Facial Emotion Recognition and Eye Gaze in ADHD With and Without Comorbid Conduct Disorder

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Abstract

Objective
Conduct disorder (CD) is associated with impairments in facial emotion recognition. However, CD commonly co-occurs with attention deficit hyperactivity disorder (ADHD); thus, it is unclear whether these impairments are explained by ADHD or by one of its core features - inattention. We explored whether emotion recognition impairments are specific to those with ADHD and comorbid CD while also examining the mechanisms that might explain such deficits.

Method
Sixty-three male and female adolescents with ADHD (mean age = 14.2 years, age range = 11–18 years) and with (ADHD+CD) or without comorbid CD (ADHD), and 41 typically developing controls (HC; mean age = 15.5, age range = 11–18 years) performed an emotion recognition task with concurrent eye-tracking.

Results
Participants with ADHD+CD were less accurate at recognising fear and neutral faces, and more likely to confuse fear with anger than ADHD alone and HC. Both ADHD subgroups fixated the eye region less than HC. Although there was a negative correlation between ADHD symptom severity and eye fixation duration, only CD severity was inversely related to emotion recognition accuracy.

Conclusion
Only ADHD participants with comorbid CD showed impairments in emotion recognition, suggesting that these deficits are specific to individuals with conduct problems. However, lack of attention to the eye region of faces appears to be a characteristic of ADHD. These findings suggest that emotion recognition impairments in those with ADHD+CD are related to misinterpretation rather than poor attention, offering interesting opportunities for intervention.