the evolution of larger-than-average primate brains (Dunbar & Shultz, 2007), species-specific cultural complexity (Boyd, Richerson, & Henrich, 2011), and a variety of psychological adaptations for social interaction (Kurzban & Neuberg, 2005). Individual fitness benefitted from psychological mechanisms that increased social cohesion and facilitated coordinated problem solving (Dunbar & Shultz, 2007). For example, the capacity to understand the intentions of others, to track social relationships, and to form coalitional alliances all aid in cooperation with in-group members.

The capacity to engage in cooperation is a necessary but not sufficient prerequisite for participation in goal-directed coalitional alliances (Cosmides & Tooby, 2013). Despite the benefits of forming and maintaining coalitions, forming large groups involves challenges such as coordinating group members for joint action, ensuring commitment of individuals to group goals, preventing free riding, and circumventing the defection of members to rival coalitions. These additional adaptive problems required the evolution of psychological mechanisms to solve them (Chudek & Henrich, 2011). We propose that rituals solve adaptive problems associated with group living by (a) identifying group members, (b) demonstrating commitment to in-group values, (c) facilitating cooperation with social coalitions, and (d) increasing social group cohesion.

#### ***Identifying group members***

Familiarity reduces aggression and increases receptivity to cooperation. Under conditions in which social networks extend beyond familiar others, however, individuals need a proxy measure for familiarity that reliably predicts membership in the same group. Phenotypic similarity (visibly similar traits) is one such measure. Individuals who grow up within the same community are likely to be similar on a number of dimensions, thus making phenotypic similarity an honest signal of group membership. Similar individuals are more likely to share

relevant behavioral tendencies (Antal, Ohtsuki, Wakeley, Taylor, & Nowack, 2009). A preference for similar others would have helped solve the problem of determining potential coalition members who are more likely to cooperate.

Because rituals are group-specific, socially stipulated actions, they are an effective means of demonstrating phenotypic similarity and thus allow individuals to determine potential cooperators in extended networks. For example, engaging in approved social etiquette and participating in group-specific ceremonies allow identification of in-group members. Rituals provide signals that individuals share similar beliefs and values and therefore are more likely to be trustworthy reciprocators. They are an indication of one's "behavioral type," facilitating affiliative and cooperative interactions (McElreath, Boyd, & Richerson, 2003, p. 127).

Rituals identify the members of the group who can be trusted in future interactions. Markers of group membership can, however, be exploited by free riders—those who fail to contribute to the success of group goals but nonetheless attempt to share the benefits of the group's success. Thus, mechanisms must be in place to ward off exploitation (Tooby, Cosmides, & Price, 2006). One way to ward off potential exploitation is by selectively trusting individuals who demonstrate commitment to the group.

#### ***Demonstrating commitment to in-group values***

For cooperation to be maintained within a group, group members must be able to distinguish cooperators from free riders. Rituals often include seemingly costly actions that operate as reliable, hard-to-fake signals that convey the signaler's commitment to the group. Rituals can be hard to fake both in terms of energy and time expenditure associated with performing the ritual as well as in terms of the pain and danger involved in some ritual activities. Sosis and Alcorta (2003) have argued that hard-to-fake ritual signals promote trust and affiliation among group members. For example, the longevity of religious communes is related to the amount of costly rituals in which group members are required to engage (Sosis & Bressler, 2003). Because costly rituals signal commitment to the group, the more rituals involved, the longer the groups tend to exist.

We propose that humans are motivated to engage in ritual as a means of in-group affiliation (Legare & Watson-Jones, 2015). In Henrich's (2009) model of social learning, costly rituals act as credibility-enhancing displays (CREDs) that provide evidence of an individual's commitment to in-group values. Verbally expressed beliefs and commitments are especially susceptible to deception, so humans have likely evolved cognitive mechanisms that

privilege behavioral commitment over verbal commitment (Henrich, 2009). Rituals are salient evidence of behavioral commitment to groups. When rituals are costly to perform, in time, energy expenditure, pain, and sacrifice, they act as signals of commitment to group values (Xygalatas et al., 2013).

### ***Facilitating cooperation with coalitions***

Humans are extraordinarily adept at cooperation and are willing to interact with and invest resources in nonkin and even complete strangers (Wobber, Herrmann, Hare, Wrangham, & Tomasello, 2014). Whereas genetic relatedness facilitates cooperative alliances and helping behavior (Hamilton, 1964), adaptations for nonkin cooperation could have evolved through several routes, such as mechanisms for tracking exchanges with other group members (Tooby et al., 2006) and mutualism, in which individuals mutually benefit from the activity of others (Nowak, 2006; West, El Mouden, & Gardner, 2011). This allows cooperative behavior in coalitional alliances (cooperation among three or more individuals) with nonkin. Psychological adaptations for forming and maintaining coalitions result in selective cooperation with in-group members—individuals who interact with one another over extended periods of time.

Rituals facilitate coordinated group activity. Cooperative behavior often involves incurring a cost to the self in the expectation that the benefits provided by collective action will outweigh the costs incurred. There is growing evidence that, through signaling group commitment, rituals may contribute to cooperative behavior with in-group members. Individuals who demonstrate commitment to in-group values through ritual participation are more likely to be trusted in cooperative endeavors. Ruffle and Sosis (2003) conducted research with men living in an Israeli kibbutz and found that religious males who engaged in public religious rituals were more likely to cooperate in an economic game than were secular males. Relatedly, adherents of a Brazilian religion (Candomblé) who reported greater religious commitment were more likely to behave generously in an economic game and were more likely to be the recipients of cooperation from other group members (Soler, 2012).

### ***Increasing group cohesion***

The term *social cohesion* implies that people can think similarly and act as a group. Because rituals involve shared experiences among group members that often require personal sacrifice, rituals may contribute to increased social cohesion and foster the longevity of social groups (Whitehouse & Lanman, 2014). As

populations increased in numbers of nonkin over human history, rituals have allowed social groups to remain cohesive while reducing the need for physical and social intimacy and physical proximity over time. Indeed, recent evidence suggests that ritual relationships are “far more associated with interaction [between bands] than is kinship” in small-scale societies, and interband interaction rates have been linked to nonkin cooperation (Hill, Wood, Baggio, Hurtado, & Boyd, 2014, p. 4).

Rituals reduce individual-level conflicts inherent in group living, a necessary condition for achieving coalitional goals. Although there have been mixed results in recent research, there is evidence that engaging in synchronous movement (even synchronous singing) increases cooperation, especially when there is a shared goal among participants (Reddish, Fischer, & Bulbulia, 2013), as well as self-reported feelings of connection to group members and trust of group members (Cohen, Ejsmond-Frey, Knight, & Dunbar, 2010; Fischer, Callander, Reddish, & Bulbulia, 2013; Wiltermuth & Heath, 2009). Future research is needed to shed light on the kinds of rituals that are most or least likely to foster group cohesion.

### **Future Directions**

There are many outstanding questions about the psychological and behavioral effects of social rituals. For example, what is the connection between collective rituals and individual ritualized behavior? Group rituals often concern addressing, averting, and mitigating danger. Addressing perceived threat is also a common theme in many individual ritualized behaviors (Legare & Souza, 2014). Perceived threats are thought to activate mental “security systems,” such as the “hazard-precaution system” (Boyer & Liénard, 2006). The activation of mental security systems results in security-related behavior, of which ritual may be a part. In general, implied threats to fitness (e.g., strangers, social exclusion, contamination) result in stronger adherence to in-group normative ideologies (Navarrete & Fessler, 2005). Shared beliefs and practices likely strengthen group bonds and increase affiliation with group members in times of stress (Jong, Whitehouse, Kavanagh, & Lane, 2015; Lang, Krátký, Shaver, Jerotijević, & Xygalatas, 2015).

Stress is a common theme in many group rituals. Whereas some rituals involve euphoric elements (e.g., collective singing and dancing), the ethnographic record is full of examples of dysphoric “rites of terror” (e.g., painful initiation rites). How do diverse forms of ritual behavior contribute to social cohesion? Anthropological research suggests that both euphoric and dysphoric rituals increase social cohesion (Whitehouse & Lanman, 2014). It is unknown, however, if they do so by the same mechanisms. Future research should aim to disambiguate the

mechanisms by which different kinds of rituals contribute to group cohesion, and why those that produce euphoric and dysphoric affects seem to produce the same result.

Until recently, the functions of ritual have primarily been studied using adult participants. Less work has examined the development of ritual participation and group functioning. Our prolonged childhoods provide us with a unique window in which to learn the complex beliefs, norms, and practices of our cultural communities (Legare & Nielsen, 2015). Understanding how children learn rituals will provide novel insight into the ontogeny of social group cognition and behavior. Recent work has found that young children are sensitive to cues to social conventions such as rituals and imitate ritual actions with higher fidelity than instrumental behavior (Legare et al., 2015). Other research has found that engaging in collective rituals increases preferences for in-group members (Wen, Herrmann, & Legare, 2015) and that the motivation to affiliate with social groups may underlie children's imitation of ritual actions (Watson-Jones et al., 2014; Watson-Jones, Whitehouse, & Legare, 2016). There are still many open questions for future research examining the ontogeny of the functions of ritual, such as how engaging in rituals impacts children's prosociality toward in- versus out-group members and how children might use imitation of ritual actions as signals of group membership.

## Conclusion

One of the greatest challenges of social group living is the problem of coordinated and cooperative group action (Cosmides & Tooby, 2013). We propose that rituals serve four core functions that address the adaptive problems of group living: They (a) provide reliable markers of group membership, (b) demonstrate commitment to the group, (c) facilitate cooperation with social coalitions, and (d) increase social group cohesion. We propose that the capacity to engage in ritual is a psychologically prepared, culturally inherited behavior geared toward facilitating social group dynamics. Future research at the intersection of anthropology and cognitive science is required to examine the mechanisms by which ritual activity contributes to cooperation and cohesion among group members. Taking a cognitive perspective on the evolution and ontogeny of ritual will increasingly contribute to our understanding of *Homo ritualis*.

## Recommended Reading

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- Henrich, J. (2009). (See References). An article that provides readers with an in-depth discussion of ritual as Credibility Enhancing Displays (CREDS).

- Legare, C. H., & Souza, A. L. (2012). (See References). A cognitive psychological account of reasoning about ritual efficacy.
- Sosis, R., & Alcorta, C. (2003). (See References). An overview of the costly-signaling account of religious rituals.
- Whitehouse, H., & Lanman, J. A. (2014). (See References). A comprehensive overview of the relationship between rituals and group cohesion.

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