Organizational Behavior and Human Decision Processes 165 (2021) 197–212

Contents lists available at ScienceDirect

Organizational Behavior and Human Decision Processes

journal homepage: www.elsevier.com/locate/obhdp

Work group rituals enhance the meaning of work

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ARTICLE INFO

Keywords:
Groups
Meaningfulness
Task meaning
Ritual
Teams
Organizational citizenship

ABSTRACT

The many benefits of finding meaning in work suggest the importance of identifying activities that increase job meaningfulness. The current paper identifies one such activity: engaging in rituals with workgroups. Five studies ($N = 1,099$) provide evidence that performing group rituals can enhance the meaningfulness of work, and that in turn this meaning can enhance organizational citizenship behaviors (to the benefit of those groups). We first define group rituals both conceptually and empirically, identifying three types of features associated with group rituals—physical actions, psychological import, and communality—and differentiating group rituals from the related concept of group norms (Pilot Studies A and B). We then examine—correlationally in a survey of employed individuals (Study 1a) and experimentally in a study that manipulates the presence or absence of the three types of ritualistic features (Study 1b)—whether performing an activity at work with ritualistic physical, psychological, and communal features (versus an activity with none or just one of these features) is associated with more meaningful work experiences. We test whether this enhanced meaning predicts the extent to which individuals are willing to engage in behaviors enacted on behalf of that group, even without the promise of reward, using organizational citizenship behaviors in Studies 1a–1b and performance on a brainstorming task in Study 2. Taken together, these studies offer a framework for understanding group ritual and offer novel insight into the downstream consequences of employing group rituals in organizational contexts.

Task meaningfulness, the purpose and value that workers perceive in their tasks (Baumeister, Vohs, Aaker, & Garbinsky, 2013), is associated with a host of beneficial outcomes in the workplace. Task meaningfulness has been shown to boost motivation (Deci & Ryan, 2010; Hackman & Oldham, 1976), improve work performance (Brickner, Harkins, & Ostrom, 1986), and enhance subjective well-being (Grant, 2007; Hackman & Oldham, 1980; Rosso, Dekas, & Wrzesniewski, 2010). With these benefits in mind, it is important to identify activities that increase meaningfulness at work. In the current paper we explore *rituals*, specifically those performed within workgroups, as one such activity that employees can engage in to imbue their work with greater meaning.

Group rituals often represent long-standing cultural practices that become imbued with meaning. They tend to mark important life transitions or serve as rites of passage, and can involve behaviors ranging from chanting to dancing to enduring pain (Durkheim, 1912; Goffman, 1967). But group rituals are also present in more everyday facets of life, including in team and organizational contexts, and can take less extreme forms. For example, the University of Notre Dame football players walk an identical route from the university basilica to the stadium before each game, and employees of companies such as Walmart begin each morning with ritualistic chants and stretches (Heisler, 2018; Rosenbloom, 2009). On the surface, these rituals can seem frivolous because their constituent actions are not readily linked to the intended outcome: after all, walking an identical route does not guarantee a football game win. The ubiquity of these practices, however, suggests widespread endorsement of the belief that group rituals might have value and even produce positive organizational outcomes.

Given the role that task meaningfulness has been shown to play in improving employee motivation, well-being, and even performance, we examine whether the meaning contained in group rituals can enhance the meaning of subsequent group tasks, in turn increasing individuals' willingness to engage in behaviors enacted on behalf of that group, even

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https://doi.org/10.1016/j.obhdp.2021.05.005
Received 25 July 2018; Received in revised form 10 May 2021; Accepted 23 May 2021

without the promise of reward—including organizational citizenship behaviors. Our investigation makes theoretical contributions to our understanding of group rituals, meaning at work, and group performance, while offering a practical intervention for organizations to implement.

1. What are group rituals?

A wide variety of definitions of group rituals has been used across the social sciences, with no scholarly consensus reached regarding a single definition. Adding to this ambiguity, empirical papers on ritual have operationalized the concept in different ways as well; for instance, while some papers have operationalized rituals as involving synchrony or specificity (e.g., Legare & Souza, 2012; Wiltermuth & Heath, 2009), others have implicated constructs such as pain (Bastian, Jetten, & Ferris, 2014; Xygalatas et al., 2013) or sacredness (e.g., Fischer, Callander, Reddish, & Bulbulia, 2013). As a result, one goal of our research is to offer a clear conceptual definition of group rituals by carefully reviewing the existing literature to look for overarching commonalities, and to support that conceptualization with empirical evidence using an inductive approach (Pilot Studies A and B) and experiments (Studies 1a–1b). In brief, we suggest that group rituals tend to be characterized by three core types of features: physical, psychological, and communal. Activities that have the physical, psychological, and communal features described below tend to be more ritualistic.

1.1. Physical features of group ritual

Rituals involve specific types of "words and acts" (Tambiah, 1979). Beyond the aforementioned cases of Notre Dame football players walking a certain route and Walmart employees chanting, examples abound. Consider the following three. At Stickyeyes, a marketing agency, employees mark the successful completion of a design project by shooting a gong with a Nerf gun (InCareers UX, 2019). In a ritual called 5 × 5, on the fifth day of each month, at 5 pm, five employees at a consulting agency, R/GA, share a turning point in their lives for five minutes with the rest of the company (Pierce, 2020). And the employees of a manufacturing firm Cambridge Air Solutions complete a stretching program at the beginning of every morning meeting (Krieger, 2018). Although these rituals take various forms (for instance, hitting a gong versus talking about a life event), they share physical commonalities as well: their constitutent actions are repeated regularly and rigidly (e.g., walking a certain route before every football game; identical stretches performed at the beginning of each morning meeting). Thus, we suggest that group activities that contain words and/or acts that are more repeated and rigid also tend to be more ritualistic.

1.2. Psychological features of group ritual

Rituals, despite not serving a direct instrumental purpose, are associated with psychological import: rituals represent a group's values, exemplify tradition and sacredness, and contain "transcendental significance" (Bell, 1997; Fischer et al., 2013; Hobson, Schroeder, Risen, Xygalatas, & Inzlicht, 2018; Legare & Souza, 2012; Munn, 1973; Turner, 1973). For instance, in a US Military funeral ceremony, the performance of "Taps" involves physical acts of raising and lowering a bugle in a highly specific way; while these actions are not required for proper playing, they become psychologically significant in that they have come to represent cultural values of gratitude and respect for veterans (Rossano, 2012). Similarly, walking a certain route is meaningful for the Notre Dame football players because it is performed for luck, even though doing so does not directly cause a game to be won. Indeed, some researchers have suggested that the less instrumental and more opaque the connection of actions to some desired outcome, the more ritualistic those actions are perceived to be (Legare & Nielsen, 2015; Rossano, 2012). Thus, we suggest that group activities that contain more psychological significance to their performers—even when the specific words and acts in the activity have no direct instrumental purpose—are more ritualistic.

1.3. Communal features of group ritual

Unlike individual rituals that are performed solo, group rituals, by definition, involve multiple participants. But beyond this minimum requirement, there are other features that can make a group activity feel even more shared and communal among multiple individuals. Communal features of group rituals take a variety of forms, from individuals coordinating with one another to complete movements at the same time (i.e., synchrony) to matching another individual's movements (i.e., mimicry) to performing activities that allow individuals to see one another to even the mere awareness that an activity is performed by others (e.g., Fischer et al., 2013; Goffman, 1967; Hobson, Gino, Norton, & Inzlicht, 2017). Features that enhance perceptions of communality have been theorized to enhance the extent to which groups "merge" as well as experience mental and intellectual conformity (McNeill, 1995; Radcliffe-Brown, 1932). Thus, we suggest that the perception that a group activity is shared intimately with others makes it more ritualistic.

As the examples above demonstrate, these three types of features—physical actions, psychological import, and communality—do not always vary independently, and if anything, the presence of one feature often reinforces the others. Thus, rather than try to specify the "minimum" amount of each element required to define a group activity as a ritual, we consider how ritualistic activities are perceived to be along a continuum. The more that group activities incorporate the physical, psychological, and communal features described above, the more ritualistic they become. For instance, consider a work team performing a warm-up chant together before a sales call. Imbuing the chant with a communal feature by requiring the chant to be performed in a circle can make the chant feel more ritualistic.

Furthermore, we suggest that group activities are more meaningful when they are perceived as more ritualistic. Thus, a group activity can be made more meaningful not only by directly imbuing it with psychological significance, but also by imbuing it with physical or communal elements that make it feel more ritualistic. For instance, it has been theorized that the very act of sharing a physical movement together can amplify the meaningfulness inherent in a ritual (Hobson et al., 2018) by turning "shared body movements [into] shared sacred values" (e.g., Fischer et al., 2013).

In this paper, we take one step beyond examining the effect of ritualizing a workgroup activity on the perceived meaningfulness of engaging in it, to also examining whether this meaningfulness transfers to other work tasks. We propose that the meaningfulness that people feel when participating in a group ritual can spill over to subsequent work tasks, leading work to feel more meaningful than it would feel otherwise (i.e., a "meaning transfer" hypothesis). We suggest and empirically demonstrate that performing a group ritual is most likely to make subsequent tasks feel more meaningful when all three types of ritualistic features (physical, psychological, communal) are present. However, given the lack of scholarly consensus on the definition of a "group ritual," we first empirically establish the representative features that capture the core meaning of group ritual. Moreover, as a key part of establishing the features that are central to rituals, we differentiate group rituals from a closely related construct, group norms, in order to better delineate the theoretical distinctiveness of group rituals.

2. Group rituals, task meaningfulness, and organizational citizenship

The meaning transfer hypothesis posits that work tasks can be made more meaningful without changing the content of the work. In contrast to our approach, prior research has sought to increase perceptions of

task meaningfulness by focusing on changing aspects of the task itself. For instance, designing tasks to increase their difficulty and complexity or to allow for a greater level of control and freedom can lead employees to perceive greater meaning in the respective tasks (e.g., Conger & Kanungo, 1988; Cotton, Vollrath, Froggatt, Lengnick-Hall, & Jennings, 1988; Hackman & Lawler, 1971; Ilgen & Hollenbeck, 1991; Nix, Ryan, Manly, & Deci, 1999). Building on this previous research demonstrating the benefits of altering tasks, we explore whether group-based tasks can be imbued with meaning without changing aspects of those tasks.

We propose group rituals as a novel strategy through which the meaning created by enacting group rituals can then transfer to subsequent tasks. We base our prediction of meaning transfer on previous research demonstrating that attitudes can "spill over" into other judgments by mere association (e.g., Bargh, Chaiken, Govender, & Pratto, 1992; Bargh, Chaiken, Raymond, & Hymes, 1996). For instance, "spreading effects" shows that people's (dis)like of an individual can spread to others who are merely associated with the individual; relatedly, when people observe communicators who describe another individual as having certain traits, observers view the communicators as having those traits as well (Skowronski, Carlston, Mae, & Crawford, 1998; Walther, 2002)(. Research on emotional contagion also demonstrates that emotions activated in one context can influence judgments and behavior in a subsequent, different context (e.g., Hatfield, Cacioppo, & Rapson, 1993).

This work suggests that meaning transfer should be more likely to occur when group rituals and work tasks are associated in people's minds. For example, when a work task immediately (or repeatedly) follows a group ritual, we expect an association. Similarly, when the work task and the group ritual include the same people and/or take place in the same location, that too should produce an association. Thus, to test our meaning transfer account, we focus on work tasks that are associated with the group ritual.

We further suggest that this increase in meaning for subsequent work tasks will be associated with performance benefits on those tasks. Indeed, people who perceive tasks as meaningful tend to exert greater cognitive effort to complete them (e.g., Petty & Cacioppo, 1979; Petty, Cacioppo, & Heesacker, 1981), and imbuing work with meaning can foster intrinsic work motivation, which also can lead to greater persistence and effort (e.g., Hackman & Oldham, 1980; Piccolo & Colquitt, 2006; Ryan & Deci, 2000). More generally, people's perceptions of meaning in their work predict job satisfaction and performance (Hackman & Oldham, 1980; Wrzesniewski, McCauley, Rozin, & Schwartz, 1997). At the group level, task meaningfulness has been shown to decrease social loafing, thereby increasing group performance (Brickner et al., 1986; Price, 1987). Beyond motivation and performance, task meaningfulness may also confer psychological benefits by improving employees' subjective well-being and job satisfaction (French, 2009; Hackman & Oldham, 1980; Grant, 2007; Rosso et al., 2010).

Thus, we explore task meaning as a potential driver of the relationship between group rituals and organizational citizenship behaviors. Whereas previous research has primarily focused on documenting the effects of group ritual on cooperation and affiliation (e.g., Bastian et al., 2014; Sosis & Ruffle, 2003; see Appendix A for details about the literature review on rituals we conducted), we extend this research by exploring performance on organizational citizenship behaviors, which involve discretionary individual behaviors that are not directly or explicitly recognized by a formal reward system, and in the aggregate, promote the effective functioning of the organization (Organ, 1988). Relatedly, workers often complete pooled interdependent tasks in which they must exert effort to contribute to group output, without the need to coordinate with other group members (Saavedra, Earley, & Van Dyne, 1993). We predict that the transfer of meaning derived from group rituals to subsequent tasks is associated with positive workplace outcomes such as enhanced organizational citizenship.

3. Overview of studies and theoretical contributions

By employing prototype methodology, we first empirically define group ritual by identifying and validating the features that are representative of the concept (Pilot Studies A and B); as part of narrowing our definition of group ritual, we also distinguish them from the closely related concept of group norms. We then test the meaning transfer hypothesis across three studies. Studies 1a–1b test the notion that performing a group ritual before completing a group work task can imbue the subsequent task with meaning, which in turn predicts improved organizational citizenship behaviors. Specifically, Study 1a surveys a group of employed individuals to contextualize group rituals in the field. In Study 1b, we examine whether performing a group activity with more ritualistic physical, psychological, and communal features (versus an activity with none or just one of these features) will increase not just the meaningfulness of the activity but of subsequent work tasks (i.e., transferring meaning), and the extent to which individuals enact organizational citizenship behaviors. Study 2 examines the effect of increasing the level of one of those ritualistic features: we test whether laboratory participants who perform a group ritual that is more (versus less) communal report increased perceptions of meaning of a subsequent brainstorming task, and whether this enhanced meaning in turn predicts performance on that task. Taken together, these studies offer insights into the psychological functions of group rituals and potential positive downstream consequences of employing group rituals in organizational contexts.

Our research makes several theoretical contributions. First, we utilize prototype methodology to identify the features that best define and differentiate group ritual. While the study of group rituals has a rich history, there is a lack of scholarly consensus on a definition of a group ritual. By inductively generating the features typically associated with the concept of a group ritual and then empirically validating those features, we not only provide a definitional framework for group rituals, but also differentiate them from a related yet distinct concept, group norms.

Second, we add to an emerging literature documenting the causal impact of rituals on psychological outcomes. While recent experimental research has primarily focused on the effect of individual rituals on individual outcomes such as coping with grief (Norton & Gino, 2014), handling anxiety (Brooks et al., 2016), and enhancing consumption experiences (Vohs, Wang, Gino, & Norton, 2013), existing research on group rituals is primarily qualitative and thus unable to establish causality. Indeed, conducting a literature review on rituals revealed that out of 69 papers included in the review (to conduct this review, we searched for empirical articles published in 11 academic journals of management and social psychology and supplemented this list with the articles referenced in Hobson et al. (2018), a recent theory paper, and those recommended by two anonymous reviewers), only 16% of the papers employed experiments to study group rituals; furthermore, prior research has primarily focused on the role of cohesion and affiliation in group rituals (e.g., Bastian et al., 2014; Wen, Herrmann, & Legare, 2016), and none of these papers explored meaning transfer as a potential downstream consequence of conducting group rituals (See Appendix A).

Third, we contribute to research on task and job design, which has previously sought to imbue tasks with meaning by focusing on changing the task itself, for instance, by designing tasks to be more complex or giving workers greater control (e.g., Conger & Kanungo, 1988; Cotton et al., 1988; Hackman & Lawler, 1971; Ilgen & Hollenbeck, 1991; Nix et al., 1999). Recognizing that this is not always feasible, we suggest group rituals as a simple yet effective intervention that organizations can employ to imbue tasks with meaning.

4. Pilot Studies A–B

Pilot Studies A and B aimed to identify and validate the features that best represent the concept of a group ritual by using the prototype

methodology (e.g., Fehr, 1988). In Pilot Study A, we recruited a group of early-career researchers in the social sciences and asked them to generate a list of features they associate with the concept of group ritual. By recruiting this specific sample, who presumably have the necessary written communication skills to delineate constructs, we aimed to generate high-quality responses that are well articulated while minimizing the risk of underrepresenting the concept. We expected that some characteristics of group ritual would be readily available in the minds of our participants, whereas others would be less likely to come to mind. To distinguish group rituals from related concepts, we also asked participants to engage in the same list generation exercise for the concept of group norms. Pilot Study B validated the top features that Pilot Study A participants generated for the two concepts. We asked a separate group of participants to rate the extent to which they associated each of the top five characteristics listed for each concept with group rituals and group norms.[1] Our data, code, and survey materials are available in the Open Science Framework (OSF) repository (https://osf.io/vsj65/).

4.1. Pilot Study A method

4.1.1. Participants

We recruited individuals currently pursuing a doctoral degree in the social sciences by asking our colleagues to distribute the survey to doctoral students. The final sample consisted of 39 participants, with or who are currently pursuing a doctoral degree in the social sciences (31 females, $M_{age} = 29.12$, $SD_{age} = 4.21$).[2,3] Because this was an exploratory study, we did not preregister it, but preregistered Pilot Study B to validate the features derived from the current study.

4.1.2. Design and procedure

To elicit the features of group rituals and group norms, we adapted the instructions of Fehr (1988). Participants first read the following: "Group rituals and group norms are members of a large class of global concepts that researchers have found useful in characterizing social interactions. This is a simple study to find out the characteristics and attributes of these two concepts." Following Fehr (1988), we provided participants with a list of potential features of the concepts of extraversion and terror, as examples. Participants then read the following instructions which were adapted from Fehr (1988):

"When thinking about group norms or group rituals, you might ask yourself: What manifestations are there of them? What thoughts do you have about them? How do you show them? In what circumstances are you apt to be aware of them? It might help to imagine you're explaining the word norms or rituals to a foreigner or to someone who has never experienced them. So include the obvious. Tell how it comes about and what happens after. But emphasize a description of how one feels and acts. Try not just to free associate. If "norms" or "rituals" makes you think of your romantic partner, don't write your partner's name. We are interested in what is typical in instances of group norms and group rituals."

We then asked participants to list as many features as they could think of to describe the concepts of "group rituals" and "group norms" (in counterbalanced order). For each concept, we told them to take no longer than 3–4 minutes. A research assistant coded the responses while remaining blind to concept assignments (i.e., which of the two participant responses was for which of the two concepts), using a procedure in which identical and highly synonymous responses are combined. A second research assistant then reviewed the work of the first research assistant. They disagreed 4% of the time; the two resolved these disagreements through discussion.

4.2. Pilot Study A results

Participants listed an average of 5.90 features for group rituals and 6.03 features for group norms, which is comparable to the numbers obtained in similar studies (e.g., $M = 5.32$ when people list features of compassionate love; Fehr & Sprecher, 2009). Participants listed a total of 465 features. The research assistants categorized them into 36 types of features while combining identical and highly synonymous responses, which resulted in a total of 355 instances that they identified as fitting into one of the 36 types of features (Table 1). The five types of features of group rituals that were listed most frequently were: "meaningful" (e.g., "activities with meaning", "symbolic"; 16%), "scheduled" (e.g., "takes place in particular times"; "do them regularly"; 7%), "communal" (e.g., "a shared, communal activity"; "do together"; 10%), "religious/spiritual/cults" (e.g., "religion"; "superstitions"; 7%), and "repetitive" (e.g., "repeated actions in a sequence or pattern"; "repetitive behaviors"; 9%). For group norms, the five most frequently listed types of features were "rules, regulations, expectations for behavior" (e.g., "shared rules"; "expectations for behavior"; 20%), "unspoken or assumed" (e.g., "unspoken"; "often unwritten or informal"; 11%), "group determined" (e.g.,

Table 1
Percentage of participants listing each feature (Pilot Study A).

	Group ritual	Group norm
Rules, regulations, expectations for behavior	1%	20%*
Unspoken or assumed	1%	11%*
Group determined	4%	9%*
Created to help with group dynamics	6%	6%
Personality driven	1%	1%
Punishment for not following / consequences	0%	10%*
Negative feelings for acting differently	1%	3%
Morals	0%	2%
Maintenance of social status in an in-group	2%	6%
Prohibitive or promotive in practice	0%	3%
Arises organically	0%	2%
Used to fit in / be accepted	4%	8%*
Logical reason for existing	1%	2%
Context specific	4%	2%
Unclear why they exist	1%	1%
Automatic behavior	2%	5%
Malleable	0%	2%
Outfits	0%	1%
Speaking order	0%	1%
Reward for following	1%	2%
Not necessarily well defined	0%	1%
Dangerous if followed blindly	0%	1%
Seem irrational	1%	1%
Promotes inequality	0%	1%
Meaningful	16%*	0%
Tradition	4%	0%
Scheduled	7%*	0%
Communal	10%*	0%
Brings comfort when performed	5%	0%
Repetitive	9%*	0%
Involves symbols	2%	0%
Unchanging	2%	0%
Religious / spiritual / cults	7%*	0%
Specific order/sequence of actions	4%	0%
Individualistic	2%	0%
Intentional	2%	0%

Notes. Asterisks indicate the five most frequently listed features for each concept.

[1] Because our goal was to identify key similarities and differences between norms and rituals, we asked participants to rate only the top five features for each concept, rather than all of the features for both concepts from Pilot Study A, some of which appeared only once.

[2] All participants came from the social sciences (e.g., social psychology, Management), which was our target sample, except for one participant who came from an English program (because we relied on our social networks to distribute the study recruitment email, we could not strictly control who participated in the study).

[3] When asked how familiar they were with the literature on group rituals and group norms, 57%, 37%, and 6% of the participants indicated "Not at all," "Somewhat," and "Very," respectively, for group rituals, while 20%, 69%, and 11% of the participants indicated "Not at all," "Somewhat," and "Very," respectively, for group norms.

"collectively determined"; "agreed upon by a group"; 9%), "punishment for not following/consequences" (e.g., "sanctions if broken"; "punish those who violate them"; 10%), and "used to fit in/be accepted" (e.g., "fitting in"; "is considered normal to that group"; 8%). Participants listed features such as "created to help with group dynamics" (e.g., "facilitate group functioning"; "make the team cohesive"; 6% each), "automatic behavior" (e.g., "often automatic"; "sometimes operate outside of conscious awareness"; 2% for group rituals, 5% for group norms), and "maintenance of social status in an in-group" (e.g., "necessary to follow to improve your social status"; "social desirability"; 2% for group rituals, 6% for group norms) for both concepts. However, none of these features were among the top five features for either concept.

In Pilot Study A, we inductively generated a list of features that individuals associate group rituals and group norms with. The data showed that features generated for each concept showed some overlap but also uniqueness. In Pilot Study B, we validate the top five features listed for each concept.

4.3. Pilot Study B method

4.3.1. Participants

We predetermined to recruit 100 participants. One hundred and one adults participated on Amazon's Mechanical Turk. We preregistered our plans for data collection and analyses (https://aspredicted.org/zj3a7.pdf).

4.3.2. Design and procedure

Participants read the following instructions:

> "This study is part of a larger project on the meaning of group rituals and group norms. We are interested in identifying the characteristics and attributes of these two concepts. In a previous study, we asked people to give us their definition of these two concepts. Specifically, we asked them to list the features or characteristics of group rituals; we also asked them to do the same for group norms. During today's session, we will be showing you these items in random order, and ask you to identify whether you consider the item as a group ritual or a group norm. Before proceeding to the next screen, please take a moment to think about the different characteristics and attributes of these two concepts. When you are ready, please proceed to the next screen."

We presented the participants with the ten features that were generated with the greatest frequency in Pilot Study A (top five for group ritual; top five for group norm), in random order. For each feature, we asked participants to indicate whether the focal feature applied to (1) the concept of group ritual and (2) the concept of group norm (yes, it does apply; no, it does not apply).

4.4. Pilot Study B results

As preregistered, for each feature, we conducted a within-subjects chi-square test (McNemar's test) to compare the percentage of participants who indicated that the focal feature applied to group rituals (versus group norms). Recall that the top five features generated for group rituals in Pilot Study A were "meaningful," "scheduled," "communal," "religious/spiritual/cults," and "repetitive." Validating this list, a greater number of participants identified "meaningful," "scheduled," "communal," and "religious/spiritual/cults" as applicable to the concept of group ritual than to the concept of group norm ($ps < 0.01$). There was no significant difference in the percentage of participants indicating "repetitive" as applicable to group rituals (72%) versus group norms (62%; $p = .13$), albeit the directional difference followed our hypothesis.

In Pilot Study A, the top five features generated for group norms were "rules, regulations, expectations for behavior," "unspoken or assumed," "group determined," "punishment for not following/consequences," and "used to fit in/be accepted." Validating this list from Pilot Study A, a greater number of participants indicated each of these features as more applicable to the concept of group norms than group rituals ($ps < 0.01$). See Table 2.

4.5. Discussion

Pilot Studies A and B had two goals: (1) identifying the features that best represent the concept of group ritual and (2) understanding how group rituals are conceptually different from group norms. Regarding the former, we take stock of the five features generated from the pilot data, "meaningful," "scheduled," "communal," "religious/spiritual/cults," and "repetitive," and, as we theorized, surmise that the following three features affect how ritualistic is a group activity: "physical" (i.e., words and/or acts that are repeatedly and rigidly performed), based on the specific features of "scheduled" and "repetitive"; "psychological" (i.e., the psychological meaning that participants derive from the group activity), based on the specific features of "meaningful" and "religious/spiritual/cults"; and "communal" (i.e., the perception that the activity is being intimately shared with others), based on the specific feature of "communal." Furthermore, these three types of representative features of group rituals are not applicable to group norms, which were associated with different types of features such as rules with consequences (e.g., "rules, regulations, expectations for behavior," "punishment for not following / consequences") and implicitness (e.g., "unspoken or assumed").

5. Studies 1a–1b

Studies 1a–1b sought to provide evidence for the meaning transfer hypothesis—that the meaning created by enacting group rituals can then transfer to subsequent tasks. In Study 1a, we conducted a survey in which employed individuals indicated the extent to which workplace group activities not directly tied to their work were ritualistic, based on the definition we derived from the pilot data. We predicted that the more participants viewed the workplace group activities as ritualistic (i.e., containing the three aforementioned types of physical, psychological, and communal features), the more likely they would view those activities as meaningful. Importantly, per our meaning transfer account, we predicted that the meaning imbued in ritualized group activities would make one's job feel more meaningful, in turn enhancing the likelihood of

Table 2
Percentage of participants indicating each feature as applicable to group rituals and group norms (Pilot Study B).

	Group rituals (% indicating yes)	Group norms (% indicating yes)	Within-subjects chi-square test
Communal[a]	93**	66**	$p < .01$
Group determined[b]	62**	83**	$p < .01$
Meaningful[a]	80**	60**	$p < .01$
Punishment for not following/consequences[b]	49	76**	$p < .01$
Religious/spiritual/cults[a]	91**	36**	$p < .01$
Repetitive[a]	72**	62**	$p = .13$
Rules, regulations, expectations for behavior[b]	64**	92**	$p < .01$
Scheduled[a]	75**	51	$p < .01$
Unspoken or assumed[b]	44	78**	$p < .01$
Used to fit in/be accepted[b]	59*	85**	$p < .01$

Notes. Superscripts 'a' ['b'] indicate the top five features that were generated for group rituals [group norms] in Pilot Study A. Asterisks indicate whether each percentage is significantly different from chance; these analyses were also preregistered (**$p < .05$; *$p < .10$).

individuals engaging in organizational citizenship behaviors. We preregistered our plans for data collection and analyses (https://aspredicted.org/yw2aw.pdf).

Study 1b is an experimental study that systematically varies the presence of the three types of features of group rituals (i.e., physical, psychological, and communal). Participants viewed scenarios depicting group activities, in which we varied the number of features present: none, one of the three, or all three. We predicted that workplace activities with all of these features (versus activities with none of these features or just one) will be imbued with greater meaning, and in turn more likely to imbue the subsequent tasks with greater meaning and promote organizational citizenship behaviors. We preregistered our plans for data collection and analyses (https://aspredicted.org/y6ug7.pdf).

5.1. Study 1a method

5.1.1. Participants

We aimed for 300 participants from Amazon's Mechanical Turk. We first asked participants the following two questions: "What is your employment status?" and "Do you have coworkers?" Those indicating that they worked full or part time and had coworkers were allowed to proceed with the rest of the survey. 300 employed individuals (150 females, M_{age} = 38.99, SD = 11.90) participated in this study. As preregistered, we excluded participants who failed to follow instructions to the writing-task portion of the study (described below); thus, the final dataset included 275 employed individuals (139 females, M_{age} = 39.12, SD = 11.52).

5.1.2. Design and procedure

The survey consisted of three portions: participants writing about a group activity, answering questions about their work, and answering questions about the group activity they wrote about. The writing portion and questions about work were counterbalanced. That is, half of participants started by writing about a group activity and then answered questions about work while the other half completed those two sections in the opposite order. All participants ended by answering questions about the group activity they had written about.

For the written portion, participants first read:

> "When at work, individuals oftentimes engage in activities that are not directly related to the work they are paid for. Please take a moment to think about a group activity—an activity that you participate in with at least one other person—that you engage in at your work but is not directly related to your work. For instance, maybe you get coffee with your colleagues, do yoga together, or do something to prepare for the day together."

We then asked participants to respond to each of the following questions: "What is the activity and what exactly do people do?"; "When and how often does your group perform this activity? Where does this activity occur?"; and "How did the activity originate? How do you feel about this activity?" To ensure participants gave us enough information, we set the minimum required characters at 30, 10, and 30, respectively.

In the work-related attitudes portion, we assessed (1) *job meaningfulness* by asking "How meaningful is your job to you?" (1 = *Not at all*; 7 = *Very much*); and (2) a five-item measure of *organizational citizenship* behaviors (e.g., "I tend to help others who have been absent"; α = 0.91) (1 = *Not at all characteristic*; 7 = *Very characteristic*) (Podsakoff, MacKenzie, Moorman, & Fetter, 1990). These two measures (*job meaningfulness*, *organizational citizenship*) were administered in random order, as were the five items for the *organizational citizenship* measure. The writing portion and the work-related-attitudes portion were presented to participants in random order.

Finally, participants responded to questions about the group activity they had written about in the aforementioned writing portion. To measure our primary independent variable of *rituality*, we informed participants:

"Rituals typically involve the following elements:

- Physical: Actions (including movements and words) that are repeatedly performed as part of a group ritual.
- Psychological: The psychological meaning that participants derive from a group ritual.
- Communal: The perception that a group ritual is being shared with others."

Participants were then asked: "Based on this definition, how ritualistic is the group activity that you described earlier?" (1 = *Not at all*; 7 = *Extremely*). We also measured *activity meaningfulness*: "How meaningful is this activity to you?" (1 = *Not at all*; 7 = *Very much*).

For exploratory purposes, we also asked participants to indicate whether the activity they described involved each of the following three features: Physical, Psychological, and Communal (Yes, it does; No, it does not). Finally, participants reported their age, gender, race, job tenure, income, role, and occupation.

5.2. Study 1a results

We conducted linear regressions using "rituality" as the predictor variable. The degree to which participants felt their group activity was ritualistic significantly predicted the meaning they assigned to the activity (β = 0.33, $p < .001$) and to their job (β = 0.17, $p < .01$), as well as to organizational citizenship behaviors (β = 0.24, $p < .001$). Controlling for the order in which the writing portion and the workplace questions portion were presented revealed consistent results. Furthermore, the results remained robust to a variety of demographic controls (See Table 3).

5.2.1. Mediation

We examined whether activity meaningfulness and job meaningfulness drove the relationship between ritualized activities and organizational citizenship behaviors in a manner consistent with our theoretical account. To do so, we conducted 5,000-sample bootstrap analyses using activity meaningfulness (M1) and job meaningfulness (M2) as the two mediators. The 95% bias-corrected confidence intervals for the size of the indirect effect (ab = 0.05, SE = 0.02) excluded zero [0.02, 0.08]. In other words, the relationship between ritualized workplace interactions and citizenship behaviors was driven serially by the meaning with which people imbue their activity and the meaning that they get from their jobs.

5.2.2. Exploratory analyses

As preregistered, for exploratory purposes, we also asked participants to indicate the extent to which the activity they had written about included physical, psychological, and communal elements (1 = present, 0 = absent). 16% of the participants indicated that their group activity includes only one of the three features, while 35% of the participants indicated that their activity includes two of the three features. 48% of the participants indicated that their activity includes all three features while 0.4% indicated that their activity includes none of the three features. While we did not preregister the following set of analyses, we explored whether, consistent with the meaning transfer hypothesis, the sum of these variables (e.g., 0 = none of the features are included; 3 = all of the features are included) would also be associated with workplace outcomes. We regressed rituality on the sum of these variables to explore whether involving all three features made the activity feel more like a group ritual. Indeed, the sum of these variables was positively linked to the extent to which individuals perceived an activity to be ritualistic (β = 0.30, $p < .001$). Similarly, the sum of the three variables was positively associated with activity meaningfulness (β = 0.27, $p < .001$), job meaningfulness (β = 0.12, p = .04), and organizational citizenship behaviors (β = 0.14, p = .02), with the two meaningfulness variables

Table 3
Study 1a Regression Results with and without Control Variables.

	Activity meaning		Job meaning		Citizenship	
Rituality	0.33***	0.27***	0.17**	0.12^{+}	0.24***	0.22**
Gender (1 = female)		0.03		0.07		0.13*
Age		0.11		0.08		−0.001
Race (0 = Caucasian)						
African American		0.12*		0.01		−0.04
Hispanic		0.04		−0.02		−0.13*
Asian		0.05		0.06		−0.09
Native American				–		–
Pacific Islander				–		–
Other		0.04		0.03		−0.001
Tenure		0.07		0.07		−0.02
Income		−0.11^{+}		0.06		−0.03
Role (0 = Not a manager/supervisor)						
First level manager/supervisor		−0.14^{+}		−0.22**		−0.03
Higher than first level manager/supervisor		−0.04		0.01		0.10
Occupation (0 = Management, professional, and related)						
Service		0.10		−0.10		0.02
Sales and office		0.12^{+}		−0.03		0.03
Farming, fishing, and forestry		0.06		0.03		0.08
Construction, extraction, and maintenance		−0.01		0.04		−0.01
Production, transportation, and material moving		0.05		−0.06		0.05
Government		−0.12*		0.01		−0.02
Other		0.15*		0.10		0.12^{+}
Adjusted R^2	0.10	0.18	0.03	0.10	0.05	0.06

Notes. $^{+}p \leq 0.10$; $^{*}p \leq 0.05$; $^{**}p \leq 0.01$; $^{***}p \leq 0.001$. Standardized regression coefficients are reported in this table.

serially mediating the relationship between the sum of the three variables and citizenship behaviors (*ab* = 0.05, *SE* = 0.02, 95% bias-corrected CIs: [0.02, 0.09]).[4] These results suggest a further possibility that activities involving all three types of features (versus none or just few features) is most likely to transfer meaning—which we experimentally explore in Study 1b.

5.3. Study 1b method

5.3.1. Participants

We predetermined to recruit 300 participants. In total, 301 adults (124 females, M_{age} = 37.59, *SD* = 11.10) participated on Amazon's Mechanical Turk.

5.3.2. Design and procedure

The study was a 5 (activity type: baseline, psychological only, physical only, communal only, three features) within-subjects × 3 (employee type: firefighter, secretary, consultant) between-subjects mixed design[5,6]. All participants read five vignettes in random order. Each vignette featured an employee at a workplace engaging in an activity before performing a task. The vignettes featured activities that varied in terms of the degree to which they involved the three representative features of group rituals, and participants answered a series of questions about each vignette. Participants were randomly assigned to read about one of the following employees: firefighter, secretary, or consultant.

For instance, those assigned to the consultant condition read the following five scenarios in random order:

- *Baseline*: An employee at a consulting firm that engages in team brainstorming sessions. The employee's team starts each brainstorming session with an agenda-setting meeting.
- *Physical only: Baseline* + The agenda-setting meeting involves the employee's team completing a series of stretching exercises together.
- *Psychological only: Baseline* + The agenda-setting meeting symbolically represents the importance of strategic thinking when brainstorming.
- *Communal only: Baseline* + For this meeting, everyone faces their chairs toward the center of the room facing one another.
- *Three features: Baseline* + *Physical only* + *Psychological only* + *Communal only*.

See Appendix B for all scenarios.

After reading each scenario, participants rated the extent to which they thought the focal employee would (1) perceive the focal activity as ritualistic ("To what extent do you think the [employee] will find the [activity] to be ritualistic?"; *activity rituality*), (2) perceive the focal activity as meaningful ("To what extent do you think the [employee] will find the [activity] to be meaningful?"; *activity meaningfulness*), (3) perceive the subsequent task as meaningful ("To what extent do you think the [employee] will find the [task] meaningful?"; *task meaningfulness*), and (4) engage in *organizational citizenship* behaviors (a five-item measure adapted from Podsakoff et al., 1990), all on a 7-point scale (1 = *Not at all*; 7 = *Very*). The order of the four measures was randomized, as was the order of the five items for the *organizational citizenship* measure.

[4] Though not preregistered, we explored whether the two meaningfulness variables serially mediated the relationship between the presence (versus absence) of each of the three elements and citizenship behaviors. It did for the psychological element (*ab* = 0.05, *SE* = 0.03, 95% CI: [0.01, 0.11]) and the physical element (*ab* = 0.07, *SE* = 0.03, 95% CI: [0.03, 0.13]), but not for the communal element (*ab* = 0.04, *SE* = 0.04, 95% CI: [−0.03, 0.13]).

[5] We decided to vary activity type within-subjects to allow participants to compare and contrast different features in order to rate their relative importance.

[6] In the preregistration, we refer to the "activity type" factor as "rituality" and the "employee type" factor as "scenario type."

5.4. Study 1b results

As preregistered, we conducted a series of repeated measures ANOVAs, using employee type as a between-subjects factor and activity type as a within-subjects factor on perceptions of activity rituality, activity meaningfulness, task meaningfulness, and organizational citizenship behaviors. Across all these dependent variables, we observed the predicted significant main effects of activity type ($ps < 0.001$, $\eta_p^2 s > 0.049$); we also observed significant main effects of employee type ($ps < 0.01$, $\eta_p^2 s > 0.03$) and significant interactions between activity type and employee type on all dependent measures ($ps < 0.01$, $\eta_p^2 s > 0.02$) except organizational citizenship ($p = .12$, $\eta_p^2 = 0.01$).

We tested our core prediction that vignettes featuring an activity with all three features would yield more positive outcomes than an activity featuring just one of the features or none of the features. To do so, while we did not preregister the following specific set of analyses, we conducted repeated measures *t*-tests, collapsing across the three different employee types.[7] See also Appendix C for each analysis conducted separately by employee type for exploratory purposes.

5.4.1. Activity rituality

Participants in the three features condition thought the focal employee would be more likely to perceive the focal activity as ritualistic ($M = 5.92$, $SD = 1.36$) than those in the baseline condition ($M = 4.69$, $SD = 1.76$; $t(300) = -11.04$, $p < .001$, $d = 0.78$), physical only condition ($M = 5.74$, $SD = 1.38$; $t(300) = -2.54$, $p = .01$, $d = 0.13$), psychological only condition ($M = 5.45$, $SD = 1.53$; $t(300) = -5.72$, $p < .001$, $d = 0.32$), and communal only condition ($M = 5.18$, $SD = 1.54$; $t(300) = -7.85$, $p < .001$, $d = 0.51$).

5.4.2. Activity meaning

Participants in the three features condition thought the focal employee would perceive the focal activity as more meaningful ($M = 5.53$, $SD = 1.50$) than those in the baseline condition ($M = 4.94$, $SD = 1.50$; $t(300) = -5.73$, $p < .001$, $d = 0.39$), physical only condition ($M = 5.28$, $SD = 1.48$; $t(300) = -3.54$, $p < .001$, $d = 0.17$), and communal only condition ($M = 5.16$, $SD = 1.48$; $t(300) = -4.49$, $p < .001$, $d = 0.25$). Activity meaning did not significantly differ between the three features condition and the psychological only condition ($M = 5.48$, $SD = 1.40$; $t(300) = -0.74$, $p = .46$, $d = 0.03$).

5.4.3. Task meaning

Participants in the three features condition thought the focal employee would perceive the subsequent task as more meaningful ($M = 5.30$, $SD = 1.62$) than those in the baseline condition ($M = 4.78$, $SD = 1.57$; $t(300) = -5.56$, $p < .001$, $d = 0.33$), physical only condition ($M = 5.17$, $SD = 1.48$; $t(300) = -1.82$, $p = .07$, $d = 0.08$), and communal only condition ($M = 4.97$, $SD = 1.56$; $t(300) = -4.27$, $p < .001$, $d = 0.21$). Task meaning did not significantly differ between the three features condition and the psychological only condition ($M = 5.24$, $SD = 1.48$; $t(300) = -0.80$, $p = .42$, $d = 0.04$).

5.4.4. Organizational citizenship

Participants in the three features condition thought the focal employee would be more likely to engage in organizational citizenship behaviors ($M = 5.76$, $SD = 1.17$) than those in the baseline condition ($M = 5.27$, $SD = 1.18$; $t(300) = -6.75$, $p < .001$, $d = 0.42$), physical only condition ($M = 5.60$, $SD = 1.14$; $t(300) = -2.91$, $p < .01$, $d = 0.14$), psychological only condition ($M = 5.53$, $SD = 1.17$; $t(300) = -4.48$, $p < .001$, $d = 0.20$), and communal only condition ($M = 5.45$, $SD = 1.18$; $t(300) = -5.48$, $p < .001$, $d = 0.26$).

5.4.5. Mediation

We conducted a serial mediation using MEMORE macro that allows us to conduct mediation analyses for repeated measures data.[8] We began by comparing the ratings for the *baseline* condition to those for the *three features* condition. We entered the two organizational citizenship ratings as the dependent variables, the two activity meaningfulness variables as the first set of mediators, and the two task meaningfulness variables as the second set of mediators. A 5,000-sample bootstrapping analysis estimated a significant serial mediation with the effect size of −0.08 through the mediators of activity meaningfulness (M1) and task meaningfulness (M2) ($SE = 0.06$; 95% CI [−0.44, −0.21]). Conducting the same analysis to compare the ratings for the *physical only* condition to those for the *three features* condition also revealed a significant serial mediation with the effect size of − 0.10 ($SE = 0.04$; 95% CI [−0.16, −0.04]); we found the same pattern when comparing the ratings for the *communal only* condition to those for the *three features* condition ($ab = -0.17$, $SE = 0.04$; 95% CI [−0.25, −0.09]). We did not observe a significant mediation path when comparing the ratings for the *psychological only* condition to those for the *three features* condition ($ab = -0.03$, $SE = 0.03$; 95% CI [−0.09, 0.03]).

5.5. Studies 1a–1b discussion

Studies 1a–1b provided converging evidence that meaning transfer is most robust for activities that include all three features of group ritual. Across dependent measures, activities that included all three features were deemed to be more meaningful than those that only included one of the features or none at all. We found a similar pattern of results for the perceived meaning of the subsequent task and desire to engage in organizational citizenship behaviors, suggesting that meaning transfer is most likely to occur when group rituals jointly feature psychological, physical, and communal features. In both studies, activity meaning and task meaning serially mediated the impact of performing an activity that is most like a group ritual on the likelihood of engaging in organizational citizenship behaviors, corroborating our meaning transfer account.

We note that in Study 1b, activities which included only the psychological feature were perceived as similarly meaningful as those who considered an activity with all three features, but this was not the case for activities that included only the physical or communal feature. These results suggest the intuitive possibility that out of the three features, psychological import may play a key role in facilitating meaning transfer. At the same time, the results from this study reflect participants' lay intuitions and may not perfectly map onto their psychological experiences in reality, where physical actions and communality could have more impact on the meaningfulness of the ritual than participants expect. Further, the relative importance of the three features for meaningfulness is likely to vary from group setting to group setting, and from task to task.

6. Study 2

Studies 1a–1b offered converging evidence for the importance of the three features identified in the pilot data, as well as initial evidence that activities with all three features are (1) seen as more meaningful, (2) more likely to cause meaning transfer, and (3) more likely to promote group-oriented behaviors. However, Studies 1a and 1b each have limitations. Study 1a was a correlational study, which limits our ability to make causal claims; and Study 1b tested people's lay theories about

[7] We had also preregistered that we would control for the order in which the activity type scenarios are presented. Unfortunately, we were unable to export the loop order in Qualtrics and thus were unable to conduct this analysis.

[8] While we had preregistered that we would conduct a serial mediation analysis using MEMORE entering the two workplace citizenship ratings as the dependent variables, the two activity meaningfulness variables as the first set of mediators, and the two task meaningfulness variables as the second set of mediators, we did not preregister and determined after the study was complete specifically which pairs of conditions we would run this analysis for.

different group rituals, which may differ from assessing the actual psychological experience of conducting them. Thus, in Study 2, we assign participants to complete actual group rituals in which physical and psychological features are present, and vary the strength of the communal feature to test whether, consistent with the findings of Study 1b, including all three types of features rather than just some generates more positive group outcomes. Specifically, we asked laboratory participants to perform a series of movements in groups in a circle while either facing one another or facing away from one another to only vary the communal feature; this eye-contact manipulation is akin to the communal manipulations in Study 1b. (e.g., "There is one big table in the station, so the firefighters can all see each other during breakfast.")

In line with our conceptual account and the results from Studies 1a–1b, we expected our manipulation of communality to influence the extent to which individuals perceive the group ritual and the group's subsequent work task to be meaningful, and that this transfer of meaning would, in turn, predict group performance. To assess group performance, participants engaged in a brainstorming task in which group scores are calculated by combining the total number of uses that participants in each group listed. This task conceptually mirrored our measure of organizational citizenship assessed in Studies 1a–1b: individual behaviors enacted on behalf of one's group, without the promise of reward. Finally, given previous research focusing on the role of cohesion and affiliation in group rituals (e.g., Bastian et al., 2014; Wen et al., 2016), we also assessed a role for this construct in Study 2. We preregistered our plans for data collection and analyses (https://aspredicted.org/2ze4h.pdf).

6.1. Method

6.1.1. Participants

We planned to recruit at least 60 groups with three members per group in each of the two experimental conditions (360 total participants). In total, 366 individuals (122 groups; 260 females, $M_{age} = 21.83$, $SD = 4.62$), recruited via a university pool in the mid-Atlantic United States as well as a university pool in the Pacific United States,[9] participated in this laboratory experiment for monetary compensation.

6.1.2. Design and procedure

The study used a between-subjects design with two conditions. Participants were randomly assigned to groups of three in either the *high communal* or *low communal* condition. Each group was assigned a group ID.

The experimenter told all groups that they would be engaging in a group performance task and gave the following introduction: "During today's session, your group will perform a group task together. Before doing this group task, we will ask your group to do a group ritual together. This group ritual consists of a series of physical movements. I will be guiding you through these steps."

The steps of the ritual were identical except for one component: participants in the *high communal* condition were asked to face each other while performing the ritual, while participants in the *low communal* condition were asked to face away from each other. The ritual entailed the following steps (selected based on their similarity to other ritual steps used in prior empirical research; e.g., Brooks et al., 2016; Norton & Gino, 2014):

- Step 1: With your left hand, pat your right shoulder three times.
- Step 2: With your right hand, pat your left shoulder three times.
- Step 3: Bend your knees; stomp with your right foot once and then again with your left foot.
- Step 4: Take the blank piece of paper on the table and crinkle it up. Hold it with your left hand.
- Step 5: Make a fist with your right hand and place it next to your heart for seven seconds.

After completing the five steps, all participants completed a group brainstorming task, which involved generating as many uses for a six-sided die as possible. They were informed that group scores would be calculated by combining the number of uses that participants in each group listed. They were given five minutes to complete this task, after which they were asked to move on to the survey portion. In the survey, participants indicated the extent to which both the ritual and the brainstorming activity felt meaningful. They also indicated the extent to which they (1) liked and (2) felt close to their group members ($r = 0.60$, $p < .01$), to examine liking as an alternative mechanism. All four questions were measured on a 7-point scale (1 = *Not at all*; 7 = *Very much*)

6.2. Results

As specified in our preregistration, our final sample included only groups that were composed of strangers. Out of the 122 groups, four groups did not meet this criterion, which left 118 groups. Furthermore, while we did not preregister this specification, two participants clearly did not understand the brainstorming task instructions (e.g., one of them left illegible symbols on the task sheet). Thus, we deemed it important to exclude these participants as well, which left us with 352 participants.[10] Using this sample, as preregistered, we conducted linear mixed model analyses using group ID as a subject variable to control for potential group-level differences.

As predicted, participants in the high communal condition rated their ritual as more meaningful ($M = 2.35$, $SD = 1.38$) than did those in the low communal condition ($M = 1.79$, $SD = 1.18$; $F(1, 350) = 16.74$, $p < .001$). Critically, participants in the high communal condition also perceived the subsequent group brainstorming task to be more meaningful ($M = 2.88$, $SD = 1.47$) than did those in the low communal condition ($M = 2.49$, $SD = 1.54$; $F(1, 350) = 5.99$, $p = .02$). There was also a significant impact of condition on group liking, such that those in the high communal condition expressed greater affinity toward their group members ($M = 3.57$, $SD = 1.17$) than did those in the low communal condition ($M = 2.91$, $SD = 1.03$; $F(1, 350) = 31.29$, $p < .001$). There was no significant difference in the number of uses participants brainstormed across the two conditions ($M_{high} = 10.84$, $SD_{high} = 5.16$ versus $M_{low} = 10.66$, $SD_{low} = 4.66$; $F(1, 350) = 0.11$, $p = .74$). As preregistered, we also analyzed the data at the group level by conducting t-tests, which revealed the same patterns; controlling for data collection location also revealed the same patterns. For other analyses related to the brainstorming results that we did not preregister, see the Supplemental Materials.

6.2.1. Mediation

While we did not observe a direct effect of group rituals on group task performance, we still conducted a mediation analysis, given that indirect effects can still exist in the absence of direct or total effects (Zhao, Lynch, & Chen, 2010). A 5,000-sample bootstrap analysis using ritual meaningfulness (M1) and brainstorming task meaningfulness (M2) revealed that the two meaningfulness variables serially mediated the relationship between the high (versus low) communal condition and task performance, consistent with the findings of Studies 1a–1b. The

[9] We had preregistered that we would run this study in three separate locations, but ended up running it in two locations instead for logistical reasons.

[10] Without excluding these participants (i.e., those who were not strangers and those who gave indecipherable written responses), the patterns for ritual meaning, brainstorming task meaning, closeness, and liking remain the same ($ps < 0.025$). There still was no significant difference in the number of uses participants listed ($p = .72$).

95% bias-corrected confidence intervals for the size of the indirect effect ($B = -0.16$; $SE = 0.08$) excluded zero [−0.35, −0.02]. Liking, however, did not mediate the relationship between group rituals and performance ($B = -0.20$; $SE = 0.16$; 95% CI [−0.54, 0.10]).[11] In other words, there was an indirect-only mediation (Zhao et al., 2010), such that the effect of increasing the rituality of group rituals on group performance was mediated by perceptions of both ritual and task meaningfulness.

6.3. Discussion

Study 2 tested whether including all three types of features rather than just some by varying the strength of the communal feature affects both meaning and performance. Participants who completed a ritual while facing one another (versus away from one another) perceived the ritual itself as well as the subsequent brainstorming task as more meaningful, and these perceptions of task meaningfulness were positively associated with group performance. Moreover, although group rituals enhanced task meaningfulness and group liking, only perceptions of meaningfulness were associated with subsequent group performance. However, making a group ritual more communal did not directly influence group performance, possibly explained by the results of Study 1b, in which the psychological feature seemed to exert the greatest influence. In the current study, we conclude that enhancing the degree to which a group ritual involves a communal feature causally enhances task meaning—an important metric for organizations in its own right—and that this meaning is associated with improved group performance.

7. General discussion

Across five studies, we identify three core types of features that typify group ritual—physical actions, psychological import, and communality (Pilot Studies A–B)—and document group ritual as a simple yet effective means by which organizations can imbue employees' work with meaning (Studies 1a–2). We also show that performing group rituals can transfer the meaning contained in the rituals to subsequent tasks and, in turn, predict positive workplace behavior, including organizational citizenship behaviors (Studies 1a–1b) and performance on a group brainstorming task (Study 2).

7.1. Theoretical contribution

Our findings make a number of theoretical contributions. First, despite the rich history of research on rituals, scholars have not agreed on a definition of ritual. By utilizing prototype methodology, we identified representative types of features for group rituals: physical, psychological, and communal. We not only provide a definitional framework for ritual scholars but also differentiate the concept from a related yet distinct concept, group norms, both conceptually and empirically. While the two concepts do share some features—for instance, participants believed that "created to help with group dynamics" was applicable to both concepts—the features that were listed as the most representative of each concept were distinct. The most representative characteristic of group norms was identified as rules and regulations with consequences if they are not followed, which was not a core feature of group ritual. At the same time, it is possible that over time, group rituals evolve to become group norms by, for instance, shedding their more ritualistic features; in such cases, norms and rituals may appear quite similar on the surface but have very different underlying psychology.

Relatedly, our definitional framework may help to explain some mixed results in the existing literature. Studies 1a–1b tested correlationally and experimentally whether performing a group ritual with physical, psychological, and communal features (versus an activity with none of these features or rituals with just one of these features) would maximize the likelihood of meaning transfer to subsequent tasks. Overall, including all three types of features was more effective than other conditions in enhancing the meaningfulness of the subsequent task and the likelihood of individuals engaging in organizational citizenship behaviors. Taking stock of these findings, we can offer an explanation of why some team-building activities examined in prior research, such as holding regular meetings to discuss team inefficiencies (e.g., Buller & Bell Jr., 1986) and implementing organizational development interventions to improve interpersonal and problem-solving skills (e.g., Porras & Wilkins, 1980) were not effective; that is, they likely did not involve the types of features that are representative of group ritual, such as psychological meaning.

We also contribute to the small but growing number of experimental investigations of rituals. For instance, recent experimental research has demonstrated that rituals performed solo can produce positive outcomes, such as dealing with performance-related anxiety (Brooks et al., 2016), coping with grief (Norton & Gino, 2014), exerting self-control (Tian et al., 2018), and improving consumption experiences (Vohs et al., 2013). We extend this previous research by experimentally demonstrating that the positive impact of rituals occurs not only at the *intra*personal level but also at the *inter*personal level: conducting a ritual as a group before completing a group task can causally imbue that group task with greater meaning. By doing so, we contribute to the literature on group rituals, which has primarily been qualitative. Furthermore, while prior research has considered affective variables (such as liking for group members) as drivers of the effects of group rituals, we identify a novel pathway, meaningfulness, through which group rituals positively affect group outcomes.

Finally, our results have implications for organizations. While prior research has sought to imbue tasks with meaning by focusing on changing the task itself (e.g., Conger & Kanungo, 1988; Cotton et al., 1988; Hackman & Lawler, 1971; Ilgen & Hollenbeck, 1991; Nix et al., 1999), such changes are not always feasible for all tasks in all organizations. We suggest that group rituals can be employed as a simple yet effective intervention to imbue tasks with meaning, with effect sizes similar to previously documented interventions,[12] while leaving the task unchanged. Indeed, the fact that we observed the effects of ritual on meaning transfer using hypothetical scenarios in Study 1b suggests a possibility that simply recalling or imagining a ritual that involves all three features could induce meaning. Studies 1a–1b also found that this enhanced meaning can, in turn, encourage employees to engage in organizational citizenship behaviors, suggesting that performing rituals can elicit positive downstream consequences by motivating people to behave in ways consistent with organizational norms (Hobson et al., 2018).

7.2. Limitations and future directions

Our investigation offers several potential directions for future

[11] Our preregistration specified that we would conduct a mediation analysis (PROCESS 4) using task meaningfulness and liking as the mediators. To better demonstrate our meaning transfer account, we conducted the serial mediation analysis reported in the main text. However, we note that consistent with our account, a 5,000-sample bootstrap analysis using task meaningfulness and liking as the two parallel mediators as we had originally preregistered shows a significant indirect effect through task meaningfulness (95% CI [−0.51, −0.001]), but not through liking (95% CI [−0.35, 0.39]).

[12] Across our studies, we observed small to medium effect sizes (e.g., correlation values for Study 1a ranged from 0.12 to 0.33; Cohen's d values for Studies 1b-2 ranged from 0.03 to 0.60). These effects are similar in magnitude to those in related research; for instance, a *meta*-analysis of 20 studies with 60 correlations documented a medium effect size of team-building activities on team outcome (the mean true score correlation of 0.31; Klein et al., 2009).

research. First, Study 1b did not test all the potential permutations of physical, psychological, and communal features, nor all possible settings in which group rituals might occur. As a result, we were unable to establish whether there are other permutations that would outperform a ritual with all three features. Furthermore, the importance of each feature will likely vary by context. For instance, it is possible that emphasizing physical features (versus other features) is more important for meaning transfer when the associated tasks are physical in nature (e.g., sporting events).

Moreover, just as the strength of group norms varies by culture (e.g., Gelfand, 2012), the effectiveness of enacting a group ritual may vary across cultural contexts. And, while we focused on meaning transfer that can occur following group rituals, future research should test whether engaging in individual rituals can also lead people to perceive more meaning in subsequent tasks. That is, if employees develop individual rituals at work—such as a ritual for getting coffee every morning or transitioning between tasks—might those also promote a sense of meaning at work? Future research can use our definitional framework to systematically explore which features carry the most weight in meaning transfer, and in which contexts.

While Study 2 showed that conducting group rituals directly impacted perceptions of task meaningfulness, we did not observe a direct effect on performance. Thus, future research should further investigate the types of group tasks for which group rituals may be especially potent. We focused on group tasks that did not require group coordination; given their potential to instill and enforce group norms, group rituals may exert a stronger influence on the performance of more interdependent group tasks, which require members to jointly problem solve (Saavedra et al., 1993). Future research should also identify circumstances under which group rituals may play a particularly significant role in team interactions. For instance, prior research has documented the deleterious effects of status and power hierarchies on team cooperation and relationship dynamics (e.g., Anicich, Fast, Halevy, & Galinsky, 2016; Greer, de Jong, Schouten, & Dannals, 2018). Similarly, status disagreements within groups have been shown to impair team performance (e.g., Kilduff, Willer, & Anderson, 2016). Group rituals may ameliorate status-based differences and reinforce members' group identity rather than each member's individual identity.

At the same time, group rituals may in some cases have unintended negative consequences. For example, too much repetition may trigger groupthink, which may hurt team performance on tasks that require independence of thought (Janis, 1982), and group rituals may increase hostility toward those who are not part of the group (Hobson et al., 2017). In addition, in some cases, group rituals could divert the focus from the actual task at hand, especially if the steps comprising the rituals are onerous and extreme. Thus, an important direction for research is exploring the ideal allocation of time between performing a ritual and focusing on task completion. Finally, while Study 1a enabled us to contextualize group rituals in the field, it was a correlational study; thus, it would be important to further validate our findings and pursue these future research directions in the field.

8. Conclusion

Group rituals are prevalent in countless contexts, from sporting events to religious services to workplaces. Our findings not only suggest that there may be wisdom behind their ubiquity, but also that groups can engineer group activities to increase the success of meaning transfer. A series of ritualistic movements can become a simple—yet effective—tool for enhancing meaning at work.

CRediT authorship contribution statement

Tami Kim: Conceptualization, Methodology, Investigation, Resources, Writing - original draft, Writing - review & editing. **Ovul Sezer:** Conceptualization, Methodology, Investigation, Resources, Writing - original draft, Writing - review & editing. **Juliana Schroeder:** Conceptualization, Methodology, Investigation, Resources, Writing - original draft, Writing - review & editing. **Jane Risen:** Conceptualization, Methodology, Investigation, Resources, Writing - original draft, Writing - review & editing. **Francesca Gino:** Conceptualization, Methodology, Investigation, Resources, Writing - original draft, Writing - review & editing. **Michael I. Norton:** Conceptualization, Methodology, Investigation, Resources, Writing - original draft, Writing - review & editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgements

We thank members of the the Behavioral Research at Darden (BRAD) Lab, the Chicago Booth Center for Decision Research Lab, and the UC Berkeley Mind and Person Perception Lab for their assistance with data collection and comments on this research. In particular, we appreciate the assistance of Jennifer Abel, Kaushal Addanki, Rhys Aglio, Chloe Autio, Andrea Dittmann, Nico Rotundo, Rebecca White, and Talia Wiseman.

Appendix A. Literature review of ritual

To select relevant articles, we searched for empirical articles published in *Academy of Management Journal*, *Administrative Science Quarterly*, *Cognition*, *Journal of Personality and Social Psychology*, *Psychological Science*, *Organizational Behavior and Human Decision Processes*, *Journal of Experimental Psychology: General*, *Journal of Experimental Social Psychology*, *Journal of Applied Psychology*, *Personality and Social Psychology Bulletin*, *and Psychological Bulletin* that contained the following terms: ritual, rituals, rite, rites. We supplemented this list with the articles referenced in a recent theory paper on rituals (Hobson et al., 2018) and the relevant articles recommended by two anonymous reviewers. Papers were included if the primary behaviors that were studied involved ritual. We excluded commentaries and books. For the "features studied" column, we use the term "ritual" if papers did not specifically identify which feature(s) of group ritual they were specifically varying and/or studying.

Publication	Methodology	Ritual type	Sample	Features studied	Outcome(s)
Ahler & Tamney, 1964	Qualitative	Both	Adults	Religiosity	Coping
Anand & Watson, 2004	Qualitative, Correlational	Group	Adults	Ritual	Group conflict, Sales performance

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Publication	Methodology	Ritual type	Sample	Features studied	Outcome(s)
Anastasi & Newberg, 2008	Qualitative	Individual	Adults	Religiosity	Anxiety
Ashforth & Reingen, 2014	Qualitative	Group	Adults	Soothing-ness	Relationship maintenance
Atran & Henrich, 2010	Theory	Both	N/A	Religiosity	Commitment
Bastian et al., 2014	Experimental	Group	Adults	Pain	Bonding, Cooperation
Beattie, 1966	Theory	Both	N/A	Religiosity	N/A
Boyer & Liénard, 2006	Theory	Both	N/A	Ritual	Threat management
Boyer & Liénard, 2008	Theory	Both	N/A	Ritual	Anxiety
Brooks et al., 2016	Experimental	Individual	Adults	Ritual	Anxiety, Performance
Bulbulia et al., 2013	Correlational	Group	Adults	High arousal, Role (e.g., Participant, Observer)	Affect
Cottingham, 2012	Qualitative	Group	Adults	Ritual	Solidarity
Dacin, Munir, & Tracey, 2010	Qualitative	Group	Adults	Ritual	Reinforcement of the status quo
Dulaney & Fiske, 1994	Theory	Group	N/A	Ritual	Creation of order
Fischer et al., 2013	Quasi-experiment	Group	Adults	Synchrony, Sacredness	Prosociality
Fischer et al., 2014	Experimental	Group	Adults	Extremity	Affect, Physiological response
Fiske & Haslam, 1997	Qualitative	N/A	N/A	Obsessive-compulsive disorder features	N/A
Harris & Sutton, 1986	Theory	Group	N/A	Parting ceremonies	Emotional support
Henrich, 2009	Theory	Both	N/A	Costliness	Group commitment
Hobson et al., 2017	Experimental	Individual	Adults	Ritual	Intergroup bias
Hobson et al., 2018	Theory	Both	N/A	Ritual	Regulation of emotions, performance, and social connection
Islam & Zyphur, 2009	Theory	Group	N/A	Ritual	Norm reinforcement, Role establishment
Jacobs, 1989	Qualitative	Group	Adults	Ritual	Healing
Kapitány & Nielsen, 2015	Experimental	Individual	Adults	Causal opaqueness	Specialness, Desirability
Kapitány & Nielsen, 2017	Experimental	Individual	Adults	Causal opaqueness, Goal-demotion	Specialness, Desirability
Kapitány, Kavanagh, Whitehouse, & Nielsen, 2018	Experimental	Individual	Adults	Causal opaqueness	Memory
Keinan, 2002	Experimental	Individual	Adults	Stress	Ritual enactment
Konvalinka et al., 2011	Experimental	Group	Adults	Role (e.g., Participant, Observer)	Heart rate
Lang, Bahna, Shaver, Reddish, & Xygalatas, 2017	Experimental	Group	Adults	Anxiety	Ritualized behavior
Legare & Souza, 2012	Experimental	Individual	Adults	Specificity, Repetition, Number of procedural steps	Perceived efficacy
Legare & Souza, 2014	Experimental	Individual	Adults	Feelings of randomness	Perceived efficacy
Legare, Wen, Herrmann, & Whitehouse, 2015	Experimental	Individual	Children	Goal-demotion	Imitation
Liberman, Kinzler, & Woodward, 2018	Experimental	Individual	Children	Causal opaqueness	Looking time, Imitation
Liénard, Feeny, & Sørensen, 2006	Experimental	Individual	Adults	Agent, Instrument used	Perceived efficacy
Mazmanian & Beckman, 2018	Qualitative	Group	Adults	Quantification	Solidarity
Nielbo & Sørensen, 2015	Computational simulation	N/A	N/A	Ritual	Attention
Nielsen, Kapitány, & Elkins, 2015	Experimental	Individual	Children	Causal opaqueness	Imitation
Nielsen, Tomaselli, & Kapitány, 2018	Experimental	Individual	Children	Goal-demotion	Imitation
Norton & Gino, 2014	Experimental	Individual	Adults	Ritual	Grief, Perceived control
Rappaport, 1967	Qualitative	Group	Adults, Children	Ritual	Creation of order
Rappaport, 1971	Theory	Group	N/A	Sacredness	Creation of order
Reddish, Fischer, & Bulbulia, 2013	Experimental	Group	Adults	Synchrony, Intentionality	Cooperation
Reddish, Bulbulia, & Fischer, 2014	Experimental	Group	Adults	Synchrony	Prosociality
Reuven-Magril, Dar, & Liberman, 2008	Experimental	Individual	Adults	Aversive (versus neutral) visual stimuli	Perceived control
Romanoff & Thompson, 2006	Qualitative	Group	Adults	Ritual	Meaning
Rook, 1985	Qualitative	Individual	Adults	Grooming ritual	N/A
Rossano, 2012	Theory	Group	N/A	Ritual	Norm reinforcement
Sax, 2004	Theory	Group	Adults	Healing ritual	Power relations
Schjoedt et al., 2013	Theory	Group	N/A	Agent, Goal-demotion, Causal opaqueness, Emotion suppression	Susceptibility to authoritative narratives
Schroeder, Risen, Gino, & Norton, 2019	Experimental	Group	Adults	Ritual	Negotiation success, Cooperation
Sezer, Norton, Gino, & Vohs, 2016	Experimental	Group	Adults	Ritual	Holiday enjoyment
Sosis & Bressler, 2003	Qualitative	Group	Adults	Costliness; Religiosity	Commune duration
Sosis & Handwerker, 2011	Quasi-experiment	Group	Adults	Religiosity	Anxiety
Sosis, Kress, & Boster, 2007	Correlational	Both	N/A	Warfare	Ritual costliness
Sosis & Ruffle, 2003	Correlational	Group	Adults	Ritual	Cooperation
Stein, Schroeder, Hobson, Gino, & Norton, 2021	Experimental	Group	Adults	Ritual	Moral outrage, Punishment
Tian et al., 2018	Experimental	Individual	Adults	Ritual	Self-control, Subjective feelings of self-discipline

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Publication	Methodology	Ritual type	Sample	Features studied	Outcome(s)
Vohs et al., 2013	Experimental	Individual	Adults	Ritual	Consumption enjoyment
Watson-Jones & Legare, 2016	Theory	Group	N/A	Ritual	Group identification, Group commitment, Group cohesion, Cooperation
Watson-Jones, Whitehouse, & Legare, 2016	Experimental	Individual	Children	Ostracism	Mimicry
Wen et al., 2016	Experimental	Group	Children	Ritual	In-group affiliation
Whatule, 2000	Observational	Group	Adults	Ritual	Group cohesion
Whitehouse, 1996	Qualitative	Group	Adults	Terror	Group cohesion
Whitehouse, 2001	Theory	Both	N/A	Repetition	Memory, Ritual meaning
Wiltermuth & Heath, 2009	Experimental	Group	Adults	Synchrony	Cooperation
Wood, 2016	Theory	Both	N/A	Religiosity, Expressiveness	Well-being
Xygalatas, 2013	Experimental	Both	Adults	Frequency of ritual	Cooperation
Xygalatas et al., 2013	Experimental	Both	Adults	Ordeal	Prosociality
Zhang, Risen, & Hosey, 2014	Experimental	Individual	Adults	Avoidant actions	Perceived likelihood of anticipated negative outcomes

Appendix B. Scenarios used in Study 1b

Employee type	Activity type	Text
Firefighter	Baseline	Context: A firefighter at a local fire station. Once a week, all of the firefighters eat breakfast together before they perform maintenance checks for trucks and protective gear.
	Physical only	*Baseline*+ During breakfast, all of the firefighters complete a series of physical exercises involving stomping, clapping, and fist-pumping.
	Psychological only	*Baseline*+ The weekly breakfast has been passed down from crew to crew, and represents the values of service, compassion, and endurance.
	Communal only	*Baseline*+ There is one big table in the station, so the firefighters can all see each other during breakfast.
	Three features	*Baseline* + *Physical* + *Psychological* + *Communal*
Consultant	Baseline	Context: An employee at a consulting firm that engages in team brainstorming sessions. The employee's team starts each brainstorming session with an agenda-setting meeting.
	Physical only	*Baseline*+ The agenda-setting meeting involves the employee's team completing a series of stretching exercises together.
	Psychological only	*Baseline*+ The agenda-setting meeting symbolically represents the importance of strategic thinking when brainstorming.
	Communal only	*Baseline*+ For this meeting, everyone faces their chairs toward the center of the room, facing one another.
	Three features	*Baseline* + *Physical* + *Psychological* + *Communal*
Secretary	Baseline	Context: A secretary at a local accounting firm. Every morning before performing data entry, all secretaries in the firm gather together to catch up.
	Physical only	*Baseline*+ As part of catching up, the secretaries close their eyes and count to five, breathing in and out at each count.
	Psychological only	*Baseline*+ The morning gathering is derived from the Buddhist practice of group gatherings.
	Communal only	*Baseline*+ Rather than catching up in small groups, the secretaries gather in a single large group, so they can all see and hear one another.
	Three features	*Baseline* + *Physical* + *Psychological* + *Communal*

Appendix C. Study 1b means (*SDs*) by activity type

		Rituality	Activity meaning	Task meaning	Citizenship
Overall	Baseline	4.69***	4.94***	4.78***	5.27***
		(1.76)	(1.50)	(1.57)	(1.18)
	Physical only	5.74**	5.28***	5.17*	5.53***
		(1.38)	(1.48)	(1.48)	(1.17)
	Psychological only	5.45***	5.48	5.24	5.60***
		(1.53)	(1.40)	(1.48)	(1.14)
	Communal only	5.18***	5.16***	4.97***	5.45***
		(1.54)	(1.48)	(1.56)	(1.18)
	All three features	5.92	5.53	5.3	5.76
		(1.36)	(1.50)	(1.62)	(1.17)
Secretary	Baseline	4.66***	4.94**	4.24**	5.21**
		(1.66)	(1.44)	(1.61)	(1.03)
	Physical only	5.90	5.36	4.63	5.40
		(1.42)	(1.46)	(1.65)	(1.25)
	Psychological only				

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		Rituality	Activity meaning	Task meaning	Citizenship
		5.54**	5.24	4.43	5.37*
		(1.37)	(1.27)	(1.47)	(1.10)
	Communal only	4.90***	4.95***	4.29**	5.26**
		(1.54)	(1.43)	(1.57)	(1.18)
	All three features	5.87	5.38	4.59	5.52
		(1.38)	(1.48)	(1.78)	(1.27)
Firefighter	Baseline	4.90***	4.93***	5.04***	5.56***
		(1.66)	(1.55)	(1.54)	(1.20)
	Physical only	5.88***	5.58***	5.69**	5.94***
		(1.23)	(1.35)	(1.27)	(0.99)
	Psychological only	5.88***	5.97	5.88	6.13
		(1.46)	(1.38)	(1.26)	(0.96)
	Communal only	5.38***	5.50***	5.44***	5.82***
		(1.50)	(1.46)	(1.45)	(1.05)
	All three features	6.24	6.03	5.95	6.19
		(1.23)	(1.35)	(1.22)	(0.96)
Consultant	Baseline	4.51***	4.95	5.04*	5.04***
		(1.95)	(1.51)	(1.46)	(1.23)
	Physical only	5.44	4.89*	5.15	5.26**
		(1.45)	(1.54)	(1.31)	(1.17)
	Psychological only	4.91***	5.19	5.36	5.24**
		(1.61)	(1.43)	(1.35)	(1.16)
	Communal only	5.26**	5.00	5.17	5.24***
		(1.56)	(1.50)	(1.43)	(1.22)
	All three features	5.63	5.17	5.32	5.53
		(1.40)	(1.53)	(1.54)	(1.16)

Notes. Asterisks indicate that the focal condition is significantly different from the *three features* condition.
***$p < .01$. **$p < .05$. *$p < .10$.

Appendix D. Supplementary material

Supplementary data to this article can be found online at https://doi.org/10.1016/j.obhdp.2021.05.005.

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