

Attention for Action: Attentional Modulation by the Hands

Holger Schultheis

Universität Bremen

Laura Carlson

University of Notre Dame

Richard Abrams

Washington University

Abstract: Actions by the hands may be represented with respect to a spatial reference frame that is centered on the hands, thereby organizing the surrounding space into regions and possibly influencing the allocation of attention to these regions. Indeed, it is more difficult to disengage visual attention from a visual search display when responses are made by hands that are grasping the display screen than by hands that are on the lap. In the current study we assess whether the attentional modulation is due to proximity to the screen or orientation of the hands. Specifically, we contrast conditions that dissociate proximity (hands near or far from the screen) and orientation (hands spanning the display with responses toward the stimuli, hands spanning the display with responses orthogonal to the stimuli, and hands near to but not spanning the display). The results indicate that both proximity and orientation influence the allocation of attention.