

# The Role of Eye Movement Consistency in Aging-Related Decline in Face Recognition

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## Abstract

Face recognition is shown to involve a prolonged developmental process where one gradually develops a more consistent but idiosyncratic visual routine with increasing age. In contrast to this developmental trend, here we found that aging was associated with decreased eye movement consistency during face recognition, which in turn contributed to declined face recognition performance. Although aging was not associated with changes in eye movement pattern, a less eyes-focused eye movement pattern predicted poorer face recognition performance together with lower eye movement consistency and age in older adults, suggesting that the idiosyncratic eye movement patterns acquired during early adulthood continue to account for their face recognition performance. Their decreased eye movement consistency was associated with declines in selective attention and inhibition control, suggesting difficulties in the execution of the learned visual routines. These findings have important implications for ways to facilitate older adults' face recognition to promote healthy aging.