The associations of oppositional defiant behaviour in children with Attention Deficit Hyperactivity Disorder, combined type (ADHD-CT)

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Introduction
The specific relationships between oppositional defiant disorder (ODD), ADHD-CT, dysthymic disorder (DD) and anxiety disorders symptoms have not been studied in children with ADHD-CT. In this study, how well ADHD-CT, DD and anxiety disorders symptoms predict ODD symptoms is examined in a clinical sample of primary school age children with ADHD-CT. We hypothesise that ADHD-CT and DD symptom dimensions will predict ODD symptoms, while those of anxiety disorders will not.
Method
200 children, 6-12 years, identified with ADHD-CT defined by
(1)-parental structured clinical interview;
(2)-parent and/or teacher dimensional report subscale scores -core symptom domains of ADHD-CT- greater than 1.5 standard deviations above the mean for a given child’s age and gender

ODD defined by
(1)

Dysthymic disorder and Anxiety disorders defined by
(1)
(2)

Generalised anxiety disorder, separation anxiety disorder, social phobia and specific phobia formed anxiety disorders group because –four most common types and -all arose ‘true “neurotic” anxiety’ (March et al., 2000) with common antecedent risk factors.
Children - all medication naïve, consecutively referred for assessment because they were not responding to usual clinical psychological management approaches delivered at a community primary care level; met the inclusion criteria of living in a family home and attending normal primary schools. All IQs > 70; none had overt neurological disease, psychotic symptoms, conduct disorder or major depressive disorder.

Subject characteristics
Age (months) - 106.16 (28.34) (range 72-151 months)
Gender (M, F) - 170, 30;
ACRS (parent) - 22.20 (5.24)
CBCL anxiety/depression subscale (parent T score) - 71.34 (10.10) - DD group; 68.21 (11.31) - Anxiety disorders group;
CDS total depression subscale (decile) - 8.19 (1.83) - DD group;
RCMAS total anxiety subscale (T score) - 53.98 (11.88) - Anxiety disorders group;
Verbal IQ - 95.46 (14.44), Performance IQ – 99.88 (13.67), Fullscale IQ – 97.19 (13.29);
Social adversity scale – 7.71 (1.82) (range 4-13);
ODD N(%) - 150 (75);
DD N(%) - 60 (30);
anxiety disorders N(%) - 82 (41)
### Results

<table>
<thead>
<tr>
<th>Variables</th>
<th>ODD</th>
<th>ADHD-CT</th>
<th>DD</th>
<th>ADs</th>
<th>B</th>
<th>β</th>
<th>sr2</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADHD-CT</td>
<td>.60</td>
<td></td>
<td></td>
<td></td>
<td>.782***</td>
<td>0.45</td>
<td>.15</td>
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<tr>
<td>DD</td>
<td>.55</td>
<td>.48</td>
<td></td>
<td></td>
<td>1.084***</td>
<td>0.35</td>
<td>.08</td>
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<tr>
<td>ADs</td>
<td>.27</td>
<td>.34</td>
<td>.44</td>
<td></td>
<td>-0.110</td>
<td>-0.04</td>
<td></td>
</tr>
</tbody>
</table>

*p < .0005 ***

*unique variability = .23

*shared variability = .21

- R2 = .45
- Adjusted R2 = .44

*B = unstandardised regression coefficient; β = standardised regression coefficient; sr2 = semipartial correlations; R2 = coefficient of determination

### Discussion

Independent contribution of ADHD-CT and lack of contribution anxiety disorder symptoms – expected

**Important new finding is the significant independent contribution of dysthymic disorder symptoms to oppositional defiant patterns of behaviour**

(1) dysthymic disorder is important to recognise in primary school age children with ADHD-CT

(2) the nature of the above associations needs to be systematically studied both within & across developmental periods: for example, pre- and post-adrenarche and pubarche