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Journal

Proceedings of the Annual Meeting of the Cognitive Science Society, 47(0)

Authors

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Publication Date

2025

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Eyes on Her: A Pilot Eye-Tracking Study of the Attentional Advantage of Happy Female Faces

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Abstract

Our study investigated the emotion-based modulation in attentional mechanisms towards male and female emotional faces simultaneously in the extrafoveal vision. We presented pairs of female and male faces of the same emotions peripherally (≥5° from the fixation point) to a central letter discrimination task, to examine gender preference in attentional capture under conditions of mutual competition for processing resources. Eye movement measures were used to assess selective orienting and attentional engagement. Results revealed a strong attentional preference for happy and neutral female faces, indicating an inherent attentional advantage for female faces, particularly when expressing happiness. Happy female faces attracted significantly more initial fixations, supporting the hypothesis that positive emotions have a unique capacity to capture attention. Despite no significant differences in dwell time, female faces consistently received more fixations. These findings highlight the unique attention-capturing capacity of happy female faces and suggest that positive emotional expressions have a distinct role in guiding attentional processing.

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