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Do People Increase Distance from the Opposite Sex after Tickling?

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Abstract:

The purpose of the study was to test the possibility that titillation activates the higher target concept of shyness by measuring actual behavior. Participants were randomly divided into two conditions: (1) tickling aroused condition, and (2) control condition with no procedure of tickling. After the tickling procedure, the experimental condition was instructed to set a chair in order to chat with a female during their first meeting. The control condition received no tickling procedure, but received the same instructions with regard to setting a chair. Results demonstrated that participants who were tickled kept more distance from a female than the participants who were not tickled. This study's results are consistent with previous studies that have demonstrated the concepts activation in a metaphor-consistent manner.

Keywords: Cutaneous sensations, embodied cognition, conceptual metaphor theory

1. Introduction

Previous studies have shown that cutaneous sensations have an impact on our cognitions and behaviors in the area of embodied cognition. For example, Williams and Bargh (2008) found that participants who held a warm cup had a warmer impression of others. In another experiment, Ackerman, Nocera, and Bargh (2010) found that when participants held a heavier clipboard with a resume, they rated the applicant as more important. Ackerman et al. (2010) also found that participants who sat on a hard chair showed increased rigidity in negotiations. These studies suggest that we associate physical experiences such as cutaneous sensations with abstract concepts and that we understand the social world through metaphor. Lakoff and Johnson (1980) explained that "the essence of metaphor is understanding and experiencing one kind of thing in terms of another". Furthermore, metaphor is not only a figure of speech but also an important part of the conceptual system used to understand abstract concepts. The theory of the conceptual metaphor, proposed by Lakoff and Johnson (1980), asserts that metaphors provide conceptual mappings between more concrete, embodied, and common "source concepts", and more abstract, disembodied, and less perceptual "target concepts" (Landau, Meier, & Keefer, 2010; Meier, Scholer, & Fincher-Kiefer, 2014). A large body of research in social psychology has found that the activation of source concepts or target concepts brought activation of other concepts (see Landau et al., 2010).

In the above two examples of Williams and Bargh (2008) and Ackerman et al. (2010), warmth, weight, and hardness are source concepts, and closeness, importance, and rigidity are target concepts. These associations are not arbitrary. They depend on the movement and workings of the body and its interaction to the physical environment we are surrounded by (Crawford, 2014). Moreover, scaffolding, which is defined as "referring to connections between mental structures (concepts, goals) that emerge from ontogenetic or phylogenetic processes" (Ackerman, Huang, & Bargh, 2012) influences conceptual mappings. Consequently, the foundation of conceptual metaphor is developed throughout our growth process. For example, infants are touched, carried, and given warmth through various physical contacts. They gradually comprehend that the people who give them warmth are not their enemies but their intimate sides. Association between warmth and closeness are structured in this way.

Although experiments dealing with physical sensations such as warmth, weight and texture have been carried out, how titillation influences our behavior remained in question. This study aimed to examine whether titillation activates the higher target concept of shyness by measuring actual behavior. Ticklish refers to not only the sensation of itching but also embarrassing or awkward in Japanese. Therefore, it was hypothesized that the participants who were tickled kept an increased distance from the opposite sex because of embarrassment or shyness in a metaphor-consistent manner.

2. Method

2.1. Ethics Statement

The experiment was approved by the Academic Committee of the School of Psychology at Koshien University. All participants provided written informed consent before participating in the experiment. At the end of the experiment, they were debriefed.

2.2. Participants

Twenty-six male university undergraduate students participated in the study ($M_{age}=20.96$, $SD=1.75$).

2.3. Materials

A visual analogue scale (VAS) of 10 centimeters was used in order to measure how ticklish participants felt and they were asked their current mood using a five point scale test (1: very bad ~ 5: very good). Tubular chairs were used as a dependent variable and the distance between the halfway points of two front legs of the chairs was measured.

2.4. Procedure

Participants were randomly divided into two conditions: (1) tickling aroused condition, and (2) control condition with no procedure of tickling. They entered into a room one by one. Participants who were in the experimental condition were tickled for ten seconds on their forearm with a writing brush by an experimenter and they marked how ticklish they felt on a VAS. After that, they indicated their current mood. Participants who were in the control condition were not tickled, but only indicated their mood. Thereafter, all participants participated in an ostensibly unrelated experiment. Both conditions received an explanation by an experimenter as follows. "From now on, you are supposed to have a chat with an unknown, undergraduate female student for two or three minutes. (An experimenter explains pointing their finger at the chair which was already set). The female is to sit there. I would like you to put a chair at the point that you feel is appropriate for chatting". Participants took a chair which was placed on the side of the room and moved it. After that, they were debriefed and left the room. An experimenter measured the distance between the two chairs.

3. Results

The mean values and standard deviations of a distance of the two chairs are presented in Table 1. A one-way ANOVA was conducted and a significant difference was found between the two conditions ($F(1,24)=5.14, p=.033, \eta^2=.18$). It was found that the participants in the experimental condition significantly set the chair farther away from the chair which was supposed to be sat on by a female than the participants in the control condition.

It was not found significant difference of the mood of the two conditions ($F(1,24) = .62, n.s.$). No significant correlations were found between how ticklish participants felt indicated on a VAS with the distance of the two chairs ($r = -.32, n.s.$).

	Experimental Condition (N=13)	Control Condition (N=13)
Mean	129.00(cm)	95.85(cm)
SD	43.75(cm)	29.44(cm)

Table 1: Mean values and standard deviations of the distance of the two chairs

4. Discussion

A result confirmed the hypothesis that the participants who were tickled maintained more of a distance from a female than the participants who were not tickled, and this is consistent with previous studies in that concepts are activated in a metaphor-consistent manner. It is assumed that titillation (source concept) brought activation to embarrassment (target concept) and embarrassment is displayed by behavior such as maintaining a distance from a female.

Moreover, a result that mood difference was not found in both conditions shows that it was not conscious negative feelings aroused by the stimulus of tickling that caused the farther distance between the chairs. In fact, it is thought that we associate source concepts with target concepts automatically and unconsciously (Zeng & Zhong-Yi, 2011; Núñez, Edwards, & Matos, 1999). More or less, we are constantly surrounded by physical sensations. For example, even when we are sitting in front of a computer and concentrating on our work, we are receiving signal from the chair comfort unconsciously. Therefore, it is not surprising that participants who were tickled unconsciously set the chair farther apart. Future studies using implicit association test (IAT) or fMRI are desirable.

5. Limitation

Titillation is a sensation that is mixed with positive and negative valence and it is deeply connected with intimate relationships (Yamaguchi, 2006). In this study, a male experimenter tickled male participants, who were not friends of the experimenter and he instructed them to chat with a female. Therefore, an important future direction is to test whether two important factors "intimacy" and "gender" may reveal different results.

6. References

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