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Lack of visual experience influences silent gesture productions for concepts across semantic categories

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Abstract

The extent to which experience influences conceptual representations is a matter of ongoing debate. This pre-registered study tested whether lack of visual experience affects how concepts are mapped onto gestures. Theories claim gestures arise from sensorimotor simulations, reflecting gesturers' experience with objects. This raises the question of whether sensory experience influences gesture forms for concepts. Thirty congenitally blind and 30 sighted Turkish speakers produced silent gestures for individual concepts from three semantic categories that rely on motor or visual experience to different extents. Blind gesturers were less likely than sighted gesturers to produce a gesture for visual concepts, but this was not the case for motor concepts. Their gestures were also quantitatively different than sighted people's gestures, relying less on strategies depicting visual features—e.g., drawing. Thus, visual experience plays a key role in how concepts are depicted in gestures, in line with embodied theories of gesture and conceptual representation.