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Are traits of ADHD associated with self-reported social cognition in an adult community sample?

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Objective and methods

Adults with ADHD are often impaired in their social relationships, but studies on social cognition are lacking. This study explores whether traits of ADHD in a community sample of adults are associated with self-reported social cognition.

Community sample (n = 685, 270 males, 415 females)

Mean age: 33 years (range 16-84 years)

Online survey: self-report questionnaires on traits of empathy (Empathy Quotient¹), systemizing (Systemizing Quotient²) and ADHD (ADHD Rating Scale (ARS)³; adulthood and retrospective childhood version)

EQ: Cognitive empathy (CE)



EQ: Emotional empathy (EE)



EQ: Social skills (SS)



SQ: Systemizing



SQ - EQ: Brain type (D)



ARS: ADHD symptoms



Categorical approach

Selected participants with DSM-5 screening diagnosis of ADHD on ARS (adulthood: ≥ 5 clinical symptoms & childhood: ≥ 6 clinical symptoms) = "ADHD". ANOVA ("ADHD"*sex) group comparison with matched controls from the community sample.

| | "ADHD" (n=56) M(SD) | Controls (n=56) M(SD) | Main effect "ADHD" | Cohen's d |
|----------|------------------------|--------------------------|-----------------------|-----------|
| total EQ | 26.7 (9.6) | 30.9 (10.5) | p=.013* | -0.42 |
| CE | 11.0 (5.6) | 12.3 (5.0) | p=.128 | -0.26 |
| EE | 11.1 (4.7) | 13.2 (5.2) | p=.006** | -0.42 |
| SS | 5.9 (2.8) | 6.9 (2.5) | p=.073 | -0.38 |
| SQ | 59.5 (20.0) | 53.7 (17.4) | p=.066 | 0.31 |
| D | 0.074 (0.121) | 0.017 (0.121) | p=.004** | 0.47 |

No significant interactions of "ADHD"*sex were found.

Dimensional approach

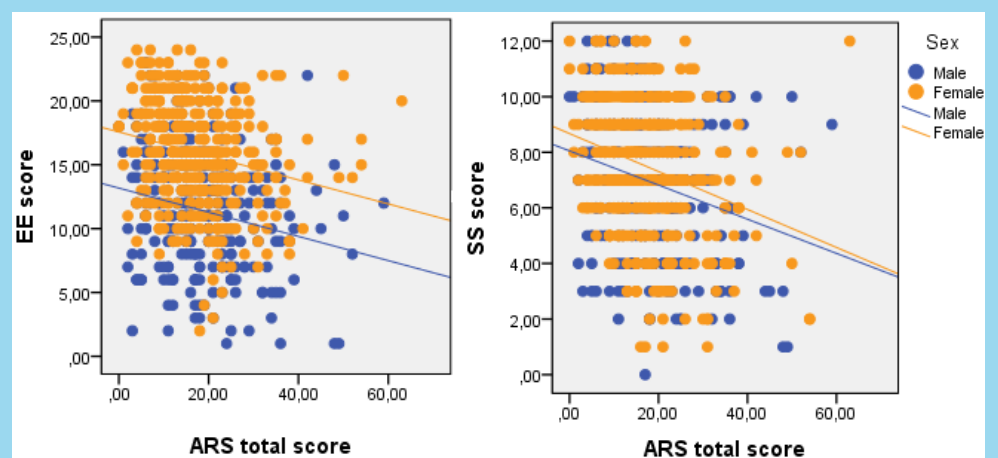
Whole-sample (n = 685) multiple linear regression analysis:
CE + EE + SS + SQ + D -> ARS (adulthood total score)?

Significant models:

Across sexes: SS + EE -> ARS ($R^2 = 0.085$; $p < .001$)

Males: SS -> ARS ($R^2 = 0.06$; $p < .001$)

Females: SS + EE -> ARS ($R^2 = 0.091$; $p < .001$)



Conclusions

Both approaches point to reduced emotional empathy in relation to traits of ADHD. Participants with a screening diagnosis of ADHD are characterized by a "male pattern" of self-reported social cognition.

In the community sample ADHD traits link to capability in social skills.

Future clinical ADHD studies should focus on possible impairments in empathy; sex differences should be taken into account.

References

- ¹Lawrence, E. J., et al. (2004). Psychological Medicine, 34(5), 911-919.
- ²Wheelwright, S., et al. (2006). Brain Research, 1079(1), 47-56.
- ³Kooij, J. J. S., et al. (2005). Psychological Medicine, 35(6), 817-827.