

Impact of the presence or absence of dancing in festivals on people's sense of community

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Abstract

Moving together or attending festivals are reported to foster social bonding. However, it remains unclear whether festivals with and without dancing affect individuals' social bonds and sense of community. Research does not mention whether lasting effects exist over time even when community festivals are held only a limited number of times a year. To address this issue, this study examines the impact of dancing at local festivals on individuals' sense of community. Accordingly, an online survey was conducted a few months after a community festival, and participants responded three scales: the Brief Sense of Community Scale, Community Consciousness Scale, and UCLA Loneliness Scale. The survey found that (1) the participants who attended and danced at a festival with dancing showed a higher sense of community and lower loneliness level than those who did not dance or those who attended a festival without dancing. (2) These tendencies were not influenced by previous festival attendance patterns. (3) Further, these tendencies were not related to the individuals' willingness to attend festivals. These results suggest that dancing at festivals, rather than attending festivals without dancing, can promote a sense of community.

Keywords: dance, music, festival, embodiment, social bonding, sense of community, isolation, loneliness

1. INTRODUCTION

1.1 Universality of human beings' tendency to dance to music

What does dancing at festivals mean? Moving the body in response to music is considered an enjoyable experience worldwide (Fitch, 2015; Stevens, 2012). A typical example of people moving their bodies in accordance with music occurs during festivals. Music and its accompanying physical movements are cultural behaviors, and they are activities that people have long been familiar with (Trehub, Becker, & Morley, 2015). Indeed, in concerts, people can be seen swaying their bodies. In sports activities, audience members sing while jumping up and down to

cheer athletes or teams. Further, both music and dance are associated with festivals. In recent years, the urge to move one's body in response to music has been termed "groove." The urge to move to music is probably a universal sensation because words describing the relationship between music and physical movements exist in many cultures (Etani et al., 2023; Kawase, 2024; Kawase & Eguchi, 2010). Studies have examined the acoustic features that induce groove, manner in which such acoustic features are reflected as physical movements, and reasons for the occurrence of such sensations (as reviewed by Etani et al., 2023). These studies highlight the significance of the link between rhythmic factors in music and physical movements. Further, the fact that rhythmic physical movements are observed early during a person's developmental stages indicates that moving (or dancing) to music is a primitive characteristic of human beings (Trehub et al., 2015).

1.2 Beneficial effects of moving together on social bonding

In response to the question of why people move to music, its evolutionary and adaptive significance is often highlighted. In this respect, its role in fostering social bonds deserves special mention (Dunbar, 2011). Indeed, moving together to music promotes prosocial behavior (Tarr, Launay, & Dunbar, 2016) and social bonding (Savage et al., 2021). This is true for both infants and adults and is considered a fundamental human trait (Cirelli, Wan, & Trainor, 2014; Kawase, Ogawa, Obata, & Hirano, 2018; Kirschner & Tomasello, 2010). According to Cirelli et al. (2014), 14-month-old infants recorded a higher level of spontaneous helping behavior toward adults who moved together to music compared with those who did not move together. In an experiment conducted by Kirschner and Tomasello (2010) on 4-year-old children, two people who played instruments together with the children who moved while playing a musical instrument together showed more willingness to help the other child in trouble compared to those who simply walked together. Further, in an experiment on high school students, dancing together was found to release endorphins, which foster social hand-bonding (Tarr et al., 2016). According to Kawase, Nakamura, and Dragna (2007), when two people who drummed freely engaged in communication, a shared rhythm was correlated with good interpersonal impressions. The effects of movement synchronization have also been explained by brain mechanisms, which may enhance social bonding because of increased neural synchrony and enhanced interpersonal coordination (as reviewed in Basso, Satyal, & Rugh, 2021).

Simply moving together is known to influence a person's prosocial behavior, as well; this is because synchronization promotes prosocial behavior (Carpenter, Uebel, & Tomasello, 2013; Keller, Novembre, & Hove, 2014), cooperative skills (Valdesolo, Ouyang, & DeSteno, 2010), compassion and altruistic behavior (Valdesolo & DeSteno, 2011), empathy (Behrends, Müller, & Dziobek, 2012), interpersonal likeability (Hove & Risen, 2009), rapport (Lakens & Stel, 2011), trust (Launay, Dean, & Bailes, 2013), and social closeness (Tarr et al., 2016). These effects are applicable to young children, as well. For instance, Carpenter et al. (2013) showed that 18-month-old infants were more helpful to adults who imitated the infants' behavior than to those who did not. Nevertheless, Stupacher, Wood, and Witte (2017) pointed out the importance of the social bonds

generated by moving to matching music over those occurring from simply matching movements or monotonous stimuli, such as a metronome. These findings indicate that moving together at festivals fosters social bonding.

1.3 Festivals and the sustainability of community

One of the most common examples of dancing to music occurs during festivals. Indeed, festivals help maintain the sustainability and stability of communities (Dunbar, 2011). Indeed, festivals and rituals involving dancing to music are prevalent in various communities worldwide (Stevens, 2012; Trehub et al., 2015); therefore, festivals highlighting music and dance are important targets to examine the cultural and evolutionary behavior of human communities. Further, earlier studies indicate that participation in festivals enhances social capital (Arcodia & Whitford, 2007; Jaeger & Mykletun, 2013). Festivals have been shown to promote a sense of community (Hassanli, Walters, & Williamson, 2021), enhance community building (Mair & Duffy, 2020), and ensure community maintenance (Black, 2016) as part of improving social sustainability. Accordingly, festivals are predicted to affect community awareness and social connectedness.

1.4 Research purpose

This study examines whether dancing, which is an inherent part of many festivals, is associated with individuals' sense of community. Studies indicate that individuals' prosocial behavior and sociability increase after dancing and playing music with others (e.g. Dunbar, 2011; Kawase et al., 2018; Keller et al., 2014; Tarr et al., 2016). Further, many experimental studies clarify that an individual exhibits prosocial behavior immediately after moving to music (e.g. Cirelli et al., 2014; Kirschner & Tomasello, 2010). If dancing with others enhances social bonding, individuals' participation in festivals may enhance social bonding since dancing is a part of many festivals.

However, it is unclear whether such effects persist over time since festivals and rituals, such as community festivals and ceremonies, are held only a limited number of times (usually, once) a year. In the aforementioned research, individuals' promotion of prosocial behavior by moving to music was often measured immediately after the movement. In other words, the long-term effects of dancing associated with festivals, which occur very infrequently, remain unverified. This may be due to the infrequency of local festivals; moreover, since all the participants were not from the same area, collecting a large amount of data was difficult. In addition, although earlier studies indicate that participation in festivals enhances individuals' sense of community, they do not clarify whether the presence of dancing in festivals makes any difference in social bonds and the sense of community.

The current study addressed the aforementioned research gap as follows: A large-scale online survey assessed by three scales regarding sense of community and loneliness was conducted; further, the study examined whether the people who participate in local festivals involving dancing have a higher sense of community than those

participating in festivals without dancing regardless of participation history or intention. This condition can clarify whether those who had participated in festivals and danced had a greater sense of community than those in other conditions. Research on whether festivals that involve individuals moving to music make an ongoing contribution to community maintenance, as well as enhancing individual social bonds, help reassess the effects of dance from a long-term perspective and clarify why festivals involving dance are held iteratively. This serves as a link between the aforementioned experimental studies and real-world practices, as well. Accordingly, this study addresses the following hypotheses:

H(1) The participants of festivals involving dancing possess a higher sense of community than those who do not dance or who participate in festivals without dancing.

H(2) Individuals' high sense of community is not influenced by their previous festival participation habits.

H(3) Individuals' high sense of community is not influenced by the intensity of their willingness to participate in festivals.

2 METHODS

2.1 Participants

This study considered 1768 participants (1164 men, 603 women, 1 other) of mean age 53.2 years (standard deviation, SD = 13.0). At the time of the study, the participants had been living in their current area of residence for at least 8 years, that is, residing in the same area for at least 5 years, excluding the COVID-19 period (during which many festivals were not conducted in Japan). Prior to conducting analyses, the participants who provided the same response (straight-line response) on more than one scale were excluded from the study.

2.2 Materials

Participants' sense of community was assessed by incorporating the following three scales in the survey:

1. The Japanese version of the Brief Sense of Community Scale (BSCS: Yu, Asai, Hiraizumi, & Wakashima, 2022) was used to measure the sense of community. This eight-item instrument comprises the following four factors: need fulfillment (the perception that members' needs will be met by the community), membership (a sense of belonging or interpersonal relatedness), influence (the feeling that one is important, or able to make a difference, in a community and that the community is important to its members), and emotional connection (a sense of attachment or bonding based on the members' shared history, place, or experience).

2. The short version of the Community Consciousness Scale (CCS: Ishimori, Okamoto, & Kato, 2013) is a 12-item scale having the following four factors: solidarity (contribution to and active involvement in the

community), self-determination (a sense of playing an active role in community improvement), attachment (attachment to and pride in the community), and dependency (letting others solve local problems).

3. The Japanese version of the UCLA Loneliness Scale Version 3 (UCLA-LS3-J: Arimoto & Takeda, 2019) is a 10-item scale comprising a single factor. This scale was used to measure connectedness to others, unlike the two aforementioned scales

2.3 Procedures

The survey was conducted with the help of a research company (GMO Research, Inc., Tokyo, Japan). Participants were presented with a description of the study and an informed consent form, and those who agreed to participate in the study proceeded to attend the survey. The informed consent form stated that the survey would be analyzed anonymously, survey participation was not compulsory, the participants would not be disadvantaged on discontinuing or withdrawing from the survey, and their data would not be used for anything other than the study purpose. Only those who agreed to these conditions participated in the survey. This study was conducted in accordance with the Code of Ethics of the Japanese Psychological Association.

Initially, participants responded to a brief face sheet detailing their personal demographics. To eliminate differences among the participants based on their participation in the most recent local festival, the survey targeted those for whom the nearest festival was cancelled from 2020 to 2022 because many festivals were cancelled during this period to prevent pandemic spread in Japan.

Subsequently, participants responded to the characteristics of local festivals (with or without dances with others) and their participation (whether or not they participated in 2023 and danced). The participants who attended more than one local festival a year were instructed to respond to the festival they were most familiar with.

3 RESULTS

3.1 Months in which festivals are held

August was the most common month in which festivals were held (49.9%); it was followed by July (16.9%) and October (13.6%). In Japan, summer festivals and *bon dances*, which are traditional Japanese summer festivals involving dances, are often held in August; hence, study results reflect this cultural aspect. The survey was conducted in December. Hence, many participants indicated in their survey responses that several months had passed since their last festival attendance.

3.2 Variation of the sense of community with the type of festival attended

To examine the relationship between how people participate in festivals and the level of their sense of

community, scale scores were compared among three groups using analysis of variance (ANOVA): the participants who participated in festivals involving group dancing, those who participated in festivals involving dancing but did not dance themselves, and those who participated in festivals without dancing (Table 1).

For each BSCS factor, the scores of the respondents who participated in a festival with group dancing were significantly higher than those of the respondents who did not dance or who participated in a festival without dancing. Further, for each CCS factor, except dependency on others factor, those who danced scored significantly higher than those who participated in a festival without dancing. Finally, for UCLA-LS3-J, those who danced scored significantly lower than those who did not dance at the festival. These results indicate that the sense of community among the participants who attended and danced at festivals was higher than that among the ones who attended festivals without dancing or who attended festivals with dancing but did not dance.

TABLE 1

Results of the mean ratings of scales and analysis of variance values of participants' sense of community for each type of festival attended

Types of participation in festivals	Festivals involving dance			3. Festivals without dance	<i>F</i>	<i>p</i>	η_p^2	Multiple comparisons (Bonferroni)
	1. Dancing	2. Not dancing						
BSCS								
Need fulfillment	7.0	6.4	6.5	9.5	0.000	0.026	1>2**, 1>3**	
Membership	7.3	6.5	6.9	9.9	0.000	0.028	1>2**, 1>3*	
Influence	6.3	5.2	5.6	18.9	0.000	0.051	1>2**, 1>3**	
Emotional connection	7.1	6.1	6.5	17.1	0.000	0.047	1>2**, 1>3**	
CCS								
Solidarity	10.5	9.0	9.3	23.0	0.000	0.062	1>2**, 1>3**	
Self-determination	11.1	11.1	10.5	3.2	0.041	0.009	1>3*	
Attachment	10.3	9.8	9.6	6.1	0.002	0.017	1>3**	
Dependency on others	8.6	9.1	9.1	4.3	0.014	0.012		
UCLA loneliness scale								
	21.0	22.8	22.1	5.0	0.007	0.014	1<2*	

BSCS, Brief Sense of Community Scale; CCS, Community Consciousness Scale.** $p < 0.01$, * $p < 0.05$.

3.3 Individuals' festival participation habits and sense of community

To examine whether the study results reflected only those individuals having a high sense of community who had always attended festivals in the past, the ones who had always attended and participated in festivals before the COVID-19 pandemic period were extracted and the types of festivals attended by them in the year when this study was conducted were compared with their sense of community. Further, an ANOVA was performed with festival type as the independent variable and sense of community scores as the dependent variable (Table 2). Results revealed that on the three BSCS subscales and two CCS subscales, the sense of community of those attending festivals with dancing was higher than that of those attending festivals without dancing. Loneliness was lower among the individuals who attended festivals with dancing than among those who participated in festivals without dancing, as well. In other words, those who danced showed a higher sense of community, even among the participants having similar festival attendance habits, than those who did not.

TABLE 2

Results of the mean ratings of scales and the analysis of variance of a sense of community among the participants who have attended a festival every year in the past

Types of participation in festivals	Festivals with dance			3. Festivals without dance	F	p	η_p^2	Multiple comparisons (Bonferroni)
	1. Dancing	2. Not dancing						
BSCS								
Need fulfillment	7.3	7.0	6.6	3.4	0.035	0.020	1>3*	
Membership	7.7	7.1	7.3	2.6	0.075	0.015		
Influence	6.7	5.8	5.7	9.7	0.000	0.055	1>2*, 1>3**	
Emotional connection	7.4	6.6	6.7	5.8	0.003	0.034	1>2*, 1>3*	
CCS								
Solidarity	11.0	9.6	9.7	7.6	0.001	0.043	1>2*, 1>3**	
Self-determination	11.3	11.4	10.8	1.4	0.256	0.008		
Attachment	10.7	10.4	9.8	3.5	0.030	0.021	1>3*	
Dependency on others	8.1	9.0	8.7	2.3	0.098	0.014		
UCLA loneliness scale	20.1	21.5	22.5	4.2	0.016	0.024	1<3*	

BSCS, Brief Sense of Community Scale; CCS, Community Consciousness Scale. ** $p < 0.01$, * $p < 0.05$.

3.4 Intention to participate in festivals and a sense of community

The sense of community of the respondents who participated in a festival was compared with that of the individuals who did not. In the analysis, the ones who did not participate were divided into two groups: those who wanted but were unable to participate and those who never intended to participate in the first place. This division helped

identify the differences between respondents' intention to attend and participation.

Results indicated that, for festivals with dancing, the ones who participated and danced scored the highest on all BSCS subscales (Table 3). The same trend was observed for CCS, as well, with those who participated and danced having the highest sense of community. Further, loneliness was found to be the lowest among those who participated and danced. However, those who intended to but could not participate in either BSCS or CCS had similar results to those who participated but did not dance; no difference regarding loneliness was found among them, as well.

Similar tendencies were found for festivals without and those with dance; however, the number of pairs with significant differences between groups was fewer than that for festivals with dance (Table 4). In particular, no significant differences were found between the participants who intended to but were unable to attend and those who did not intend to attend.

Therefore, those who did not attend festivals, despite intending to attend, had a lower sense of community than those who did. This tendency was particularly prominent among festivals with dance.

TABLE 3

Mean scores of scales and analysis of variance results for the respondents who participated in festivals with dancing, those who wanted to but could not participate, and those who did not participate because they had no intention to

	Not attending				<i>F</i>	<i>p</i>	η_p^2	Multiple comparisons (Bonferroni)
	1. Dancing	2. Not dancing	3. Intended to participate	4. No intention to participate				
BSCS								
Need fulfillment	7.0	6.4	6.5	5.8	31.5	0.000	0.083	1>2,4**, 1>3*, 2>4*, 3>4**
Membership	7.3	6.5	6.7	5.8	41.7	0.000	0.107	1>2,3,4**, 2>4**, 3>4**
Influence	6.3	5.2	5.3	4.5	67.3	0.000	0.162	1>2,3,4**, 2>4**, 3>4**
Emotional connection	7.1	6.1	6.4	5.4	53.2	0.000	0.133	1>2,3,4**, 2>4*, 3>4**
CCS								
Solidarity	10.5	9.0	9.4	7.9	69.8	0.000	0.167	1>2,3,4**, 2>4**, 3>4**

Self-determination	11.1	11.1	10.9	10.4	5.8	0.001	0.016	1>4**, 2>4*
Attachment	10.2	9.8	10.1	9.1	19.8	0.000	0.054	1>4**, 2>4*, 3>4**
Dependency on others	8.5	9.1	8.7	9.5	10.7	0.000	0.030	1<4**, 3<4**
UCLA loneliness scale	21.0	22.8	21.7	24.4	23.3	0.000	0.063	1<2*, 1<4**, 3<4**

BSCS, Brief Sense of Community Scale; CCS, Community Consciousness Scale. ** $p < 0.01$, * $p < 0.05$.

TABLE 4

Mean scores of scales and analysis of variance results for the respondents who participated in a festival without dancing, those who wanted to participate in a festival but could not, and those who did not participate because they had no intention to participate

		Not attending					Multiple
		2. Intended to	3. No intention				comparisons
	1. Attending	participate	to participate	<i>F</i>	<i>p</i>	η_p^2	(Bonferroni)
BSCS							
Need fulfillment	6.5	6.0	5.6	9.9	0.000	0.039	1>3**
Membership	6.9	6.0	5.7	16.6	0.000	0.063	1>2**, 1>3**
Influence	5.6	5.0	4.5	21.6	0.000	0.080	1>2**, 1>3**, 2>3*
Emotional connection	6.5	5.6	5.2	19.7	0.000	0.074	1>2**, 1>3**
CCS							
Solidarity	9.3	9.0	7.8	20.7	0.000	0.077	1>3**, 2>3**
Self-determination	10.5	10.3	10.0	2.9	0.058	0.011	
Attachment	9.6	9.3	8.8	5.9	0.003	0.023	1>3**
Dependency on others	9.1	9.2	9.3	0.3	0.743	0.001	
UCLA loneliness scale							
	22.1	23.7	24.0	5.2	0.006	0.021	1<3**

BSCS, Brief Sense of Community Scale; CCS, Community Consciousness Scale. ** $p < 0.01$, * $p < 0.05$.

4 DISCUSSION

This study investigated how dancing at local festivals affect individuals' sense of community. A survey that was conducted a few months after a community festival revealed the following findings: (1) The participants who attended a festival involving dancing and danced had a higher sense of community and lower loneliness than those who did not dance or who attended the festival without dancing. (2) These tendencies were not influenced by

previous festival attendance patterns. (3) These tendencies were not related to individuals' willingness to attend festivals. Accordingly, these results suggest that dancing at festivals can promote a sense of community, since it is not significantly influenced by individuals' habits or willingness to participate.

4.1 Relationship between dance at festivals and their sense of community

The participants who attended festivals with dancing and danced had a higher sense of community and lower level of loneliness than those who did not dance or those who participated in festivals without dancing. This result is distinct from the findings of earlier studies because it focuses on the social function of dancing at festivals, which has been practiced since ancient times, and highlight the significance of dance. Further, the results add a new perspective to the findings of a series of studies that indicate how dance deepens social bonds (Dunbar, 2011; Savage et al., 2021; Trehab et al., 2015) by examining the presence or absence of dance. Furthermore, this result sheds light on the social meaning of the fact that the urge to move one's body to music is observed across cultures (Etani et al., 2023; Kawase, 2024; Kawase & Eguchi, 2010).

Additionally, the current results are consistent with the findings of experimental research on social bonding with those who move synchronously with others to music (Dunbar, 2011; Fitch, 2015; Savage et al., 2021; Tarr et al., 2016) and on prosocial behaviors that are exhibited by individuals (from 14-month-olds to high school students) immediately after they move to music (Cirelli et al., 2014; Tarr, Launay, Cohen, & Dunbar, 2015). The earlier findings that moving together in accordance with music promotes sociability (Cirelli et al., 2014; Kawase et al., 2018; Kirschner & Tomasello, 2010) and social bonding (Stupacher et al., 2017) support the present results, as well. In addition, the current results can be explained by the findings that moving together increases prosocial behavior (Carpenter et al., 2013; Keller et al., 2014), altruistic behavior (Valdesolo & DeSteno, 2011), interpersonal likeability (Hove & Risen, 2009), rapport (Lakens & Stel, 2011), trust (Launay et al., 2013), and bonding with others (Tarr et al., 2016). The triggers for such prosocial aspects were reportedly the effects of transient physiological responses, such as the release of endorphins (e.g., Tarr et al., 2016). Brain mechanisms could also explain these social bonding effects through increased neural synchrony and enhanced interpersonal coordination (Basso et al., 2021).

Contrastingly, the current results indicate the long-lasting effects of dancing to music because this study was conducted several months after a festival that involved dancing. Community festivals and ceremonies occur only a limited number of times (usually, once) a year. Although it does not clarify whether moving together to music can generate lasting social bonds, this study suggests that moving to music in a festival but only a limited number of times contributes to not only the enhancement of individual social bonds but also the ongoing maintenance of the community. Further, the results clarify that the inclusion of synchronous dancing in festivals is associated with a high sense of community. A large body of literature indicates that participation in festivals increases individuals' sense of community. Accordingly, festivals promote community awareness (Hassanli et al., 2021), building (Mair &

Duffy, 2020) and maintenance (Black, 2016) and enhances social sustainability. The current results, which are characterized by a high sense of community and low level of loneliness, are consistent with the aforementioned findings.

However, the results suggest that the sense of community and level of loneliness differ according to the festival type, that is, the presence or absence of group dancing. The prosocial behavior toward nonmembers of moving together (Reddish, Tong, Jong, Lanman, & Whitehouse, 2016; Tarr et al., 2015) can help enhance individuals' sense of community through dance in festivals. It can be presumed that dancing and moving together increased sociability not only for those who were present but also for everyone in the community, even though they were not dancing together, and strengthened their sense of community.

Further, this study indicated that dancing enables the formation and maintenance of social bonds even in large community groups. Weinstein, Launay, Pearce, Dunbar, & Stewart (2016) showed that, in choral singing, even large groups that are less familiar with each other generate social bonds during collective singing to the same extent as in intimate small groups. According to this finding (Weinstein et al., 2016), social bonds are generated even in festivals where large numbers of community members participate; perhaps, synchronous bonding can be appropriately extended to match the increase in group size, which makes dancing an effective method to connect with many people simultaneously.

4.2 Relationships among individuals' festival attendance habits, intention to attend festivals, and sense of community

The tendency for those who attend festivals with group dancing to have a higher sense of community and lower level of loneliness is unrelated to their past festival attendance habits. A possible interpretation of this result is that those who dance possess a higher sense of community than others. However, in this study, those with a high frequency of past (pre-COVID-19) festival participation and those with high intentions to participate in festivals did not possess a higher sense of community than those who danced in that year. In other words, even if individuals intend to attend a festival, their sense of community did not become high if they do not dance at the festival. Accordingly, it is important to move and share places and times to receive the benefits of festivals involving group dancing.

Interestingly, the effects of festival participation may not last years. The sense of community of those who participated in the festival every year before COVID-19 but did not participate thereafter was not higher than that of the ones who danced after the pandemic. In other words, the effects of dancing at festivals may fade after a few years. This study was conducted toward the end of the COVID-19 pandemic, at a time when the restrictions that had been in place for approximately 3 years were relaxed and festivals resumed. Therefore, even if people had been attending festivals and dancing before COVID-19, the effect of attendance on their sense of community and

loneliness would have diminished if they had been interrupted for some time. This means that the effect of festival participation can be considered to continue on a monthly, not yearly, basis. Consequently, one reason why some individuals continue participating in festivals involving is the ongoing enhancement of their sense of community.

4.3 Limitations and future research

This study did not specify the long-term effects of festivals lasting multiple years. Hence, further investigation into the effects of participation in festivals with dancing is necessary. In general, festivals are held once a year or every few years. Therefore, it is necessary to focus on the sustainability of maintaining or attenuating the effects of participation in festivals. In addition, a method for randomly selecting participants is necessary. By randomly assigning festival participants to different conditions, the festival's effects on communal awareness can be measured under controlled conditions.

To shed more light on the topic, international and cultural comparisons must be performed. In Japan, many different festivals are held; however, the form of festivals and attitudes of participants differ across cultures. It is necessary to examine the universality of the festivals' evolutionary functions, as well.

5 CONCLUSIONS

This study clarified that those who attended and danced with others at festivals involving dancing had a greater sense of community and lower loneliness than those who did not dance or those who attended festivals without dancing. These tendencies were unrelated to past participation habits or a high level of willingness to participate, indicating the importance of continuously participating in and dancing at festivals. Results provided new insights into the beneficial effects of the urge to move the body in tune with music, which is a universally observed behavior, and its social significance. The famous Japanese saying *Odoranya son* (It's a loss if you don't dance) indicates that dancing can foster social bonds and alleviate loneliness, which currently is a significant social problem (Toepoel, 2013). Since ancient times, local festivals have helped foster bonds between community members. This study can help reevaluate the roles of dance in festivals and shed light on the reasons for different human cultural practices.

For practical applications, this study highlights a simple solution to strengthen individuals' sense of community. By simply participating in local festivals involving dances, for example, the *bon dance*, individuals can increase their sense of belonging and social bonding. Sharing dance and music at festivals may help people experiencing verbal communication difficulties to socially bond with others, since dance, in general, requires no words. Furthermore, a quantitative view of social bonding can help reassess the social value of local festivals.

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