Visual Processing of Biological Motion in the Periphery under Attentional Load

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Abstract

Biological motion is a crucial stimulus with social and survival value that can be processed incidentally. However, no study has examined the factors that would affect bottom-up processing of biological motion in depth. In this study, we investigated the effect of perceptual load and eccentricity on biological motion perception. Human subjects performed a letter search task at the center while biological motion in the form of point-light displays was displayed as a distractor in the periphery. We manipulated the perceptual load at the center as well as the eccentricity of the distractor stimuli in the periphery. Our results show that when the perceptual load is low, people are distracted more by biological motion at near eccentricities, whereas when the load is high, the position of the distractor does not have any effect. In sum, these results suggest that bottom-up perception of biological motion is influenced by perceptual load and eccentricity.