A Systematic Review of Central Coherence in Young People with Anorexia Nervosa

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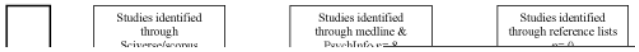
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Study Characteristics

A summary of all study characteristics can be found in Table 1. Five of these studies employed an AN and HC group. However two studies did not include HC groups [22,24]. All participants in the AN groups met the DSM-IV criteria for Anorexia Nervosa, with the exception of [25] whose sample also included Bulimia Nervosa and Eating Disorders Not Otherwise SpeciẐed.

Author/ date	Group	N	Age (years)	Age range (years)	BMI	IQ
Tenconi et al., (2010)	AN	60	26.2 (6.9)	14-47	16.2 (1.5)	N.R
	HC	120	27.4 (4.5)	N.R	21.8 (3.0)	N.R
Andres-Perpina et al., (2011)	AN	37	15.4 (1.5)	N.R	Below 17.5	N.R
	HC	41	15.4 (1.5)	N.R	NR	N.R
Rose et al., (2011)	AN	9	14.9 (1.39)	12.4-16.08	16.41 (1.38)	N.R
Allen et al., (2012)	AN	58	17.5 (0.26)	15-18	24.78 (8.10)*	N.R
	HC	542	16.98 (0.24)	N.R	22.55 (5.09)	N.R
Frampton et al., (2012)	AN	15	19 (1.95)	9.7-21.2	88.13 % w4h (12.19)	113.27 (10.15)
	HC	15	18.3 (2.20)	13.11-21.7	106.39 % w4h (9.79)	114.37 (13.80)
Stedal et al., (2012)	AN	114	17.1 (3.2)	9.5-27.1	16.3 (2.0)	N.R
	HC	66	N.R	N.R		N.R
Dahlgren et al., (2013)	AN	20	15.9 (1.6)	13-18	16.81 (1.63)	N.R N.R

Notes: N=Number of participants, BMI=Body mass index (BMI; Kg/M2), N.R=Not reported

*This sample is inclusive of AN, BN and EDNOS participants** This study is separated into two cohorts in the meta-analysis based on brain function

Groton Maze Learning task (sub-test of the Cogstate Computerised test battery[17]).

One study (Allen et al.,) used the GMLT to assess global processing and found worse performance in the ED group compared to the HC group (p=<0.05).

The ROCFT: Comparison with the adult Anorexia Nervosa literature.

Figure 3 compares the CCI means from the child and adolescent AN literature with that of the adult AN literature.

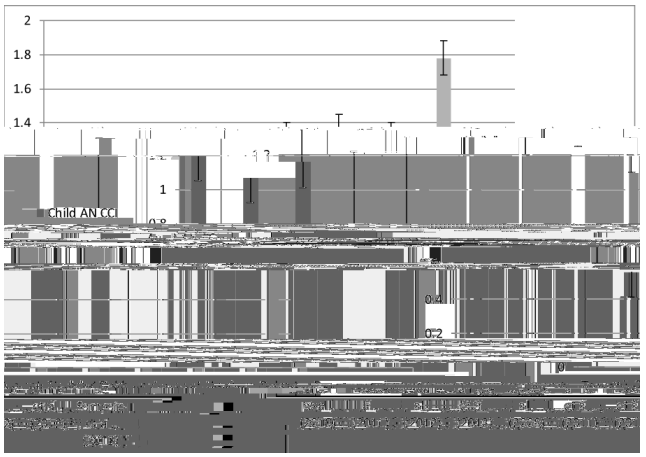

Figure 3: Mean (standard errors) CCI scores of child and adolescent AN studies and adult AN studies.

This visual comparison suggests that children and with AN are performing in a similar way to adults with AN with regards to the CCI, and demonstrating inefficient global processing on this task.

Discussion

This study aimed to systematically review the available literature assessing central coherence abilities in children and adolescents with anorexia nervosa. The review found a number of studies utilising neuropsychological measures of central coherence with children and adolescents with AN. A meta-analysis was not possible due to the large variation in tasks used between the studies.

The most popular neuropsychological measure was the ROCFT, with 'six' studies utilising it. There was some variation in the administration and scoring methods for this task, with four studies using Booth's [14], method to obtain a CCI. Overall the findings from these studies suggested that children and adolescents with AN had a lower CCI score, therefore indicating a less globally-orientated processing style then the HC groups. Several studies used the ROCFT delayed recall accuracy scores to assess central coherence. Overall these studies did not find any differences

adolescents with AN, however it also found a number of methodological constraints that made interpretation diXcult. HXe available data hints that children and adolescents with AN may show ineXcient global processing, however it is clear that this is an important area in need of further research, employing robust methodology, in order to conZrm