

Testing **SIMILARITY IS PROXIMITY** in realistic reasoning situations

Bodo Winter & Teenie Matlock
University of California, Merced

In both natural and human-made environments, similarity and proximity are highly correlated: Similar products tend to be in the same aisle of a supermarket. Similar books tend to be in the same section of a library. And similar people tend to be in the same district of a city. In Conceptual Metaphor Theory (Lakoff & Johnson, 1980; Lakoff, 1987), it is assumed that this environmental correlation of spatial proximity and conceptual similarity is internalized and provides mental structure for reasoning and language. The resulting metaphor **SIMILARITY IS PROXIMITY** is thought to motivate such linguistic expressions as “The new directors are **close** in terms of political views” or “*Marty and Glen’s views on religion could not be farther apart*”. In this study, we conducted a series of experiments testing the conceptual nature of this metaphor.

In Experiment 1, 368 participants read a text about two cities that had very similar or very dissimilar politics. We also modified the phonological similarity of the cities’ names, with half of the participants seeing similar sounding names (*Scaneplove* vs. *Swaneplam*), and half of the participants seeing dissimilar sounding names (*Scaneplove* vs. *Mouchdalt*). After reading the description, participants placed the two cities on a map. We found that similar semantics made participants place the cities about 1cm closer to each other, but similar phonological surface characteristics did not have the same effect. In Experiment 2, 403 participants read a text that described the personality of two people. When similarities were emphasized, the people were placed closer to each other in a room.

Experiments 3 (80 participants) and 4 (82 participants) were essentially the converse of Experiment 1 and 2. Instead of manipulating similarity and measuring a response in the spatial domain, here, we manipulated space and measured a response in the target domain. Participants looked at a spatial image of cities or people and subsequently provided a similarity judgment. We found that participants who saw two cities or two people closer to each other judged these to be more similar to each other.

To summarize, we demonstrate that describing people or cities as more similar to each other makes participants assume that they are more closer to each other. Conversely, depicting cities or people closer to each other makes participants assume that they are more similar to each other. Whereas previous experimental investigations of **SIMILARITY IS PROXIMITY** (Casasanto, 2008; Breaux & Feist, 2008; Pecher & Boot, 2010) asked participants to make judgments on isolated words or images, the current experiments use richer linguistic or image material and find similar effects. We believe that this more accurately reflects judgments outside lab-type situations, potentially highlighting the real-world significance of **SIMILARITY IS PROXIMITY** for everyday reasoning.

References

- Boot, I., & Pecher, D. (2010). Similarity is closeness: Metaphorical mapping in a conceptual task. *The Quarterly Journal of Experimental Psychology*, 63, 942–954.
- Breaux, B. O., & Feist, M. I. (2008). The color of similarity. In B.C. Love, K. McRae, & V.M. Sloutsky (Eds.), *Proceedings of the 30th Annual Conference of the Cognitive Science Society* (pp. 253–258). Austin, TX: Cognitive Science Conference.
- Casasanto, D. (2008). Similarity and proximity: When does close in space mean close in mind? *Memory and Cognition*, 36, 1047–1056.
- Lakoff, G. (1987). *Women, fire, and dangerous things: What categories reveal about the mind*. Chicago: University of Chicago Press.
- Lakoff, G., & Johnson, M. (1980). *Metaphors we live by*. Chicago: Chicago University Press.