Supplementary Materials

Following the preregistered analysis plan, parental ratings were used in the main analysis. To examine the generalizability of these findings, we repeated the analysis with teacher ratings as dependent variables. Teacher and parent may differ in their judgement about child symptoms for several reasons. For example, teachers typically see children in one setting only (i.e. in the classroom), and stimulant medication such as methylphenidate typically has its strongest effect during school days, if taken in the morning.

As described under *Participants*, teacher ratings were missing for 22.5% of the sample. Teacher ratings were incorporated in the analyses in two ways. First, the analyses were repeated with teacher ratings as predictor variables in the subgroup for which teacher ratings were available (*n* = 54; 19 with ADHD). As can be seen in table S1, no significant main, or interaction effects of the studied symptom domains emerged in these analyses. In an exploratory approach, we examined the link between pupil dilation to happy faces and teacher ratings of hyperactive/impulsive symptoms. This relation was not significant [χ2 = 1.05, *p* .305, *b* = 0.12, *SE* = 0.11]. As can be seen, the effect was in the same direction as in the analysis of parent rated symptoms, although the effect was considerably smaller.

Secondly, the analyses were repeated using mean ratings of parent and teacher ratings in cases where both sources were available (*n* = 54; 19 with ADHD), and parent ratings in the remaining cases (*n =* 16, 7 with ADHD). As can be seen in table S2, all significant effects of the main analyses remained

**Table S1. Results of mixed effects models with teacher ratings as predictors**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Effects of teacher rated symptoms (based on *n = 54; 19 with ADHD*) | | | | |
|  | ***Χ2*** | ***P*** | ***b*** | ***SE*** |
| **MAIN EFFECTS** |  |  |  |  |
| Hyperactive/impulsive | 0.04 | 0.840 | 0.01 | 0.05 |
| Inattentive | 0.07 | 0.790 | -0.01 | 0.04 |
| ODD | 0.39 | 0.530 | -0.04 | 0.06 |
| CD | 1.33 | 0.250 | 0.05 | 0.04 |
| SEX | 0.44 | 0.506 | 0.04 | 0.06 |
| **INTERACTION EFFECTS** |  |  |  |  |
| Hyperacitve/impulsive x Emotion | 4.49 | 0.214 | -0.05 | 0.07 |
| Inattentive x Emotion | 1.10 | 0.777 | -0.03 | 0.07 |
| CD x Emotion | 5.17 | 0.159 | -0.11 | 0.07 |
| ODD x Emotion | 6.57 | 0.087 | -0.09 | 0.07 |

**ODD = Oppositional Defiant Disorder; CD = Conduct Disorder**

**Table S2. Results of mixed effects models with average of teacher and parent ratings as predictors.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Relation between pupil dilation and mean of parent and teacher rated symptoms (based on *n = 71; 26 with ADHD*) | | | | |
|  | ***Χ2*** | ***P*** | ***b*** | ***SE*** |
| **MAIN EFFECTS** |  |  |  |  |
| Hyperactive/impulsive | 0.00 | 0.948 | 0.00 | 0.04 |
| Inattentive | 0.02 | 0.876 | -0.01 | 0.04 |
| ODD | 0.00 | 0.988 | -0.00 | 0.04 |
| CD | 0.26 | 0.612 | 0.02 | 0.04 |
| CU | 1.99 | 0.159 | 0.03 | 0.02 |
| SEX | 0.17 | 0.682 | 0.02 | 0.05 |
| **INTERACTION EFFECTS** |  |  |  |  |
| Hyperacitve/impulsive x Emotion | **7.95** | **0.047\*** | **0.00** | **0.06** |
| Inattentive x Emotion | 0.17 | 0.982 | -0.01 | 0.06 |
| CU x Emotion | 1.82 | 0.610 | -0.01 | 0.06 |
| CD x Emotion | 5.81 | 0.121 | -0.13 | 0.06 |
| ODD x Emotion | 5.51 | 0.138 | -0.08 | 0.06 |
| **EMOTION SPECIFIC EFFECTS**  **(Bonferroni corrected)** |  |  |  |  |
| **HAPPY** |  |  |  |  |
| Hyperactive/impulsive | **8.31** | **0.016\*** | **0.26** | **0.09** |
| **ANGRY** |  |  |  |  |
| Hyperactive/impulsive | 2.87 | 0.36 | -0.14 | 0.08 |
| **FEAR** |  |  |  |  |
| Hyperactive/impulsive | 0.36 | >.5 | 0.05 | 0.09 |
| **NEUTRAL** |  |  |  |  |
| Hyperactive/impulsive | 0.46 | >.5 | -0.05 | 0.08 |

**\* *P <*.05; ODD = Oppositional Defiant Disorder; CD = Conduct Disorder; CU = Callous/unemotional**

**Table S3. Interaction effects between group and symptom measures (parent ratings)**

|  |  |  |
| --- | --- | --- |
|  | | |
| **Effect** | ***χ2*** | ***p*** |
| **Two-way interaction (Group x Emotion)** | | |
| Group \* Emotion | 2.76 | 0.599 |
| **Two-way interactions (Group x Symptom)** | | |
| Group \* Hyperactive/impulsive | 0.03 | 0.859 |
| Group \* Inattentive | 0.00 | 0.969 |
| Group \* ODD | 0.98 | 0.613 |
| Group \* CD | 0.04 | 0.847 |
| Group \* CU | 0.12 | 0.733 |
| Group \* SEX | 0.06 | 0.804 |
| **Three-way interactions (Group x Symptom \* Emotion)** | | |
| Emotion\* Group \* Hyperactive/impulsive | 5.72 | 0.126 |
| Emotion\* Group \* Inattentive | 3.98 | 0.264 |
| Emotion\* Group \* CU | 4.01 | 0.261 |
| **Emotion\* Group \* CD** | **11.34** | **0.010\*** |
| Emotion\* Group \* ODD | 0.93 | 0.819 |
| **Follow-up tests by group and condition for CD symptoms (Bonferroni corrected)** | | |
| **Emotion: Angry. Group: ADHD** |  |  |
| CD | 0.12 | >.50 |
| **Emotion: Happy. Group: ADHD** |  |  |
| CD | 0.54 | >.50 |
| **Emotion: Fear. Group: ADHD** |  |  |
| CD | 1.10 | >.50 |
| **Emotion: Neutral. Group: ADHD** |  |  |
| CD | 0.03 | >.50 |
| **Emotion: Angry. Group: Typically developing** |  |  |
| CD | 0.45 | >.50 |
| **Emotion: Happy. Group: Typically developing** |  |  |
| CD | 1.05 | >.50 |
| **Emotion: Fear. Group: Typically developing** |  |  |
| CD | 2.07 | >.50 |
| **Emotion: Neutral. Group: Typically developing** |  |  |
| CD | 4.19 | 0.165 |