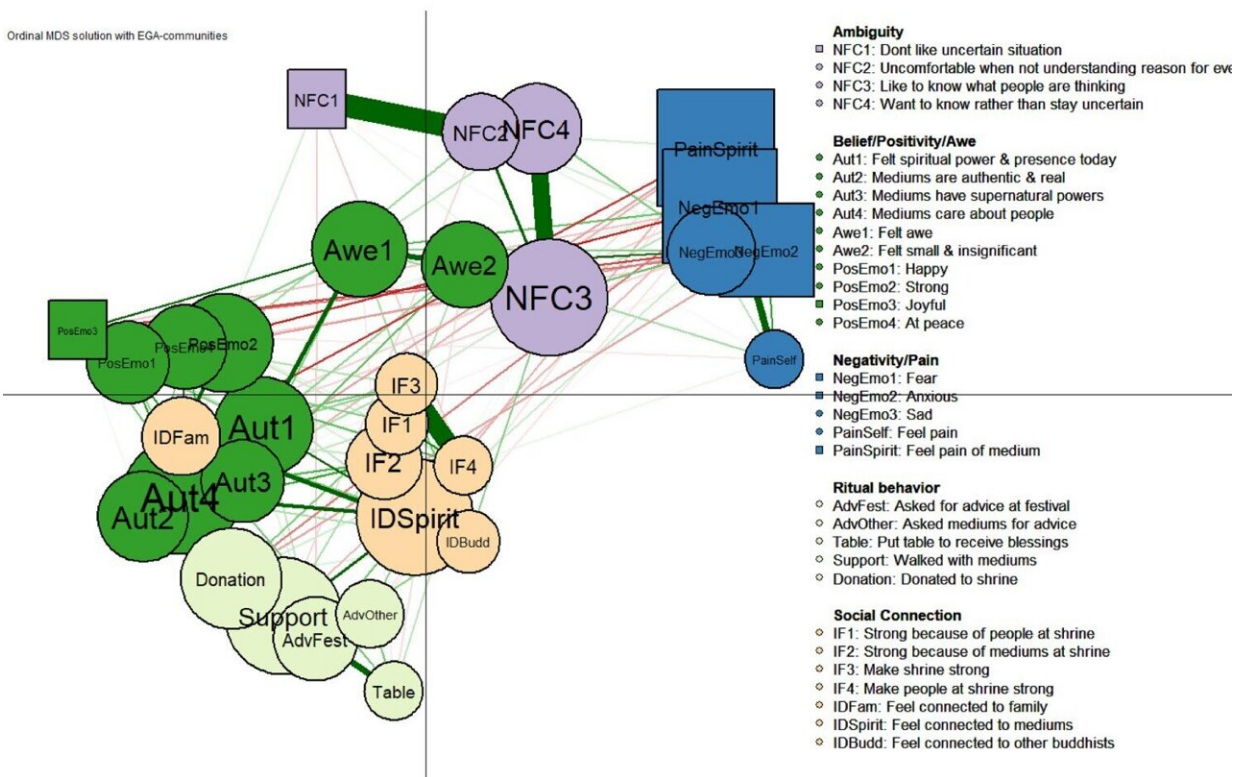


Extreme rituals: What's the social role of violence in these cultural events?

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Psychological network extreme ritual 18



Network structure of psychological reactions during an extreme ritual. Overall network structure based on Extended Bayesian Information Criterion Gaussian Least Absolute Shrinkage and Selection Operator (EBICglasso; Foygel & Drton, Citation2010) network analysis and bootstrapped Exploratory Graph Analysis (EGA) (Epskamp & Fried, Citation2018) using a walktrap algorithm (Yang et al., Citation2016) with 1,000 bootstrap samples. Node colors indicate community membership according to EGA (see the right-hand legend). Node size indicates the expected influence (2-step, including indirect influence) on

communities outside the node's community, while node shape indicates direction of expected influence (circle—positive, square—negative). Green lines indicate positive edges between individual nodes, and red edges indicate negative edges between individual nodes. MDS stress = .13. For interpretation purposes, the axes are rotated 15° anticlockwise. Full statistical information is provided in the supplement (see Tables S3–S7). Credit: *Religion, Brain & Behavior* (2023). DOI: 10.1080/2153599X.2023.2172067

Published in the journal *Religion, Brain & Behavior*, a [study](#) led by the D'Or Institute for Research and Education (IDOR) evaluated and mapped the perceptions of over a thousand spectators participating in the Festival of the Nine Emperor Gods, a celebration that gathers approximately one million people in several Asian countries and has predominantly religious significance.

In these events, self-inflicted violence is normalized by a small portion of its participants. The research aimed to map the audience's reactions to these rituals, seeking to understand the social effects of this cultural event.

Before dismissing ideas that are not normalized in our culture, it's important to remember that rituals are a part of our lives, irrespective of beliefs or religion. In Brazil, for example, actions such as decorating the house with lights during Christmas, wearing white clothes on New Year's Eve, or taking to the streets during Carnival are activities that contribute to our local identity and serve as a means to build communities.

Collective rituals exist in all [human societies](#), and while they may differ significantly from one another, they share standard social functions in most communities. According to the psychologists leading the research, the three main functions of a ritual are enhancing [social connection](#), regulating participants' emotions, and shaping traditions and behaviors

that will be passed down through generations.

With this premise in mind, the scientists aimed to gain a deeper understanding of how individuals perceive these rituals and how these perceptions are interconnected, especially in rituals that evoke intense emotions, as seen in cultures where exposure to violent practices is normalized.

Festival of the Nine Emperor Gods

As a starting point for their research, the researchers participated in the Festival of the Nine Emperor Gods, a millennia-old celebration that takes place in the ninth month of the Chinese calendar and is observed in several Asian countries, including Thailand, Indonesia, Malaysia, and China itself.

The event is characterized by processions, offerings, fasting, and religious prayers, but it also includes rituals of extreme self-mutilation practiced by a small number of participants as a form of purification, devotion, and even the embodiment of deities. These acts range from walking on hot coals to bleeding and piercing, and they are observed by spectators who can request blessings and predictions from the martyrs.

Exposure to extreme scenes in this festival piqued the authors' curiosity about their effects on spectators and their contribution to the social functions of the ritual itself. In 2015, they collected information from over 1,000 festival attendees, including men and women from different social backgrounds.

They assessed responses across different spectrums, taking into account the participants' cultural identity during the event and their [emotional responses](#) and personal perceptions related to faith and religious beliefs associated with the ritual.

Understanding human emotions during extreme rituals

To identify a pattern that best conveyed the effects and impressions of this social phenomenon from the thousands of responses, the scientists employed a psychometric network approach. In this technique, individual responses were grouped into five categories: [negative emotions](#), positive emotions, feelings of ambiguity, social connection, and a segment related to ritual actions, such as prayers and interaction with deities.

This methodology intends to understand the relationship between the variables themselves, which differs from other questionnaire-based studies as it does not assume justifications or causal relationships for the responses provided by the test. Emphasizing how the responses interact with each other allows researchers to identify multifactorial influences that align with [human psychology](#) since our mind is not simply a matter of cause and effect but rather an interconnected network of factors.

The emotions that most significantly connected the variables on the map were happiness, fear, and the belief that deities seek the well-being of their followers and possess supernatural powers. This suggests that the central components identified in the participants were linked to emotional responses and strong spiritual beliefs during the ritual.

In the festival, the most evident connection between the variables was religious belief, which, according to the authors, acts as a powerful cultural antecedent, making the world comprehensible to a specific group of individuals. However, the primary positive emotional reactions reported by participants were closely tied to social connection during the event, underscoring affection's role in strengthening the community's social bond.

The reported feeling of fear, related to apprehension about the power of the deities, was also a significant variable in the study but did not provide a conclusive answer regarding the supposed role that extreme rituals, such as self-mutilation, may play in collective rituals.

The authors speculate that these displays of great ordeal create impactful memories, where negative reactions initially help trigger memory processes, but over time, these negative memories are overlaid by the [positive emotions](#) evoked by the ritual. However, the authors emphasize that these emotional dynamics still require further exploration in future research.

Extreme rituals in Brazil

Dr. Ronald Fischer, a psychologist and researcher at IDOR who was the lead author of the study, points out that extreme rituals are not exclusive to Oriental cultures. He mentions that even in the Brazilian Amazon, the indigenous Sateré-Mawé people continue to perform the Wyamat ritual, also known as the "Festival of the Bullet Ant," as a rite of passage where young natives become warrior men.

The bullet ant, also called *tucandeira*, has one of the most painful stings among the species, often compared to wasps due to its potent toxin, which can cause symptoms such as fever and nausea. In the Wyamat ritual, young Sateré-Mawé men must repeatedly glove their hands with a straw artifact containing dozens of these ants to be recognized as true warriors in their clan. And there's a catch: if the young man cries, he fails the ritual.

"We don't need to look to distant societies for extreme rituals. When we think about some football fans who follow their teams across several states, they often have to perform sacrificial rituals like traveling long distances, spending a lot of money, camping out, and neglecting other

important activities to be there, supporting their team," Dr. Ronald Fischer says.

Emotions are an integral part of rituals

The study on the Nine Emperor Gods Festival was the first to comprehensively explore spectators' reactions in one of the largest and most extreme modern rituals. The mapping network identified by the authors reinforces other theories used in psychometric network approaches, contributing to the scientific understanding of this field.

The researchers also emphasize the role of positive emotion during the festival, which is present throughout the event and contributes to the social cohesion of participants. This context highlights the importance of considering culturally constructed systems of meaning when examining emotional reactions during any ritual, even if their customs may seem dysphoric to other cultures.

If you thought that psychology was limited to patient care and promoting [mental health](#), this study is a great example of the versatility and breadth of the field.

Psychometrics is an area of psychology closely tied to the exact sciences, focusing on quantifying mental characteristics so they can be studied, compared, and understood more objectively and systematically. With various methodological approaches, one of its focuses is providing data on groups without disregarding the complexity and subjectivity of the human mind.

More information: Ronald Fischer et al, Mapping the minds of spectators during an extreme ritual: a network perspective, *Religion, Brain & Behavior* (2023). [DOI: 10.1080/2153599X.2023.2172067](https://doi.org/10.1080/2153599X.2023.2172067)

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