



The Effects of Ritual on the Development of Social Group Cognition

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Recent convergent developments in cognitive science (Legare & Souza, 2012; 2014; Rossano, 2012), social psychology (Norton & Gino, 2013; Swann, Jetten, Gómez, Whitehouse, & Bastain, 2012; Vohs, Wang, Gino, & Norton, 2013) and evolutionary anthropology (Boyer and Liénard, 2006; Ruffle & Sosis, 2007) have opened up new avenues for research on ritual, a psychologically understudied yet pervasive feature of human social group cognition and behavior. The dearth of psychological research on this topic is striking given that ritual is a universal cultural phenomenon and has been the focus of extensive anthropological inquiry. Anthropologists have long proposed that rituals demonstrate commitment to in-group members by signaling group member identity, promoting interpersonal bonding, and creating shared beliefs (Humphrey & Laidlaw, 1994; Rappaport, 1999).

The role of ritual in enhancing group cohesion has received little empirical attention to date, in part because the complexity and historical diversity of the world's ritual traditions has impeded the identification of common key features of ritualistic behavior. This has made it difficult to establish robust generalizations about the causes and effects of these features in isolation or interaction. Rituals have also been studied almost exclusively with qualitative designs (but see Legare & Souza, 2012; Norton & Gino, 2013; Vohs et al., 2013 for exceptions), limiting strong causal inferences about rituals' impact on human cognition and behavior (Rossano, 2012).

There is substantial evidence that humans have evolved a variety of psychological adaptations for group living (Caporael, 1997; Kurzban & Neuberg, 2005; Richerson, Boyd, & Henrich, 2003; Tooby, Cosmides, & Price, 2006). Even young children are well prepared to become members of social groups (Diesendruck, Goldfein-Elbaz, Rhodes, Gelman, & Neumark, in press; Diesendruck & Markson, 2011). Infants expect members of social groups to act similarly (Powell & Spelke, 2013), are more likely to imitate members of an in-group than an out-group (Buttelman, Zymj, Daum, & Carpenter, 2013), and children as young as 4 years old display distinct preferences for members of their in-group (Dunham, Baron, & Banaji, 2008; Dunham, Baron, & Carey, 2011; Nesdale & Flessler, 2001; Rhodes, 2012). Children are also acutely sensitive to relations among

individuals (Chudek, Heller, Birch, & Henrich, 2012; Kalish, 2013; Nielsen & Blank, 2011) and particularly to whether two or more individuals act or make judgments in the same way (Corriveau, Fusaro, & Harris, 2009). Children conform to a group consensus in situations where no instrumental knowledge can be gained and disguise their correct opinions to conform to a group consensus (Haun & Tomasello, 2011).

Recent research on the cognitive developmental foundations of ritual has explored imitative behaviour as a means of affiliation with social groups (Herrmann, Legare, Harris, & Whitehouse, 2013; Watson-Jones, Legare, Whitehouse, & Clegg, 2014). High fidelity imitation in children has been linked to social concerns (Nielsen, 2006; Over & Carpenter, 2012), such as encoding normative behavior (Kenward, Karlsson, & Persson, 2011) and fear of ostracism (Over & Carpenter, 2009; Watson-Jones, et al., 2014). There is evidence that motor mimicry functions as an affiliative response in reaction to social exclusion among adults (Lakin, Chartrand, & Arkin, 2008), perhaps because individuals cope with ostracism by engaging in behaviors aimed at reinclusion (see Williams & Nida, 2011 for a review). Adults also engage in more motor mimicry of in-group members than out-group members (Bourgeois & Hess, 2008).

We propose that (a) the performance of social shared rituals amplifies the early developing and empirically documented preference for in-group members over out-group members and (b) rituals function as a mechanism for increasing social group cohesion. Rituals, which we define as conventional, causally opaque procedures, are uninterrupted from the perspective of physical causality because they lack an intuitive or observable causal connection between the specific action performed (e.g., rubbing a ceramic pot) and the desired outcome or effect (e.g., making it rain) (Legare & Souza, 2012; Sørensen, 2007). Rituals are also the result of "a positive act of acquiescence in a socially stipulated order", and are not the product of individual innovation. The peculiar fascination of ritual lies in the fact that here, as in few other human activities, "the actors both are, and are not, the author of their acts" (Humphrey & Laidlaw, 1994, p. 5). We propose that rituals facilitate high fidelity cultural transmission and serve as ideal social identity markers because they are both causally opaque and social conventions, making them resistant to individual innovation and change.

There are several frequently co-occurring features of rituals that we hypothesize make ritual an ideal candidate for amplifying social group affiliation and cohesion. Rituals are socially scripted, are frequently accompanied by normative or conventional language, and involve behavioral coordination or synchrony within groups (Hove & Risen,

2009; Kirschner & Tomasello, 2010; Marsh, Richardson, & Schmidt, 2009; Wiltermuth & Heath, 2009). New developmental research has documented that frequently co-occurring features of ritual have independent effects on imitative fidelity, a measure of affiliation. Children engage in higher imitative fidelity after (a) hearing conventional language (e.g., “everyone does it this way”) rather than instrumental language (e.g., “she makes a necklace”), (b) observing multiple actors engage in the same behavior rather than observing one actor engage in the same behavior multiple times, and (c) observing behavior done in synchrony rather than in observing behavior done in succession (Herrmann et al., 2013).

We propose that examining the psychological effects of ritual in the context of children’s social groups informs our understanding of the empirically documented and early developing human tendency to prefer in-group members to out-group members. To what extent does participating in a socially shared, conventional, and synchronous ritual increase in-group affiliation in early childhood?

Despite the large literature on children’s reasoning about social groups, this is the first research to our knowledge examining the role of ritual participation on children’s affiliation with in- and out-group members. In new work, a novel social group paradigm (Tajfel, 1970) was used to examine the hypothesis that the experience of participating in a ritual may increase preference for in-group members, an effect we predicted to be greater than experiencing social group membership alone. Across conditions, children were first assigned to a novel social group in a daycare setting (i.e., yellow group or a green group). In the ritual condition, children in each group participated in a scripted, synchronous necklace-making task that was demonstrated by a group leader. In the control condition, children in each group participated in a non-scripted necklace-making task that was supervised by a group leader. We predicted that children in the ritual condition would demonstrate stronger effects on multiple measures of in-group affiliation including: selectively fusing with their in-group, making more choices to affiliate with their in-group, and attributing greater expectations for inclusion by new in-group members than did children in the control condition.

The results of this study provide evidence that participation in ritual increased children’s feelings of in-group affiliation. They are consistent with the hypothesis that ritual functions as a mechanism for group cohesion. Data from multiple converging measures support the hypothesis that the experience of participating in a ritual increases feelings of in-group affiliation to a greater degree than group membership alone (control condition). Children in the ritual condition had higher in-group fusion scores than children in the control condition. This effect was found only for in-group measures; participation in a ritual had no effect on measures of out-group fusion. Children in the ritual condition (a) made more choices consistent with a desire to affiliate with their in-group than children in the control group, including retaining in-group membership, retaining in-group identity markers, and expressing in-group preferences and (b) had greater expectations for being included by their in-group than children in the control condition. As in the group fusion measure, no reliable difference was found between the ritual and control conditions on children’s expectations for out-group inclusion.



Figure 1.

Our results provide evidence from converging measures for effects of ritual participation on children’s in-group affiliation, yet more research is needed to further examine the relationship between ritual and out-group effects. Although our data did not show conditional effects on out-group measures, there are multiple potential explanations for this. One possibility is that the effects of ritual are unique to reasoning about in-group members. If so, the effects of ritual on out-group measures may not be different from the experience of social group membership alone. Another possibility is that in-group bias does not necessarily contribute to out-group prejudice (Brewer, 2007). There is research consistent with the current findings indicating that in-group bias and out-group animosity are separable mental constructs and that increasing in-group bias does not necessarily increase out-group prejudice (Yamagishi & Mifune, 2009). Future research with additional measures could examine the conditions under which out-group bias can be detected.

Another direction for future research is to experimentally manipulate different features of ritual to examine the effects of conventional language and participation in socially scripted, synchronous action on psychological outcomes. There are several frequently co-occurring features of rituals that we hypothesize make ritual an ideal candidate for amplifying social group affiliation and cohesion. Rituals are socially scripted, frequently accompanied by conventional language, and involve social group coordination and behavioral synchrony. In our study, rather than attempt to examine the effects of each of these features on in-group affiliation independently, our objective was to examine them cumulatively. Thus, our study cannot determine the extent to which separate features of ritual individually contribute to the documented effects on in-group affiliation, a topic we are actively examining in ongoing research.

One of the greatest challenges of social group living is the problem of coordinated and cooperative group action (Tooby et al., 2006). We propose that one of the functions of ritual is to address this problem. Our data support the hypothesis that the experience of participating in a ritual increases in-group affiliation to a greater degree than group membership alone and provide evidence consistent with our proposal that rituals facilitate in-group cohesion in early childhood.



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