

Blind Speakers' Path Gestures Are More Precise Than Those of Sighted and Blindfolded Speakers

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Abstract

Co-speech gestures arise from an interaction between visuospatial experience and speech formulation. Congenitally blind speakers produce gestures, but less than sighted speakers when describing spatial events. This study explores whether visual experience influences gesture kinematics to better understand the cognitive processes underlying gesture production. We conducted an auditory task where all participants listened to sounds of motion events (e.g., someone walking from a door). We analyzed co-speech path gestures (depicting the trajectory of the motion) spontaneously produced by 20 blind, 21 blindfolded, and 21 sighted Turkish speakers. We compared the alignment of speakers' path gestures with the actual spatial trajectory of the motions, along with other kinematic features—duration, size, and speed. Blind speakers took longer to produce larger gestures than sighted speakers. Blind speakers' gestures also reflected better precision than those of non-blind speakers—aligning with spatial cognition research. Thus, altered spatial cognition shapes gestures during event description.