Grant No.	10－048

Research Report

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Organization (at the time of the grant)**:** Hokkaido University

Title of Research:

The impact of synchrony on cooperation and ingroup favoritism in Japan and the United States

Purpose of Research:

Nearly all cultures of the world engage in activities in which individuals sing, dance, or move together in time. This type of concerted movement, known as synchrony, plays an enormous role in increasing both the efficacy of groups and cohesion among group members (e.g., Durkheim, 1965; Ehrenreich, 2006). It has been suggested that synchrony increases the cooperation and efficacy of groups by increasing ingroup identification, which functions to break down the boundaries between individuals and increase perceptions of similarity between group members. Perceptions of ingroup homogeneity are known to contribute to cooperation among group members (Fischer, 2009), while high diversity can lead to lowered trust and cooperation (e.g., Putnam, 2007; Lancee & Dronkers, 2008).

However, several studies have suggested that the determinants of ingroup identification differ qualitatively between Japan and North America (e.g., Yuki, 2003; Brewer & Yuki, 2005). According to the traditional view of social identity theory, based on empirical findings from Western samples, social identify entails the perception of one's ingroup as a homogeneous entity (e.g., Tajfel et al., 1971; Tajfel & Turner, 1986). This is not the case in Japan, where social identity is derived from the perception of ingroup members as individual, yet interconnected agents. Similarity between group members itself has been found to be less important in Japan than in the United States. Schug, Yuki, Horikawa and Takemura (2009) found that because interaction partners in Japan are often determined by extrinsic and societal factors, rather than by personal choice, friends in Japanese cultural settings tend to be less similar to each other than do those in the United States. Together, these findings indicate that similarity among group members may not be critical to cooperation and ingroup identification in Japan.

Based on this understanding of social identity theory in North American and Western European cultures, it can be predicted that synchrony will increase ingroup cooperation via different channels in Japanese and North American groups. That is, while synchrony works to enhance cooperation in North Americans groups by increasing feelings of "oneness," in Japan synchrony will likely serve to enhance the type of social identity prevalent in Japan by increasing the feelings of interconnectedness and interdependence of the group members as a whole, while simultaneously maintaining perceptions of group members as distinct yet interconnected individuals. Furthermore, it can be predicted that the relative impact of similarity and coordinated movement on ingroup cooperation and ingroup bias will differ in each culture. In the United States, similarity should contribute more to ingroup than coordinated movement because of the importance of similarity among group members. However, because Japanese group identity is based on the understanding of group members as unique but interdependent agents, coordinated movement but not similarity will contribute to ingroup cooperation.

Content/Methodology of Research:

The current study sought to compare the effect of synchronous and coordinated movement on ingroup cooperation in Japan and the United States. Because moving in time can be construed as a type of similarity as well as a type of social coordination, the current study sought to methodologically separate the two concepts by contrasting the impact on cooperation of synchronous movement (the degree to which individuals move in time with one another), coordinated movement (in which individuals move in a coordinated manner without making identical movements) and physical similarity (in which members appear to be physically similarity to each other).

To do so, we conducted an experimental study with a balanced factorial design crossing

perceived similarity with synchronous, coordinated, and asynchronous movement in both Japan and the United States. Participants took part in the experiment in groups of three. First, participants came into the laboratory and were escorted to a small room, where they were asked to fill out a number of short surveys. After completing the surveys, participants were told that they would be participating in a study on movement and emotion. Participants were asked to take their own pulse before moving to a nearby staircase for the movement manipulation. Synchrony was manipulated by having three participants line up horizontally and march in step together up and down a flight of stairs. In the coordination condition, three participants stood at the top of the staircase and took turns taking one step each down/up the staircase. Thus, participants in the coordination condition marched in a coordinated, but asynchronous manner. In the asynchronous control condition, participants were simply asked to walk up and down the stairs without specific instructions regarding synchrony or coordination. We crossed these movement conditions with a physical similarity condition, by which approximately half of the participants in each condition wore identically colored windbreakers.

After marching up and down a flight of stairs in a synchronous, coordinated, or arbitrary manner, participants took their own pulse again, and were informed that they would be asked to participate in an ostensibly separate experiment. In this portion of the experiment, participants took part in an economic game known as the public goods game. In the public goods game, participants are given an endowment of tokens from an experimenter and asked to allocate the tokens between themselves and a group account. Tokens donated to the group are multiplied and divided among group members. In this particular study, the endowment size was ten tokens. Tokens in the public account earned $0.25 (25 yen) for every member of the group. Tokens kept in the private account were worth $0.50 (50 yen) each to individual participants who kept the token, but the token was worth nothing to the other two group members. In the public goods game of game, individuals stand to benefit most when they keep as many tokens as possible in their own private account, while profiting from the groups contributed by the rest of the group. Thus, the rational and selfish strategy is to keep one's resources in their own private account, while profiting from the contributions of others. Deciding to contribute to the group account thus simultaneously demonstrates cooperation, and trust in fellow group members (that they will also contribute their own tokens). Participants played five rounds of the public goods game. 106 North American participants at the University of Southern California and 152 Japanese participants at Hokkaido University were included in the study.

Conclusion/Observation

First, we conducted a 2 X 2 X 3 mixed model MANOVA to examine the effect of country (Japan, United States), physical similarity (windbreaker vs. no windbreaker) and movement (synchrony, coordination, control) on cooperation in the public goods game, controlling for gender. No main effect was found for county $F(1, 245) = 0.24$, movement $F(1, 245) = 1.84$, ns, or physical similarity $F(1, 245) = 0.19$, ns. However, a significant county by movement interaction was observed $F(2, 245) = 5.71$, $p < .01$, while no interaction between country and physical similarity $F(1, 245) = 0.40$, ns, or movement and physical similarity was observed $F(2, 245) = 0.15$, ns. These results indicated that wearing similarly colored windbreakers had no impact on cooperation, either in Japan or in the Unites States. Thus, in the subsequent conditions we collapsed the data across the similarity conditions to examine the impact of the movement conditions in more detail.

To further examine the impact of movement, we conducted a 2 (Country: Japan, US) X 3 (Movement: Synchrony, Coordination, Control) MANOVA, controlling for gender. As in the previous analysis, the main effects of country $F(1, 251) = 0.00$ and movement $F(2, 251) = 1.82$, $p=.16$ were not significant. These null effects were qualified by a significant interaction between country and movement $F(2, 251) = 7.16$, $p=.0009$. In order to examine the source of this interaction, we computed the average number of coins contributed in the public goods game for each of the conditions, by country (Figure 1). Results of a simple main effects analysis indicated that American participants contributed more than Japanese participants in the Synchrony condition $F(1, 251)=4.96$, $p=.03$, while Japanese contributed more than Americans in the Coordination condition $F(1, 251)=8.61$, $p=.004$.

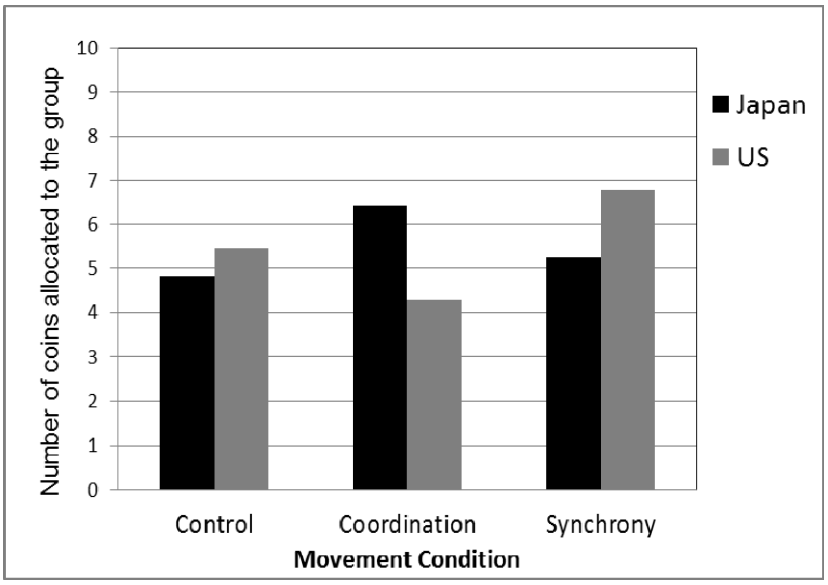

Figure 1. Average number of coins contributed in the public goods game, by country and condition.

Together, these results paint a very interesting portrait of the impact of coordinated and synchronous movement in Japan and the United States. We had predicted that similarity, whether in movement or physical appearance, would be a more important facilitator of ingroup cooperation in the United States, rather than in Japan. This prediction was partially supported: while the effect or physical similarity (wearing similarly colored windbreakers) had no impact on cooperation either in Japan or in the United States, the impact of similarity in movement was much stronger in the United States than in Japan. In contrast, coordinated movement was a powerful facilitator of cooperation in Japan, but had no effect in the US. These results provide further support for studies which suggest that while North American identification with the ingroup is based on perceptions of ingroup similarity and 'oneness,' Japanese ingroup identity is more based on an understanding of the connections between individuals, while paradoxically maintaining a sense of distinctiveness within the group.