

UC Merced

Proceedings of the Annual Meeting of the Cognitive Science Society

Title

Is it for all? Spatial abilities matter in processing gestures during the comprehension of spatial language

Permalink

<https://escholarship.org/uc/item/87c3d004>

Journal

Proceedings of the Annual Meeting of the Cognitive Science Society, 43(43)

ISSN

1069-7977

Authors

Özer, Demet
Ozyurek, Asli
Göksun, Tilbe

Publication Date

2021

Peer reviewed

Is it for all? Spatial abilities matter in processing gestures during the comprehension of spatial language

Demet Özer

Koç University, Istanbul, Turkey

Asli Ozyurek

Donders Institute , Nijmegen, Netherlands

Tilbe Gökşun

Koç University, Istanbul, Turkey

Abstract

Observing gestures facilitate listeners' comprehension, especially for visual-spatial information. However, people differ in how and to what extent they benefit from gestures depending on their visual-spatial abilities. This study examined whether and how spatial skills (i.e., mental rotation) relate to how much listeners benefit from observing gestures. We tested 51 Turkish-speaking adults' comprehension of spatial relations when the critical spatial information was provided in three different conditions: (1) only in speech (e.g., saying "right" without making any gesture), (2) both in speech and in gesture (saying "right" and gesturing to the right), and (3) only in gesture (saying "here" and gesturing to the right). We found that mental rotation scores were associated with increased accuracy only for speech + gesture ($z = 2.37$, $p = .02$) and the gesture-only conditions ($z = 2.13$, $p = .03$). These results suggest that visual-spatial cognitive resources might be important for gesture processing.