



Contents lists available at ScienceDirect

# Journal of Experimental Child Psychology

journal homepage: [www.elsevier.com/locate/jecp](http://www.elsevier.com/locate/jecp)



## Development of spatial representation of power in children



Fen Tang<sup>a</sup>, Haomin Zhou<sup>b</sup>, Hao Zhang<sup>a</sup>, Lei Zhu<sup>a,\*</sup>

<sup>a</sup> Department of Psychology, Fudan University, Shanghai 200433, China

<sup>b</sup> Department of Psychology, New York University, New York, NY 10003, USA

### ARTICLE INFO

#### Article history:

Received 15 December 2017

Revised 31 March 2018

#### Keywords:

Children

Power

Space

Representation

### ABSTRACT

Systematic evidence demonstrates that power is mentally represented as vertical space by adults. However, little is known about the developmental progress of such representation. Using the explicit power evaluation task, this study investigated the development of the spatial representation of power. Participants were Chinese children (5–7 years old) and adults. The results revealed that vertical motor responses interfered with responding for all age groups; that is, they responded to words representing powerless groups faster with the down cursor key than with the up cursor key (and vice versa for powerful groups). More important, the size of the effect did not show much developmental change. The findings suggest that even children aged 5 years have developed a spatial representation of power once they understand the power concept.

© 2018 Published by Elsevier Inc.

### Introduction

An essential question that has received much attention within the domain of cognitive psychology is how abstract concepts are mentally represented. In the social domain, one of these abstract concepts is power. Systematic research over the last decade has demonstrated the representation of power as magnitude, specifically vertical space by adults (Chiao, 2010; Chiao et al., 2009; Giessner & Schubert, 2007; Jiang, Sun, & Zhu, 2015; Jiang & Zhu, 2015; Mason, Magee, & Fiske, 2014; Schubert, 2005; Zanolie et al., 2012). However, little is known about the developmental progress of such representation.

\* Corresponding author. Fax: +86 021 65643490.

E-mail address: [judy1981\\_81@hotmail.com](mailto:judy1981_81@hotmail.com) (L. Zhu).

### *Modal representations of power*

In psychological literature, power has been defined as the ability or capacity to influence others through the control of resources (Galinsky, Gruenfeld, & Magee, 2003; Keltner, Gruenfeld, & Anderson, 2003). When we talk about power in our daily lives, we often use vertical information in our language. For example, leaders who supervise their employees have a higher status or are higher up in the hierarchy, whereas the employees are at the lower levels of the hierarchy. Simply put, power is often metaphorically understood, presented, and communicated nonverbally as vertical height in physical space; “control is up, lack of control is down” (Lakoff, 1987; Lakoff & Johnson, 1980). Understanding the spatial representation of power is important because of its broad implications and use in communication in relationships ranging from the interpersonal to the societal. It concerns mate selection (Meier & Dionne, 2009) and leadership in organizations (Giessner & Schubert, 2007). For example, Meier and Dionne (2009) found that male individuals preferred female pictures that were presented near the bottom of the screen, whereas female individuals preferred male pictures that were presented near the top of the screen, presumably because powerful male and powerless female individuals are seen as desirable in the investigated cultural context.

The association of power with space can be understood within the grounded cognition framework (e.g., Barsalou, 1999; Barsalou, 2008; Glenberg, 1997), which argues that conceptual thinking involves perceptual simulation. Cognizing abstract concepts is assumed to reactivate previously stored information from sensory-motor experience to form a simulation of this sensory-motor experience. Applied to the concept of power, this framework leads to the prediction that concurrently presented, but irrelevant, spatial cues should modulate thinking about powerful and powerless targets and that effects typical for spatial magnitudes should be observable for power as well. Support for these predictions has been found in past research on adults (Chiao, 2010; Chiao et al., 2009; Giessner & Schubert, 2007; Jiang et al., 2015; Jiang & Zhu, 2015; Mason et al., 2014; Schubert, 2005; von Hecker, Klauer, & Sankaran, 2013; Zanolie et al., 2012).

For example, visually provided spatial information affects power judgments in the vertical dimensions. In one experiment, Schubert (2005) presented participants with a series of pairs of group labels (e.g., employer–employee, master–servant), one at the top of the screen and the other at the bottom, and asked them to judge which label was more powerful. Participants reacted faster when powerful group labels appeared at the top of the screen and powerless group labels appeared at the bottom. In the other experiment, single words referring to powerful or powerless groups were presented. Participants decided whether each word represented a powerful or powerless group. The stimulus position (at either the top or bottom of the screen) or response key (up or down cursor key) was manipulated. Interactions between stimulus position or response key and power were found; that is, participants responded faster to powerful groups when they appeared at the top of the screen and to powerless groups when they appeared at the bottom of the screen, and they responded faster to powerful groups with the up cursor key and to powerless groups with the down cursor key.

Subsequent work found that such interactions also appeared during tasks without explicit power evaluation. Jiang et al. (2015) tested whether power is processed incidentally, and affected by spatial cues, when unrelated semantic judgments are made. For this purpose, Jian et al. presented both words denoting people and words denoting animals (e.g., powerful animal: tiger; powerless animal: cat). The task was not an explicit power evaluation but rather a decision as to whether an animal label or a human label was presented. The spatial cue was again whether the response required an up or down cursor key press. Results showed that participants responded faster to words representing powerful groups with the up cursor key and to words representing powerless groups with the down cursor key, suggesting that semantic processing of power words automatically activates the up–down image schema related to power.

### *Development of the space–power association*

There are various theoretical accounts for how associations of sensory-motor content and abstract concepts develop. They vary mainly in two regards, namely in the role that language is assumed to play for the acquisition of the associations and regarding how much evolutionary preparedness is

Download English Version:

<https://daneshyari.com/en/article/7273828>

Download Persian Version:

<https://daneshyari.com/article/7273828>

[Daneshyari.com](https://daneshyari.com)