

# **Bodily Sensation in Dance: its Formation and Cultural Difference**

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Bodily sensation in dance was investigated by two experiments. In the first experiment, fourteen Japanese university students participated in the dance session once a week five weeks. In each session, they were exposed to the video which displayed each of three feeling values of dance movements (anger, sadness and pleasure), evaluating their emotional perceptions during their dance exercises. As the results, the strength and the variation of the emotional perceptions decreased until the third session, increased at the fourth session, and decreased at the fifth session, which suggests cognitive change in the bodily sensation through the dance exercise. The cognitive change was supported by the subjects' writings after each session. In the second experiment, thirty-two Japanese students (female) and fifteen Chinese students (eight males and seven females) participated in the dance session once, exercising each of eight feeling values of dance movements and evaluating their emotional perceptions while dancing. The results indicated that there are significant cultural differences between Japanese and Chinese for the dance movement of pleasure, sadness and solemnity. It is discussed that the bodily sensation in dance which is considered as culture-specific and learning-based is not the same as the visual perception of dance and facial expression of emotions.

**Key words:** *Bodily Sensation, Feeling Values of Dance Movements, Cultural Difference*

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## **Introduction**

Dance is an art of expressing feelings. A series of the studies on the feeling values of dance movements (Matsumoto & Kawaguchi, 1972; Matsumoto et al., 1973; Shiba & Kawaguchi, 1975) confirmed that the observers can perceive basic feelings for the seven basic dance movements; Dynamic-, Sharp-, Solemn-, Natural-, Lonely-, Flowing-, and Happy Movement. That is, skilled dancers can convey those feelings to everybody by dancing the counterpart of dance movements which are called "seven motives". This relationship is similar to that between the basic emotions and the basic facial expressions (Ekman & Friesen, 1975).

The visual perception of dance movements is considered to be learned and acquired through exercise of dancing, although there is innate mechanism underlying it. According to Matsumoto (1996) and Russel & Fernandez-Dols (1997), some facial expressions are universal, and some facial expressions are cultural-specific. The reliable relationship between visual perceptions and dance movements may be also

learned and strengthened in dance education. Therefore, the relationship is culture-specific in dance as well as in facial expression.

In the study on the feeling values of dance movements, the focus has been on the relationship between the visual perception and the dance movements, while not on the relationship between the dance movements and the bodily sensation, i.e., the emotional perception which the dancer experiences through dancing. However, in the dance lesson, allegedly, the bodily sensations are important. As to the process of dance learning, Hara et al. (2005) discussed as following,

In the process where the learner acquires a certain dance movement, elements of the movement is internalized and integrated. What the learner acquires in the process of such internalization and integration might be "the feeling values by bodily sensations".

On the bodily sensation in dance, no study has been done but by Shiba (2003) and her collaborators

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(Hara et al., 2005). Shiba (2003) compared skilled dancers and students for the bodily sensations of the seven motives and found that the dancers could discriminate some movements (Solemn Mv., Natural Mv., and Lonely Mv.) more accurately than the students. In Hara et al. (2005)'s experiment, after the dance exercise was repeated three times, the bodily sensation became richer and more various than before. This study aimed at investigating the followings,

- 1) the variation of bodily sensation in dance after more than three repetition of dance exercise in Experiment 1, and
- 2) the cultural difference between Japanese students and Chinese students in Experiment 2.

## Experiment 1

### Methods

#### Subjects

Fourteen Japanese University students participated in Experiment 1.

#### Stimuli

A skilled dancer danced three feeling values (anger, sadness, and pleasure) in front of the video camera. The three performances were recorded by VTR and exposed to the subjects as samples of dance movements.

#### Procedure

The fourteen students attended at the dance class once per week. In each week, three sessions were done for the dance movement of anger, sadness and pleasure. In each session, the performance a dance movement was displayed by the video and the students watched it, before they exercised the dance movement, evaluating their emotional feelings. In the evaluation, the students chose up to three emotional words from the lists including eighteen emotional words, and wrote the score (the intensity from 1 to 4) for each emotion chosen. The dance class continues five weeks. In the end of the dance class, the students wrote the change in dance and feeling during the five weeks.

### Results

The number of persons who perceived the feeling values of the three dance movements is indicated for each session in fig.4 to fig.5. The average numbers of bodily sensations for each session are plotted in fig.4.

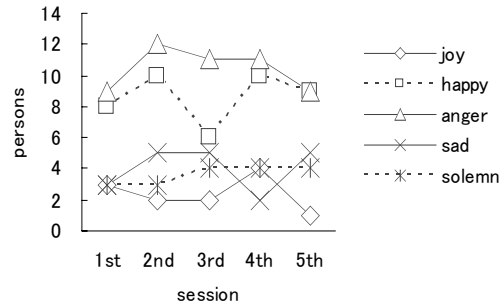


fig.1 bodily sensation of dance movement of anger

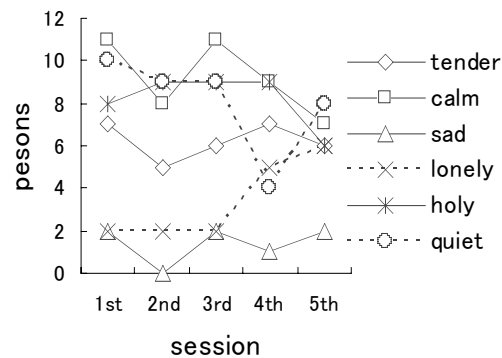


fig.2 bodily sensations of dance movement of sadness

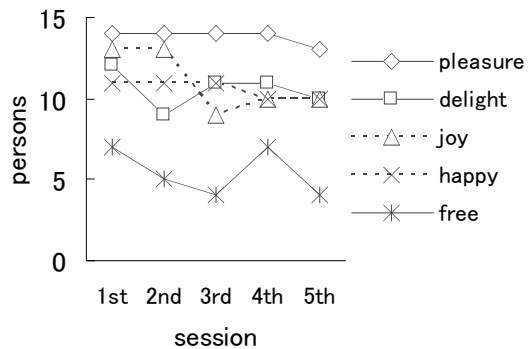


fig.3 bodily sensation of dance movement of pleasure

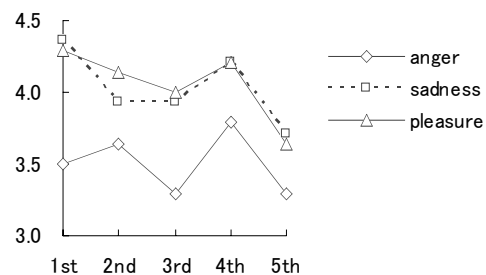


fig. 4 The number of bodily sensations

As is shown in fig.1-3, there are tendencies as following;

- 1) For each dance movement, the most popular bodily sensation (anger, calm, and pleasure for fig.1, fig.2, and fig.3, relatively) decreases in number of persons after three or four sessions.
- 2) For each dance movement, there is at least one bodily sensation which decreases until the third session, increases at the fourth session and decreases again at the fifth session. In this group are joy for “anger”, “tender” for “sadness”, and “free” for “pleasure”.

The variations are near the same in fig.4.

## Experiment 2

### Methods

#### Subjects

Thirty-two Japanese University students (female) and fifteen Chinese University students (eight males and seven females) participated in Experiment 2.

#### Stimuli

A skilled dancer danced eight feeling values (1.pleasant, 2.sad, 3.big, 4.violent, 5.tender, 6.solemn, 7.hard, 8.quiet) in front of the video camera. The eight performances were recorded by VTR and exposed to the subjects as samples of dance movements.

#### Procedure

The thirty-two Japanese students attended at the dance class once per week in Jyumonji University in Japan. The fifteen Chinese students attended at the experimental session held at Shanghai Chinese Medical University in China. Only one session was done for the eight dance movement. In each session, the performance a dance movement was displayed by the video and the students watched it, before they exercised the dance movement, evaluating their emotional feelings. In the evaluation, the students chose up to five emotional words from the lists including eighteen emotional words, and wrote the score (the intensity from 1 to 4) for each emotion chosen.

### Results

Data of all the subjects (forty-seven persons) were

put together into the procedure of factor analysis. Five factors whose eigen value was more than 1.0 were extracted by the factor analysis. For each factor, the factor scores were calculated and compared between the Japanese subjects and the Chinese subjects. As the results of t-test, significant difference was found between the Japanese subjects and the Chinese subjects more than one factor in six dance movements. The significant difference was found for more than three factors in the dance movement of sad, violent and solemn.

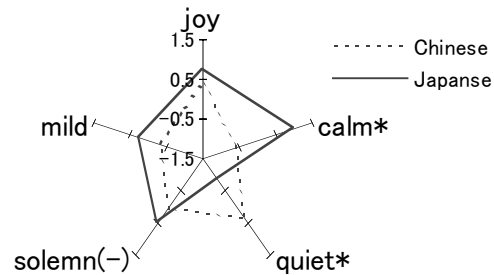


fig. 5 factor scores for dance movement1  
pleasure

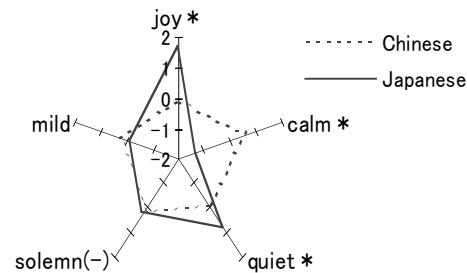


fig.6 factor scores for dance movement2  
sadness

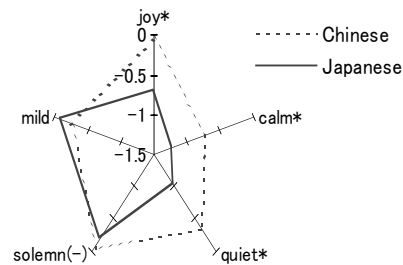


fig. 7 factor scores for dance movement 4.  
violent

(\*: significant difference between Chinese and Japanese,  $p < 0.05$ )

(-: inverted scale)

## Discussion

The results of Experiment 1 suggest that the repetition of the exercise causes a certain change in recognition. This suggestion is supported by the writing of the subjects after the class, describing the change in dancing as well as bodily sensation around the third sessions. The variation and the strength of bodily sensation decrease around the third session. This decrease in variation and strength is considered to correspondent with the integration and the internalization of bodily sensation as Hara et al. (2005) noted. If the subjects had been to observe the video, such decrease would not have occurred.

Moreover, the cultural differences were found between the Japanese- and the Chinese subjects. This suggests that the bodily sensation correspondent with the dance movement is culture-specific. When the video records of the subjects' exercise are analyzed, the cultural differences in dancing also will be found.

These findings support the hypothesis that the bodily sensation in dance is learnable, i.e., can be improved through training even for the feeling values of dance movement. The bodily sensation in dance which is considered as culture-specific and learning-based is not the same as the visual perception of dance and facial expression of emotions.

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