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Biological Motion Perception under Attentional Load

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Abstract

Biological motion perception is supported by a network of regions in the occipito-temporal areas, primarily in superior temporal sulcus (STS), and premotor cortex (PMC). How biological motion is processed outside the focus of attention and whether it is modulated by attentional load remain unknown. We investigated the bottom-up processing of biological motion under different levels of attentional load (high vs. low) with functional magnetic resonance imaging (N=13). In line with previous work, we found that fronto-parietal attention regions were significantly more activated when the attentional load was high than when it was low. Importantly, biological motion under low attentional load yielded activity in STS and PMC, whereas biological motion under high load was restricted only to the low-level motion sensitive areas. These results show that biological motion is processed outside the focus of attention and it is modulated by attentional load.