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Title	Rituals as Social Glue: Synchrony and Pain on the Cooperation of Humans
Author(s)	Tan, Jun Hao
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Category: SOCIAL SCIENCES
School of Humanities and Social Sciences

Student: Tan Jun Hao

RITUALS AS SOCIAL GLUE: SYNCHRONY AND PAIN ON THE COOPERATION OF HUMANS

ABSTRACT

- Rituals are universal in all societies. What are the mechanisms that have led strangers to cooperate, resulting in widespread complex societies? Why would humans voluntarily place themselves into painful ritualistic acts?
- Synchronized movement and physical discomfort are common features of rituals. We believe that these features can help explain the above questions.

BACKGROUND

- Past research show that when people move together as a unit or experience pain collectively, they become more cooperative towards one another (Bastian, Jetten & Ferris, 2014; Wiltermuth & Heath, 2009). However, it is uncertain whether these effects interact with each other.
- Group synchronous movements and shared pain experiences also leads to greater connectedness (Bastian, Jetten & Ferris, 2014; Wiltermuth & Heath, 2009). Since people tend to cooperate with those that they feel close to, we believe that perception of social closeness may be a mediator between synchrony and pain on cooperation.
- Other studies revealed that athletes who moved synchronously with each other, exhibited higher pain thresholds (Cohen et al., 2010). We speculate that heightened pain thresholds may also be found among participants of rituals involving synchronous acts.

Hence, this study seeks to address the following hypotheses:

- H₁:** Synchronized motion increases pain tolerance
- H₂:** Synchronized motion and pain leads to greater cooperation
- H₃:** Cooperative effects of synchronized motion and pain is mediated by increased perception of social closeness

METHODOLOGY

Design

- A 2 x 2 between-subjects design was employed with two factors: Synchrony (synchronous vs. a-synchronous movement) and Pain (pain vs. no-pain). 100 NTU students were randomly assigned to one of four conditions.

	Pain	No-Pain
Sync.	n = 25	n = 25
A-Sync.	n = 25	n = 25

Procedure

Step 1: Participants in the synchrony condition performed simple arm-and-leg movements synchronously. Participants in the a-synchrony condition performed the same arm-and-leg motions, but were a-synchronous in timing and speeds from one another.

Step 2: Participants were then subjected to a water and balance task:

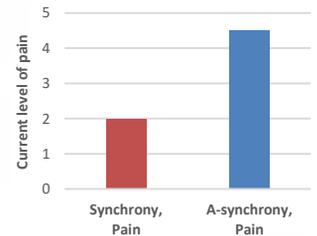
- For the pain condition:** Participants submerged their hands in ice water for as long as possible. They were later asked to squat against a wall with back straight and knees bend at 90° for as long as possible.
- For the no-pain condition:** Participants undergo the same task, but with room-temperature water for 90 seconds and were to balance on one leg for 60 seconds.

Step 3: Lastly, all participants were subjected to an economic game measuring cooperation, as well as questionnaires measuring perception of social closeness and current levels of pain.

EXPECTED FINDINGS

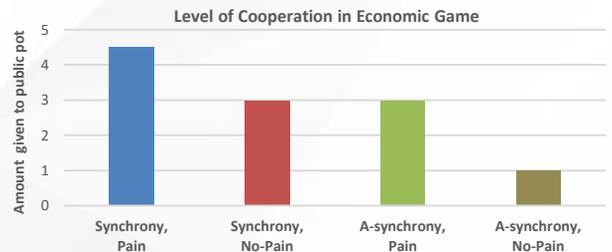
Hypothesis 1

- Participants in the a-synchronous movement and pain condition reported higher levels of pain after manipulation compared to participants in the synchronous movement and pain condition.



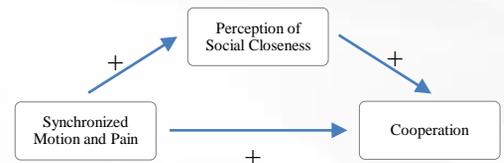
Hypothesis 2

- Participants in the synchronous movement and pain condition displayed greatest cooperation compared to participants in the other three conditions.



Hypothesis 3

- Perception of social closeness was a significant mediator between synchronized motion and pain on cooperation.



CONCLUSION & DISCUSSION

- Moving synchronously with others heighten one's own pain tolerance, thereby providing an explanation as to why humans are willing to engage in high-ordeal rituals.
- Our study revealed that synchronized movement and pain leads to greater cooperation, and the crucial ingredient between these processes was enhanced perception of social closeness.
- Such a finding is consistent with past theories which conjectured that rituals serve to ensure cooperation towards collective goals (e.g. Kertzer 1988).
- Our findings also suggest that people in rituals involving synchronous movement and pain were the most cooperative. Perhaps societies encompassing such ritualistic practices were the most resistant to extinction. Future works may be conducted in this area.

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