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Inflated Responsibility and Perfectionism in Child and Adolescent Anorexia

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Abstract

Objective: The aim of the pilot study was to investigate the cognitive biases of inflated responsibility (IR) and perfectionism in children and adolescents with a diagnosis of Anorexia Nervosa (AN). An additional aim was to provide a preliminary investigation into whether there is an interaction effect with AN severity, measured by BMI.

Method: A cross-sectional multi-site pilot study using standardised questionnaires was conducted and 30 young people diagnosed with AN participated.

Results: Children and adolescents with AN reported significantly higher levels of IR and perfectionism, compared to published normative non-clinical data. Self-orientated perfectionism was associated with frequency of IR thoughts. There was also a significant interaction effect: young people who had a higher frequency of IR thoughts and self-orientated perfectionism had lower BMIs.

Discussion: Further independent replication of these results is needed. IR and perfectionism should be considered in the assessment and treatment of child and adolescent AN, both in individual and systemic interventions. This research also adds to the growing body of literature examining cognitive biases of OCD in an AN population, which may offer some insight into the overlap between the two disorders.

Keywords: Anorexia Nervosa, Perfectionism, Inflated Responsibility, Obsessive-compulsive, cognitive bias.

Introduction

Cognitive models of AN (Schmidt, Wade & Treasure, 2014; Vitousek & Holland, 1990) suggest that cognitive biases play an important role in the disorder. Such biases have received more attention in the adult AN literature (e.g. Lavender, Schubert, de Silva & Treasure, 2011) than in relation to children and adolescents. In this paper we focus on two potential cognitive biases in young people with AN: perfectionism and inflated responsibility (IR).

Clinical perfectionism can be understood as the overevaluation of striving and achievement related to eating, weight and shape goals despite negative consequences (Egan, Wade & Shafran, 2011; Shafran, 2003). This understanding of clinical perfectionism stems from the opus of research examining cognitive biases in eating disorders and is a well established construct in the adult AN literature (Egan, et al., 2011).

Perfectionism has been defined as ‘socially-prescribed’ and ‘self-orientated’. The former locates the locus of overevaluation of achievement in a child’s system, e.g. parents, teachers and friends, while the latter locates it within the child themselves. The literature examining perfectionism in young people with eating disorders is mixed: some studies have found a positive correlation between AN and perfectionism (Castro, Gila, Gual, Lahortiga, Saura & Toro, 2004; Cassidy, Allsopp & Williams, 1999), whilst one study found no significant association (Serpell, Hirani, Willoughby, Neiderman & Lask, 2006). Therefore, this pilot study aimed to replicate the investigation of perfectionism in young people with AN in order to examine this discrepancy.

IR is defined as an individual’s conviction that they have the power to bring about or prevent negative outcomes that are personally relevant, combined with a level of responsibility that is pervasive and extreme (Salkovskis, Shafran, Rachman & Freeman, 1999). IR is associated with obsessive-compulsive symptoms in children and adults (e.g. Reynolds & Reeves, 2008; Obsessive Compulsive Cognitions Working Group (OCCWG) 1997, 2003). Given the relatively high prevalence of obsessive-compulsive symptoms in people with AN, it has been hypothesised that IR may be a cognitive bias that is common to both (e.g. Lavender et al., 2011; Shafran, 2003). Consistently, Lavender et al. (2011) have reported the presence of IR in adults with AN.

To date, IR has not been examined in children and young people with AN, though given the above it seems plausible to hypothesise that it will be found in this group. Clinical experience shows that some young people with AN report fearing that if they eat, they will put on weight, which they believe will result in harmful consequences. This fear may be consistent with the IR hypothesis: being responsible for eating is akin to being responsible for causing harm to self.

If an individual both endorses the overevaluation of achievement through controlling weight, shape and eating goals (perfectionism) and they believe that eating makes them responsible for causing harm to themselves (IR), it may be that this ‘double bind’ of dysfunctional thinking worsens their psychopathology by increasing both their distress and their use of safety behaviours. The main aims of the current pilot study were to conduct an initial test of the hypotheses that (1) IR is elevated in AN adolescents compared to non-clinical norms, and (2) IR and perfectionism interact to predict AN severity.

Method

Design

This pilot study used a cross-sectional, multi-site, questionnaire design, and was approved by a UK National Health Service ethics committee.

Participants

Thirty-seven, female, 11 to 18 year olds, who were attending either a UK national or a county wide specialist eating disorder service as outpatients, provided written informed consent, as did their parents. All had been diagnosed with DSM-IV Anorexia Nervosa (AN). None had an acquired or traumatic brain injury or a diagnosis of a pervasive developmental disorder. Seven young people withdrew from the study leaving 30 in the final sample and there were no significant differences in demographics between completers and non-completers. The resulting sample had a mean age of 14.87 years ($SD = 1.63$); an ethnicity distribution of 27 ‘White British’, 2 ‘Asian/Asian British’ and 1 ‘White American’.

Measures

The frequency of and belief in IR cognitions were measured by the Child Responsibility Interpretations Questionnaire (CRIQ), which has good concurrent validity and high internal consistency (Salkovskis & Williams, 2004); for the current sample Cronbach’s $\alpha > 0.92$. Self-orientated perfectionism (SOP) and socially-prescribed perfectionism (SPP) were measured using the Child and Adolescent Perfectionism Scale (CAPS; Flett, Hewitt, Boucher, Davidson, & Munro 2000), which has adequate concurrent validity and test-retest reliability (Castro et al., 2004), and sufficient internal consistency in the current sample ($\alpha = 0.70$ and 0.85 for SOP and SPP respectively). Eating disorder severity was measured objectively by Body Mass Index (BMI) and more subjectively using the self-report adolescent version of the Eating Disorder Examination-Questionnaire, version 6.0 (EDE-Q 6.0; Fairburn & Beglin, 2008), which was routinely collected by the services.

Statistical Analyses

The assumptions of the statistical tests were met. One sample t-tests compared the sample to published norms, Pearson’s correlations examined bivariate relationships, and stepwise multiple regressions tested whether SOP x IR and SPP x IR interactions were predictive of ED severity.

Results

The mean BMI was 16.44 (SD = 2.45) and mean Global EDE-Q score was 4.58 (SD=1.22). This provided some breadth of reported severity, enabling correlations with severity to be meaningfully explored. Table 1 illustrates that, as predicted, the participants showed significantly higher levels of belief in and frequency of IR cognitions than the non-clinical adolescent normative sample. This is comparable to Lavender et al.'s (2011) research reporting that adults with eating disorders endorsed significantly higher levels of IR compared to adults with anxiety and no AN. Similarly for perfectionism, the clinical adolescent sample reported significantly elevated SOP and SPP scores compared to a non-clinical adolescent normative sample, which is consistent with the adult literature (Egan et al., 2011).

---Table 1, about here please. ---

When considered individually, IR frequency and IR belief were not significantly correlated with either BMI (freq.: $r = -0.07$, $p = 0.71$; belief: $r = -0.11$, $p = 0.56$) or EDE-Q (freq.: $r = 0.14$, $p = 0.48$; belief: $r = 0.15$, $p = 0.43$). SOP and SPP were not significantly correlated with BMI (SOP: $r = 0.00$, $p = 0.99$; SPP: $r = 0.08$, $p = 0.66$).

However, IR did interact with perfectionism to significantly predict severity. Specifically, when stepwise multiple regression was conducted with IR frequency and SOP entered into the first step, and an IR frequency X SOP interaction term entered into the second step, this interaction term was a significant predictor of BMI, with a combination of higher IR frequency and higher SOP predicting lower BMI ($\beta = -4.02$, $p < 0.05$) and an overall model fit of $F(1,30) = 14$, $p < 0.05$). Interestingly, IR X perfectionism was not a significant predictor of EDE-Q score.

Discussion

This **pilot** offers the first empirical finding to support the hypothesis that IR is present in young people with AN, which is consistent with the existing literature showing elevated levels of IR in adults with AN (Lavender et al., 2011). This study has also found that young people with AN and AN/EDNOS endorse clinically elevated levels of self-orientated perfectionism (SOP) and socially prescribed perfectionism (SPP).

This study is also the first to provide, albeit preliminary, evidence of an interaction between IR and perfectionism in young people with AN. Specifically, adolescents with higher levels of IR frequency and self-orientated perfectionism had lower BMIs.

No interaction effect was found between EDE-Q scores and either IR or perfectionism, which could be attributable to the fact that only total scores were available. The EDE-Q questionnaires were scored in routine clinical practice and it was not deemed ethical to ask the participants to complete them again. The lack of findings may be due to the inability to

explore the relationships between the cognitive biases and the cognitive subscales of the EDE-Q.

The cross sectional and pilot nature of the design prevents causal conclusions from being drawn. Given the above-mentioned co-morbidity between OCD and AN and the presence of IR in OCD (Reynolds & Reeves, 2008), it is possible that elevated levels of IR found in our AN sample may have been only due to IR being present in OCD rather than common to both OCD and AN but it was not possible to measure OCD in this study. Further limitations include the use of absolute BMI rather than BMI percentile or weight for height percentile, previously collected Global EDE-Q scores and up to four weeks delay between the EDE-Q and CRIQ/CAPS collection points.

We would argue that these pilot data are of value, in part because they break new ground, as detailed above, and also because they could support the investment of more significant resource into a study that examines the theoretical role and interaction between these cognitive biases. Future studies could consider the effect of malnutrition on IR and recruit larger samples of people (i) with both AN and OCD, (ii) with AN alone, (iii) with OCD alone, and (iv) with neither AN or OCD while utilising the EDE and measures of depression and OCD.

The preliminary findings observed here need to be replicated, in order to support the following clinical hypothesis of IR.: individuals misappraise their responsibility for the act of eating as an act of causing harm to self; similarly, the act of not eating is a means of preventing harm to self. Inflated responsibility distress can be managed by transferring the responsibility onto someone else, so that person becomes 'responsible' for harm (Salkovskis et al., 1999). When a young person enters an inpatient ED unit, the safety behaviour of restricting may be replaced by the safety behaviour of transferring the responsibility of eating onto carers. This could be why young people continue to have disordered eating post-treatment, if they have not been 'handed back' the responsibility for eating and so do not learn to manage the inflated responsibility distress.

The multi-factorial heterogeneity of AN is well understood. The interacting roles of cognitive biases proposed in this pilot may offer additional evidence for the importance of identifying and treating cognitive distortions in the precipitation and maintenance of AN and its co-morbidity.

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TABLES

Table 1. Comparisons between the sample and the published non-clinical adolescent norms (Salkovskis & Williams, 2004; Castro et al., 2004).

Measure	Sample Mean (SD)	Norms Mean (SD)	t	95% C.I. of the difference	Cohen's d
IR Freq.	22.87 (13.10)	17.40 (NR)	2.29*	(0.58, 10.36)	0.42
IR Belief	608.40 (352.45)	451.70 (NR)	2.43*	(25.09, 288.31)	0.45
SOP	49.77 (7.96)	34.6(NR)	10.43**	(12.19, 18.14)	1.91
SPP	29.70 (9.39)	25.90 (NR)	2.21*	(0.29, 7.30)	0.41

Freq. = Frequency; SOP = Self-Orientated Perfectionism; SPP = Socially-Prescribed Perfectionism.

* $p < 0.05$; ** $p < 0.001$