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**Perfectionism and Thoughts About Eating, Weight
and Shape**

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THESIS ABSTRACT

Perfectionism is a personality trait, characterised by goal-orientated behaviour and the pursuit of standards which an individual feels unable to relinquish, and has been linked to eating disorders (ED) such as anorexia nervosa and bulimia nervosa. Recent cognitive theories have suggested that, in some individuals with ED, perfectionism and body weight and shape concerns together represent a dysfunctional system for self-evaluation. Despite the theoretical relationship between perfectionism and eating concerns, the relationship in the empirical literature remains unclear. Greater clarity in the perfectionism construct and further studies of cognitive content and specificity, may help clarify the relationship between perfectionism and eating concerns. In view of the proposed relationship between perfectionism and eating concerns, the empirical paper examined the content of cognitions, and the influence of perfectionist beliefs on eating concerns. Weight and shape related thoughts were compared in participants with high ($n = 26$) and low eating concerns ($n = 26$), in a weight and shape task and a control task. Regression analysis then examined the contribution of perfectionism to eating, weight and shape thoughts ($n = 95$). High eating concerned participants reported significantly more self referent and negative eating, weight and shape thoughts than the low eating concerned group and indicated a greater overall belief in weight and shape thoughts. However, there were more neutral thoughts reported by both low and high eating concerned participants overall. State rather than trait perfectionism correlated significantly with measures of eating concerns. Perfectionism predicted a small proportion of the variance in eating, weight and shape thoughts, in addition to measures of eating concerns. Results are discussed in relation to current cognitive theories, clarity of the perfectionism construct, and methodological considerations within the current theoretical and empirical literature. Limitations of the study, and research and clinical implications are considered.

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**How Does Perfectionism Contribute to a Cognitive
Behavioural Understanding of Eating Disorders?
A Review of the Literature**

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ABSTRACT

Perfectionism is a personality trait, characterised by goal orientated behaviour, and the pursuit of standards that an individual feels unable to relinquish (Hollender, 1965; Burns, 1980). Theoretically, perfectionism has been considered as a personality trait, which contributes to the development of eating disorders (ED) such as anorexia nervosa (Garner and Bemis, 1982, 1985; Fairburn, Shafran and Cooper, 1998) and bulimia nervosa (Fairburn, Cooper and Cooper, 1986). However, more recent cognitive behavioural models have suggested that, in some individuals with eating concerns, perfectionism and over-valued ideas about body shape and weight and their control, can be conceptualised as a dysfunctional system for self-evaluation (Fairburn, Cooper and Shafran, 2003). Despite the observed similarities in the theoretical literature, the relationship between perfectionism and ED appears unclear. Research has examined perfectionism as a risk factor for ED, and considered the multidimensional, and positive and negative aspects of perfectionism. However, the findings within the literature appear to be mixed. Recommendations are made to address current methodological limitations of studies within the literature, and to improve clarity of both the perfectionism construct and ED diagnostic concepts, to develop further understanding of this complex relationship.

INTRODUCTION

Perfectionism is considered as a personality trait characterised by, 'demanding of oneself or others a higher quality of performance than is required by the situation'. (Hollender, 1965, p.94). The perfectionist is regarded as a goal-orientated, 'painstaking worker', with unrealistic standards which they feel unable to relinquish. Perfectionists judge themselves in terms of their ability to reach their self-imposed standards (Burns, 1980). However, these unrealistic standards are not fulfilled, despite great efforts to attain them, and thus any sense of achievement is significantly reduced (Hollender, 1965; Burns, 1980). Consequently, perfectionism can be conceptualised as a dysfunctional system for evaluating self-worth (Shafran, Cooper and Fairburn, 2002; Fairburn, Cooper and Shafran, 2003).

Perfectionism has been linked to several forms of psychopathology. such as depression, suicidal ideation, anxiety, low self-esteem, obsessive compulsive disorder, personality disorders, somatic symptoms and eating disorders (Shafran and Mansell, 2001). Eating disorders (ED), such as anorexia nervosa (AN) and bulimia nervosa (BN), are complex and 'multifaceted' difficulties (Rome, Ammerman, Rosen, Keller, Lock, Mammel, O'Toole, et al., 2003) characterised by efforts to restrict food intake (Diagnostic and Statistical Manual – Fourth edition; DSM-IV, APA, 1994). Theoretically, perfectionism has been regarded as a personality trait that contributes to the development and maintenance of AN (Garner and Bemis, 1982, 1985; Fairburn, Shafran and Cooper, 1998). However, recent Cognitive Behavioural models have also begun to incorporate perfectionism as a significant maintaining factor of all ED, and have suggested that perfectionism and ED are perpetuated by similar cognitive processes (Fairburn et al., 2003). Specifically, this is conceptualised as a dysfunctional system for evaluating self-worth (Shafran et al., 2002; Fairburn et al., 2003).

Furthermore, researchers have suggested that ED may represent a direct extension of a perfectionistic personality, in areas of eating, weight and shape (Shafran et al., 2002; Fairburn et al., 2003). Despite these observed similarities both clinically and in the theoretical literature, the relationship between perfectionism and ED is not mutually exclusive (Shafran et al., 2002), and the precise nature of the relationship remains unclear. There is some debate about the understanding of both the perfectionism and ED constructs, and the need for greater clarity has been observed (Hollender, 1965; Slade and Owens, 1998; Shafran et al., 2002). Improved clarity of both constructs may promote better understanding of their relationship in both the theoretical and empirical literature.

In view of this discrepancy which highlights a theoretical relationship between perfectionism and ED that has not been observed as clearly in the empirical literature, this review will examine the contribution of perfectionism to ED from both a theoretical and empirical perspective. Firstly, it will examine current theoretical and historical understandings of the perfectionism construct, and provide an outline of relevant research. Secondly, the role of perfectionism in current theoretical models of ED will be discussed, predominantly from a cognitive behavioural perspective. This will provide a theoretical basis for understanding the role of perfectionism in the development and maintenance of ED. An initial brief outline of current understanding of ED, in terms of symptoms and prevalence will also be provided. Thirdly, the contribution of perfectionism to the empirical literature in ED will then be examined. From this, the review will conclude with a summary of the difficulties within the literature, which may have contributed towards the discrepancies between the theoretical and empirical literature.

CURRENT UNDERSTANDING OF PERFECTIONISM

Development of Perfectionism

It has been suggested that perfectionistic beliefs and behaviours develop in childhood, particularly through a child's interaction with a perfectionistic, critical, over-controlling or demanding parent (Hollender, 1965; Shafran and Mansell, 2001). This results in the child developing a need to please, feel accepted by others and avoid feelings of failure. Over time, individuals internalise these external demands (Hollender, 1965; Shafran and Mansell, 2001). However, within the literature there is little empirical evidence that parental expectations lead to the development of perfectionism. Instead, it is proposed that the initially positive experiences of striving to meet goals becomes dysfunctional over time if high standards cannot be maintained, or they fail to produce positive effects such as increasing self esteem and are continually raised and become more unrealistic and thus difficult to attain (Shafran and Mansell, 2001). This highlights that there is mixed opinion within the literature on the development of perfectionism, and further clarification may be provided from a review of the conceptual understanding of perfectionism.

A Conceptual Understanding of Perfectionism

Hollender's (1965) early definition of perfectionism, is one of the most extensively quoted in the literature (Slade and Owens, 1998; Shafran and Mansell, 2001; Shafran et al., 2002; Rice, Bair, Castro, Cohen and Hood, 2003; Bieling, Israeli and Antony, 2004) and therefore represents a foundation for all further accounts of perfectionism. Hollender (1965) viewed perfectionism as a negative personality trait, characterised by the cognitive and behavioural processes of striving to perform perfectly, rather than to be perfect. Hollender (1965) recognised that further clarity was required and called for a more 'precise definition' of perfectionism (p.94). However, it appears that the conceptual

understanding of perfectionism has broadened and consequently appears to have become more complex. To help illustrate this point, several definitions of perfectionism will now be outlined.

Positive and Negative Perfectionism

The concept of Positive Perfectionism is encapsulated in two definitions within the literature. Firstly, the Dual Process Model of Positive and Negative Perfectionism (Slade and Owens, 1998), suggests that perfectionism involves cognitions and behaviours directed towards achieving goals, to either obtain positive consequences (Positive Perfectionism) or avoid negative consequences (Negative Perfectionism). Perfectionistic individuals both strive for high standards to reach important goals and avoid feared situations and emotions. This concept of Positive Perfectionism is therefore informed by a behavioural approach using explanations of Operant (Skinnerian) Conditioning from Learning Theory (Gross, 1996, p.157).

Secondly, Positive perfectionism has also been considered as a positive or healthy attribute (Adler, 1956), as it has been recognised that there are situations where striving to reach high standards could be helpful (Rice et al., 2003). This model supports developmental theories, which suggest that perfectionism may initially be a positive experience that becomes dysfunctional through changes in personal and situational factors over time (Shafran and Mansell, 2001). The dichotomous construct of perfectionism has been acknowledged in both the theoretical and empirical literature for some years, and is considered to have both 'normal' and 'neurotic' (Hamachek, 1978), 'adaptive' and 'maladaptive' (Rice et al., 2003) and 'positive' and 'dysfunctional' aspects (Frost, Heimberg, Holt, Mattia and Neubauer, 1993). Each definition suggests that perfectionism can have both healthy and unhealthy components, which differ in terms of their effect on self-esteem (Shafran and Mansell, 2001). Healthy perfectionism is associated with a

sense of accomplishment from working towards goals and challenges, with little negative impact on overall self-esteem when goals are not met. Conversely, 'neurotic', 'negative', 'maladaptive' and 'dysfunctional' aspects conform to Hollender's (1965) definition of perfectionism as a negative personality trait, and suggest that perfectionism is motivated by the need to avoid feelings of failure, with little or no pleasure derived from working towards unrealistic and unobtainable goals. Consequently, this leads to negative evaluation of the self and has an adverse impact of self-esteem (Shafran and Mansell, 2001; Shafran et al., 2002; Fairburn et al., 2003; Rice et al., 2003).

The earlier Dual Process Model of Positive and Negative Perfectionism (Slade and Owens, 1998) does not distinguish between perfectionism as a helpful or unhelpful attribute. However the significant role of cognitive processes is acknowledged in both definitions. Specifically, the second theory that perfectionism can be helpful and unhelpful suggests that perfectionistic behaviours may present similarly, although the underlying cognitive processes may vary, which produces a different impact upon subsequent mood and relationship to self esteem. This relationship between cognition and self-worth, in understanding the perfectionism construct, has been recognised in the research literature.

Historically, the role of cognitions in the development of perfectionism is widely acknowledged. Hamachek (1978) observed that some individuals ruminate incessantly over their performance. Expectations, interpretations and evaluation of the self and others all contribute to perfectionism (Burns, 1980). Distortions in thinking patterns have also been observed (Frost, Marten, Lahart and Rosenblate, 1990), such as selective attention to criticism and failure over accomplishments (Shafran and Mansell, 2001; Flett, Madorsky, Hewitt and Heisel, 2002). Specifically, automatic perfectionistic cognitions have been

identified (Hewitt and Genest, 1990), which occur in relation to life stressors or situations requiring perfectionism (Hewitt and Flett, 1991). In a study of female athletes, participants with high levels of perfectionism reported more perfectionistic cognitions 24 hours before competing (Frost et al., 1990), therefore highlighting the relationship between trait perfectionism and specific perfectionism cognitions.

Further studies have highlighted the relationship between perfectionism and self-esteem, in terms of the impact on mood disorders. Perfectionists with a high level of perfectionistic cognitions are considered susceptible to depressive thoughts about past performances and anxiety about future performances. In a study of 65 undergraduates, a strong positive association was observed between perfectionism cognitions and thought rumination related to depressive thinking (Flett et al., 2002). Similarly, a study using the Perfectionism Cognitions Inventory (PCI; Flett, Hewitt, Blankstein, and Gray, 1998) as a measure of current perfectionistic cognitions, suggested that participants with higher levels of perfectionistic thinking reported more symptoms of anxiety and depression, were more self-critical, and were more likely to experience feelings of failure when they felt they had not obtained expected levels of achievement. These studies indicate that there is a complex relationship between individual perfectionistic cognitions and mood. However, the perfectionism construct has continued to broaden and gain further complexity, as it is also viewed as a multidimensional construct that incorporates both self and social influences (Shafran et al., 2002).

Multidimensional Perfectionism

In addition to the self-related cognitions, beliefs and standards outlined in earlier definitions of perfectionism by Hollender (1965) and Burns (1980), the multidimensional construct of perfectionism suggests that intrapersonal and interpersonal perfectionism traits are reflected in presentational styles (Hewitt,

Mittelstaedt and Wollert, 1989; Hewitt and Flett, 1991). This definition expands upon earlier definitions of perfectionism, as it considers the motivation for perfectionistic behaviour, and highlights the significance of both self and socially orientated influences. Furthermore, in contrast to the concept of positive and negative perfectionism, Flett and Hewitt (2002) have categorically stated that perfectionism is a dysfunctional personality trait that does not demonstrate any positive aspects.

A multidimensional perfectionism measure has been developed based on this definition of perfectionism. The MPS-H (Hewitt and Flett, 1991) suggests perfectionism has three components, which reflects both interpersonal and intrapersonal traits of perfectionism. Self-orientated perfectionism (intrapersonal trait) involves setting standards for the self, striving to attain perfectionism and avoiding failure; other-orientated perfectionism (interpersonal trait) focuses on individual expectations for others, and socially-prescribed perfectionism (interpersonal trait) relates to perfectionistic perceptions of others for the self (Hewitt and Flett, 1991). In an attempt to broaden and clarify the perfectionism construct, a second measure of multidimensional perfectionism was developed at a similar time (MPS-F; Frost, Marten, Lahart and Rosenblate, 1990). The authors suggest that the perfectionism construct includes the setting of excessively high personal standards, concern over mistakes, doubts about the quality of personal actions, and places considerable value on parental expectations and criticisms, and on order and organisation. These five aspects of perfectionism are represented as five scales on the MPS-F (Frost et al, 1990). The two multidimensional measures are suggested to overlap in some areas, for example high personal standards on the MPS-F is thought to be most closely related to self-orientated perfectionism on the MPS-H (Shafran et al., 2002).

The multidimensional perfectionism construct has received support within the research literature as it has been used within several studies (Flett, Hewitt, Blankstein and Koledin, 1991; Flett, Russo and Hewitt, 1994; Ferrari, 1995; Hewitt, Flett and Ediger, 1995; Pliner and Haddock, 1996; McLaren, Gauvin and White, 2001; Rice et al., 2003; Sherry, Hewitt, Flett and Harvey, 2003), and it relates to Hollender's (1965) definition as both emphasise the significance of demands placed on the self and others. However, the multidimensional construct appears to have been predominantly advocated by the authors of the measures themselves. Additionally, it has recently been suggested that dysfunctional perfectionism might relate only to the demands placed on the self, and a further definition of Clinical Perfectionism has been proposed (Shafran et al., 2002; Shafran, Cooper and Fairburn, 2003).

Clinical Perfectionism

Clinical perfectionism is defined as the, 'overdependence of self-evaluation on the determined pursuit of personally demanding, self-imposed, standards in at least one highly salient domain, despite adverse consequences'. (Shafran, et al., 2002, p.778). The clinical perfectionism model proposes that perfectionism is a dysfunctional system for evaluating self-worth through cognitive distortion and biased interpretation of events. This is achieved in two ways. Firstly, perfectionists are perceived as goal orientated, self-controlled individuals who set standards to achieve, and judge their self-worth in terms of their ability to both pursue and achieve their goals. In accordance with Hollender's (1965) and Burns' (1980) definitions, standards are personally demanding to the individual, unrealistic, rigid, and inflexible, which renders them difficult or impossible to achieve. Consequently, individuals are negative and critical of themselves when they fail to meet their standards. Biased interpretation enables the individual to re-evaluate the standard as too low, if they are able to meet it. This consequently

enables further negative evaluation despite success at meeting the standard.

The model is self-perpetuating as failure leads to self-criticism and low self-esteem, which increases the desire to achieve future goals.

Secondly, the definition suggests clinical perfectionism is specific to a particular domain of life such as employment, recreational activities or body shape and weight, and will be pursued despite negative consequences. The authors suggest that clinical perfectionism should be viewed as a 'clinical construct', as its main function is to help improve current treatment options, such as for individuals with ED (Shafran, et al., 2003, p.1218). Within this framework they suggest that the core of dysfunctional perfectionism is self-orientated, and socially prescribed and other orientated perfectionism represent other important, but peripheral elements of the perfectionism construct (Shafran, Lee and Fairburn, 2004). Clinical observation suggests that individuals with AN in particular, will adhere to personally demanding standards despite pressure from others, and this personally demanding nature of perfectionism is thought to be most related to self-orientated perfectionism, and thus does not incorporate elements of socially prescribed perfectionism (Shafran, et al., 2003). Clinical perfectionism is a relatively new concept, which has not been investigated empirically as yet. However preliminary interventions focused on treating clinical perfectionism in individuals with ED have reported a significant reduction in both perfectionism and ED symptoms (Shafran, et al., 2004).

Summary

Current understanding suggests that perfectionism is a personality trait with both positive and negative, and multidimensional attributes. Conversely, clinical perfectionism acknowledges the significance of multidimensional perfectionism, but suggests that individuals might benefit from treatment approaches that focus on the demands placed on the self. This debate continues within the literature

(see Hewitt, Flett, Besser, Sherry and McGee, 2003; Shafran et al., 2003) and conceptualisations of perfectionism continue to be multifaceted and complex. However, the study of positive and negative perfectionism has highlighted the important relationship between perfectionism, cognitive interpretation, and the impact upon mood and self-esteem. Recent cognitive behavioural models have incorporated perfectionism as a significant factor in the maintenance of ED (Fairburn et al., 2003). However, before the role of perfectionism in ED can be discussed further, a brief outline of the diagnostic categories and symptoms of ED will be reviewed. This will help to provide a basis for understanding current discrepancies between the empirical and theoretical literature.

UNDERSTANDING EATING DISORDERS

Definitions of Eating Disorders

Diagnostic categories of ED currently include Anorexia Nervosa (AN), Bulimia Nervosa (BN) and Atypical Eating Disorders (DSM-IV, APA, 1994). Atypical Eating Disorders are suggested to occur in those who do not meet the full criteria for AN or BN (Haller, 1992), although half of these cases are thought to develop into AN or BN at some time, and it is the diagnosis most commonly seen in clinical practice (Fairburn and Harrison, 2003). Binge Eating Disorder (BED) is considered to be a provisional diagnostic concept (Fairburn, Cooper, Doll, Norman and O'Connor, 2000), which is thought to be more common in older groups (Fairburn and Harrison, 2003). However 79% of undergraduates are thought to engage in binge eating (Haller, 1992), although the study does not outline if they would meet criteria for BED. Unlike AN or BN, BED is thought to have a strong spontaneous remission rate and is not related to extreme weight control behaviour (Fairburn et al, 2000).

The course of ED can be complex, as individuals can move around the diagnostic categories. For example, half of the individuals with AN will develop full BN and one-quarter of those with BN sporadically meet criteria for AN, which is then interrupted by binge eating when normal weight restores (Fairburn and Harrison, 2003). Similarly, the purging and non-purging behaviours associated with BN have been observed in individuals with AN. To help differentiate between the two forms of ED, researchers have suggested that they differ in terms of the relative balance of over and under eating and the effect on body weight (Fairburn et al., 2003). This review will focus on the two main eating disorders of AN and BN (Haller, 1992)

Anorexia Nervosa

Anorexia Nervosa is characterised by self-starvation and weight loss (Carr, 1999). Diagnostic indicators include a body weight 15% below that expected for age and height, the absence of three consecutive menstrual cycles, an extreme fear of weight gain, and a distorted body image (DSM-IV, APA, 1994).

Increased susceptibility to the disorder occurs at both 13 to 14 years and again at 17 to 18 years of age (Haller 1992), which suggests AN is a disorder of adolescence and early adulthood. AN has a higher mortality rate than any other psychiatric disorder (Powers and Santana, 2002), mainly through medical complications such as cardiac failure, or suicide (Zerbe, 1996; Fairburn and Harrison, 2003). Starvation can also lead to cognitive difficulties, such as impaired concentration and preoccupation with food; and mood difficulties such as anxiety, depression and irritability (Haller, 1992, Fairburn and Harrison, 2003). AN is therefore a disorder of physical and psychological difficulties (Portilla and Smith, 1997), with potentially fatal consequences.

Bulimia Nervosa (BN)

Similarly, BN is also characterised by restricted food intake. However, this is interrupted by periods of binge eating, which involve the rapid consumption of a large amount of food in a small period of time with an associated feeling of loss of control (Haller, 1992; Fairburn and Harrison, 2003). BN is also characterised by compensatory behaviours following binge eating such as vomiting, the misuse of laxatives and diuretics (purging behaviours), and excessive exercise or strict dieting (non purging behaviours) to prevent weight gain (Haller, 1992).

Onset is later and more wide-ranging than in individuals with AN (Fairburn, 1983).

BN is also more common, and is estimated to occur in 4% to 17% of female adolescents and university students (Haller, 1992; Zerbe, 1996). Body image distortion is sometimes but not always present (Fairburn, 1983). Symptoms of BN may be more difficult to recognise as binge eating and compensatory behaviours can maintain body weight within the normal range (Haller, 1992).

Additionally, feelings of shame and guilt, that are often associated with loss of control and binge eating, can prevent individuals from seeking treatment for many years (Fairburn and Harrison, 2003).

Summary

Within the literature, eating disorders present as physical difficulties with a psychological origin (Portilla and Smith, 1997), which result in complex physical, psychological and interpersonal problems. Onset is predominantly in adolescence or young adulthood, and can represent a significant threat to long-term health or mortality. In contrast to perfectionism, ED are predominantly defined according to their diagnostic categories. However, both ED and perfectionism share similar features in that the behaviours are influenced by cognitive interpretations, that can impact upon mood. In support of this, some researchers suggest that common psychological mechanisms occur in both

perfectionism and ED (e.g. Fairburn et al., 2003), which suggests a relationship between perfectionism and ED. In examining the theoretical understanding of perfectionism and its relationship to ED, this review will also consider the psychological mechanisms proposed to operate in both perfectionism and ED.

THE RELATIONSHIP BETWEEN PERFECTIONISM AND EATING DISORDERS IN THEORETICAL MODELS

Early Models of Perfectionism in Eating Disorders

Historically, perfectionism has been viewed as significant to the development of AN. Early models, such as those of Bemis (1978), Guidano and Liotti (1983), and Garner and Bemis (1982, 1985) suggest that specific developmental factors such as perfectionistic personality traits, coupled with interpersonal conflicts within the family, could create adverse situations that were conducive to restricting food intake. AN is suggested to be a coping mechanism that developed to manage the adverse feelings underlying the disorder, such as unhappiness (Garner and Bemis, 1982, 1985), inadequateness or poor ability to cope (Bemis, 1978), or beliefs of ineffectiveness and failure, and a need for love (Guidano and Liotti, 1983).

Early models provide further insight into the significant theoretical role of the perfectionistic personality in the development of AN. Bemis (1978) suggests that a child with a predisposition to AN would present as, 'sensitive, dependent, introverted, anxious, perfectionistic, selfish and intractably stubborn' (P.595). Similarly, Slade (1982) suggests that the essential setting conditions for ED are strong perfectionistic tendencies and dissatisfaction with life. Garner and Bemis (1982) also suggest that AN is more likely to be observed in an, 'introverted, sensitive and isolated child' (p.126), characterised by a tendency to work hard

and live up to the expectation of others. This latter trait bears a resemblance to the 'painstaking worker' described by Hollender (1965, p.94). In support of this developmental perspective, Guidano and Liotti (1983) suggest that the need for love and acceptance from others, leads individuals to demand perfectionistic behaviour from others and themselves, in an attempt to create the ideal relationship. This need for acceptance by others is a key feature of Hollender's (1965) original definition, and highlights early references to multidimensional perfectionism. Furthermore, early models have suggested that developmental conflicts within interpersonal interaction are a possible precursor to the development of AN, indicating that AN was not strictly food related, but an attempt to cope with these psychological difficulties. However Garner and Bemis (1982, 1985) were the first to attempt to explain the relationship between the introverted, isolated and perfectionistic personality and the development of restricted food intake. This model is widely regarded in the literature as one of the leading models in the theoretical understanding of AN, as it has been most influential in terms of treatment approaches (Cooper, 1997; Fairburn, Shafran and Cooper, 1998).

A Cognitive Model of Anorexia Nervosa (Garner and Bemis, 1982, 1985)

The Cognitive model of AN (Garner and Bemis, 1982; 1985) describes the causal and maintaining processes of AN. In accordance with other earlier models, AN is suggested to arise from significant developmental and early personality factors (such as perfectionism), combined with social and cultural ideas regarding the attributes of thinness. This is considered to trigger beliefs that weight loss would be the most appropriate coping solution. The model also suggests that AN is maintained by reinforcement contingencies that perpetuate beliefs about the benefits of weight loss. It is hypothesised that weight loss is positively reinforced by sense of achievement, reduced distress, and encouraging comments from

others, and negatively reinforced through avoidance of feared foods considered to promote weight gain, and through vomiting, excessive exercise and laxative and diuretic misuse. The model describes an apparent vicious cycle of cognitive distortions, isolation and starvation, which is maintained through the reinforcement contingencies. Over time, cognitive distortions are said to occur independently of environmental influences, and the individual becomes fixated on the desire to lose more weight, which leads to further isolation and increased starvation. Starvation itself perpetuates the cycle of cognitive distortions as poor concentration leads to concrete, rigid and selective thought processes; further social withdrawal, and depression and anxiety. In this state of isolation the individual is more susceptible to his or her distorted view of the world.

Garner and Bemis (1982, 1985) present a seminal paper that demonstrates how cognitive distortions contribute to, and interact with, other processes such as isolation and starvation through reinforcement contingencies. Perfectionism again has a significant role as a personality trait in the development of AN. However, several of the perfectionism theories mentioned earlier could have been incorporated into this theory. For example, multidimensional aspects of perfectionism are initially considered an important factor in the developmental stages of AN. However as the disorder progresses, the model emphasises that the self and social influences are internalised, until the individual becomes isolated and susceptible to his or her own cognitive distortions and misinterpretations. This self-focused interpretation would fit more closely with the clinical perfectionism construct. Additionally, the reinforcement contingencies that hypothetically maintain AN, are also important elements of the perfectionism construct in the Dual Process Model of Positive and Negative Perfectionism (Slade and Owens, 1998) described earlier. Finally, the causal mechanisms within the Garner and Bemis (1982, 1985) model are unclear, as the model is

unable to demonstrate how unhappiness leads to a preoccupation with eating, food, weight or shape, and restricted eating. Further cognitive behavioural theories have attempted to expand upon this theory.

A Cognitive Model of Anorexia Nervosa (Fairburn, Shafran and Cooper, 1998)

In recent years the cognitive behavioural theory of AN has been further developed and continues to focus on maintaining factors, and also includes the role of perfectionism (Fairburn et al., 1998). The model specifically draws on Slade's (1982) functional analysis of AN and BN, which examines the contribution of self-control to AN. Eating, weight and shape become a specific focus for control following initial success at dieting and weight loss, and following failed attempts to control other life areas, such as employment, interpersonal relationships or leisure interests. Individuals therefore experience complete autonomy over their eating, compared to other life areas (Fairburn et al., 1998). The authors of the model further suggest that the need to control eating and, 'extreme concerns about shape and weight are the core features which maintain this disorder' (p.2). Low self-esteem, feelings of inadequateness and perfectionism are suggested to interact to produce a need to control. AN is maintained by three self-perpetuating themes where control over eating enhances feelings of self-worth (Fairburn et al., 1998).

Within this model, perfectionism has a significant role as a personality characteristic, which contributes to the development of AN. Additionally, in accordance with theories of control from Slade (1982), the model is able to demonstrate the relationship between self control, restricted eating, and enhanced self-worth. However, as in earlier cognitive models of AN (Garner and Bemis, 1982, 1985), perfectionism as a specific maintaining role is not discussed. The model highlights the fact that perfectionism and other factors interact to produce a need for self-control. Conversely, researchers have also

suggested that self-control is necessary for the development of perfectionism, as it contributes to the development of the high and excessive standards frequently observed in perfectionistic individuals (Shafran et al., 2002). This, although contradictory perspective, again highlights the similarity in the cognitive processes involved in both AN and perfectionism, and the complex inter-relationship between the two constructs. A later model by Fairburn et al. (2003), developed from an established cognitive behavioural theory of BN (Fairburn, Cooper and Cooper, 1986) provides an attempt to identify core psychopathological mechanisms that may maintain both AN and BN. In this model, perfectionism is considered as a maintaining process which could, in some individuals, have a significant role in the evaluation of self-worth. This theory specifically proposes that ED and perfectionism share similar cognitive processes.

The Transdiagnostic Theory of Eating Disorders (Fairburn, Cooper and Shafran, 2003)

This Transdiagnostic Theory proposes that common psychological mechanisms occur in AN and BN, and both disorders are explained by this model. To summarise, the authors have suggested that the central feature of this model is a dysfunctional cognitive system for evaluating self-worth, in which individuals evaluate themselves in terms of eating, weight and shape and their ability to control them. In accordance with earlier models, restricted food intake is pursued and weight gain is fastidiously avoided. The authors further suggest that one or more of four maintaining processes may interact with this core psychopathology. These processes are clinical perfectionism, core low self-esteem, mood intolerance and interpersonal difficulties. In particular, clinical perfectionism (Shafran et al., 2002) is conceptualised as a severe, dysfunctional perfectionism in which individuals evaluate self-worth in terms of attempts at achieving and

meeting demanding goals. Therefore clinical perfectionism and ED are seen as sharing similar core psychopathology, as both represent dysfunctional systems for evaluating self-worth. However the authors suggest that perfectionism does not exist in all individuals. Perfectionism is considered clinically significant as, where it does occur, it may promote resistance to change.

The Transdiagnostic Model continues to build on existing cognitive behavioural theories and presents a clear maintaining role for perfectionism in some individuals, beyond its role as a contributing personality factor. The model also highlights the similarities between the core feature of ED and perfectionism, as dysfunctional systems for evaluating self-worth. In support of this, Shafran et al., (2002) note that failure to meet standards, which subsequently enhances negative self-evaluation, is also recognised within the literature as a feature of both perfectionism and ED (Vitousek, 1996; Fairburn, 1997). However, although similar cognitive processes are thought to underlie all ED, the Transdiagnostic model appears to suggest that perfectionism may be more common in individuals specifically with AN. This may explain its potential contribution to ED in some, but not all individuals. Similarly, the previous models described, such as Garner and Bemis (1982) and Fairburn, et al. (1998), have also focused specifically on the development and maintenance of AN. The suggested relationship between perfectionism and ED has been further elaborated upon by Shafran et al. (2002), as it has been proposed that ED could be considered a direct extension of perfectionism (Shafran et al., 2002).

Eating Disorders as an Extension of Perfectionism (Shafran, Cooper And Fairburn, 2002)

Shafran et al., (2002) suggest that ED are specifically perfectionistic beliefs and behaviours applied in the domain of eating, shape and weight. They propose that individuals will set goals to control their eating, weight and shape, and they

will judge their self worth in terms of their ability to pursue and obtain these goals. Unrealistic standards form the basis for dichotomous rules concerning which foods should be eaten or avoided. Failure is associated with weight gain, and success is associated with restricted eating and weight loss. However, standards may be imposed that restrict food intake too severely, and are impossible to achieve. Consequently, individuals may resort to binge eating. Alternatively if standards are met, they will be re-evaluated as too easy, and individuals will consequently restrict food intake further.

This model provides a clear developmental pathway for ED, and proposes that strikingly similar cognitive mechanisms, such as a dysfunctional system for evaluating self worth are common to both perfectionism and ED. This suggests that ED is an extension of perfectionistic beliefs and intentions. The model supports an earlier theoretical perspective by Hewitt et al., (1995), which suggested that individuals will set body shape and weight standards that will lead to feelings of extreme failure should they not be met. However, the author also provides a multidimensional perspective, which suggests that self-orientated perfectionism relates to the individuals' belief that they must strive to do things perfectly, whilst socially prescribed perfectionism relates to cultural values of thinness, and expectations of others. Specifically, the model by Shafran et al., (2002) appears to include the positive and negative perfectionism construct, as core psychopathology is recognised as the pursuit of success and avoidance of failure. This again supports the Dual Process Model of Positive and Negative Perfectionism (Slade and Owens, 1998). Finally, in accordance with the definition of Clinical Perfectionism, the authors have suggested that individuals are likely to have perfectionism in other domains, but issues concerning eating, weight and shape will be the main focus for their perfectionistic tendencies. In circumstances where individuals focus on actual shape and weight rather than

striving to achieve this, the ED is considered less an expression of perfectionism. This relates to Hollender's (1965) theory where the core feature of perfectionism is striving to achieve perfectionism rather than to be perfect.

In support of the theory that ED are an extension of perfectionism, individuals with ED and perfectionism report similar behaviours in addition to distinctly similar cognitive processes. The perfectionistic behaviours which result such as checking, reassurance seeking, and avoidance of tasks, due to fear of failure (Shafran and Mansell, 2001) are also reported as maintaining factors in individuals with ED (Fairburn et al., 1998).

Summary

The study of cognitive models of ED has suggested that perfectionism is a significant personality trait that contributes to the development of AN. In recent cognitive models (such as Fairburn et al, 2003), perfectionism has been highlighted as a specific maintaining factor, and not just as a personality variable. In accordance with this theory, which suggests that perfectionism and ED both represent a dysfunctional system for self-evaluation, it is suggested that the processes hypothesised to maintain ED in the previous cognitive models, such as positive and negative reinforcement (Garner and Bemis, 1982, 1985) and the need for control (Fairburn et al, 1998) also underlie perfectionism, and these common pathways can be seen in Shafran et al's. (2002) model of perfectionism. This highlights the striking similarities between cognitive processing in ED and perfectionism. However, despite this theoretical perspective which highlights similarities between ED and perfectionism, the relationship between the two in the empirical literature is complex (Shafran and Mansell, 2001) and therefore unclear.

THE RELATIONSHIP BETWEEN PERFECTIONISM AND EATING DISORDERS IN THE EMPIRICAL LITERATURE

Perfectionism has been extensively researched in the empirical literature for ED. Early reports by Bruch (1973, 1978) suggest that individuals with ED demonstrate perfectionistic traits (Pliner and Haddock, 1996; Vohs, Bardone, Joiner, Abramson and Heatherton, 1999; McLaren et al., 2001). High levels of perfectionism have also been observed in individuals with ED (Davis, 1997; McLaren et al., 2001; Hewitt et al., 1995). Higher perfectionism levels have also been linked to AN both theoretically (Shafran and Mansell, 2001) and in the empirical literature (Bastiani, Rao, Weltzin and Kaye, 1995; Srinivasagam, Kaye, Plotnicov, Greeno, Weltzin and Rao, 1995; Davis, 1997; Halmi, Sunday, Strober, Kaplan, Woodside, Fichter, Treasure, Berrettini and Kaye, 2000; Shafran et al., 2002).

Research has focused on perfectionism as a risk factor for ED, and also on the relationship between ED and aspects of the perfectionism construct such as multidimensional and positive and negative perfectionism. This section will focus on the empirical literature in these areas to examine the relationship between ED and perfectionism. Given that some researchers have suggested that EDs are an extension of perfectionism, and that they may share similar psychopathological processes, the research examining perfectionism as a risk factor for ED is of particular interest. However studies conducted to date have yielded mixed findings.

Perfectionism as a Risk Factor for Eating Disorders

Several studies have suggested that perfectionism is a specific risk factor for AN (Fairburn, Cooper, Doll and Welch, 1999; Shafran et al, 2002). In a clinical study (Bastiani et al., 1995) of 19 females with AN, weight restored individuals, and

healthy controls, there was a significant relationship between AN and perfectionism, which remained even in weight restored individuals in the AN group. Similarly, Srinivasagam et al. (1995) suggested that perfectionism, symmetry, and exactness was found in individuals recovering from AN. Given that perfectionism was high in both studies following treatment, both researchers suggested perfectionism is an enduring personality trait that manifests as perfectionistic behaviours.

Similarly, in a study examining the risk factors associated with the development of ED (Santonastaso, Friederici and Favaro, 1999), perfectionism was an important maintaining factor, rather than a risk factor in ED. Individuals with a biological vulnerability to AN are suggested to be more at risk of developing perfectionistic attitudes after they have dieted, which hinders change and responsiveness to treatment.

Conversely, a longitudinal study of perfectionism from in-patient admission to 24 months post discharge follow-up (Suttander-Pinnock, Woodside, Carter, Olmsted and Kaplan, 2003) observed a decrease in perfectionism over time, although still high in those in remission. Additionally those who were unable to complete treatment had higher initial levels of perfectionism, compared to those who completed treatment.

There are two studies, although not longitudinal, which have looked at whether perfectionism can predict BN. Firstly, in a study of 890 non-clinical females, Joiner, Heatherton, Rudd and Schmidt (1997) suggested that perfectionism was only a risk factor for BN in women who perceived themselves to be overweight, although actual weight status did not have the same role. The authors suggested that individuals who could not meet their ideal weight standards and expectations were susceptible to bulimic behaviours. This relates to definitions of

perfectionism, such as Hollender's (1965) and Burns' (1980), that emphasise the significance of the personally demanding nature of goals and standards, and the individuals' desire to attain them, and highlights how this process can contribute to the development of ED.

In the second study, Vohs et al. (1999) attempted to explain this complex relationship between perfectionism and bulimic symptoms in the context of perceived over-weight status. The researchers suggest that the relationship was strongest in individuals with low self-esteem. Conversely, individuals with high self-esteem were said to be buffered from the development of bulimic symptoms. This links to the Transdiagnostic model and theories of negative, dysfunctional perfectionism, which indicate that perfectionistic cognitions impact upon self-esteem.

Perfectionism is a potential risk factor for the development ED as it is considered to be an enduring personality trait which exists both before and after treatment for ED (Bastiani et al., 1995; Srinivasagam et al., 1995). However, research has suggested that although perfectionism remains often high, it does decrease in some cases (Suttander-Pinnock et al., 2003). Researchers have concluded that perfectionism is therefore an important and enduring personality trait in the development of ED. This supports early theoretical models such as Bemis (1978), Garner and Bemis (1982), and later models such as Fairburn et al., (1998) that suggest perfectionism is a personality trait which contributes to the development of AN. Studies of BN have highlighted that the relationship between perfectionism and ED are complex, and are moderated by perceived weight status and self-esteem issues. It has been suggested that longitudinal studies have not identified that highly perfectionistic individuals are more likely to develop an ED (Santanastaso et al, 1999). However, researchers acknowledge that longitudinal studies are the 'gold standard' approaches, and that studies of

clinical populations are needed (Jacobi, Hayward, de Zwaan, Kraemer and Agras, 2004; p.23). Further studies of premorbid perfectionism have been called for, in order to assess the contribution of perfectionism to the development of ED (Jacobi et al, 2004). A further group of studies have assessed the multidimensional aspect of perfectionism in ED, in an attempt to further understanding of the relationship between the two concepts.

The Relationship Between Eating Disorders and Multidimensional Perfectionism

Several researchers have attempted to examine the precise nature of the relationship between multidimensional perfectionism and ED. In a study of 269 female undergraduates examining factors associated with disturbed eating patterns, significant predictors of dietary restraint were self, social and self-presentational perfectionism and excessive commitment to exercise. The authors argued that this was evidence of multidimensional perfectionistic personality traits, concluding that perfectionism has a complex relationship to ED. However this study looked at behaviours related to ED, such as dietary restraint, rather than at the diagnostic categories of ED. Similarly, in a study of 81 female undergraduates, self-orientated perfectionism was specifically related to symptoms associated with AN. However, socially prescribed and self-presentational perfectionism was associated with all ED behaviours (Hewitt et al., 1995). The authors suggested the study provided evidence for the role of multidimensional perfectionism in ED. Both studies highlighted the association between self and socially prescribed perfectionism and ED.

In an experimental study of 100 females characterised by high and low eating disturbance (Pliner and Haddock, 1996), multidimensional perfectionism was assessed according to its effects on goals, intentions and performance expectation. The researchers suggested that weight concerned individuals (with

high recorded eating disturbances) would strive to the extreme to meet unrealistic high goals set by others, but would set much lower goals for themselves when compared to controls. The study indicated that weight concerned women were, 'extremely sensitive to the wishes and opinions of other people' (p.388), which indicated they were social rather than self orientated perfectionists.

Conversely clinical studies have highlighted the relationship between AN and perfectionism. In a clinical study of women with AN, psychiatric controls and healthy controls, Cockell, Hewitt, Seal, Sherry, Goldner, Flett and Remick, (2002) suggested that women with AN had significantly higher levels of self and social perfectionism compared to the two control groups. However individuals with AN had higher levels of self orientated perfectionism specifically, when controlling for self esteem, depression and psychiatric symptoms. These findings support previous research indicating that perfectionism is specifically related to AN, and that it is not simply a feature of all psychiatric disorders. The study also highlights the specific role of self-orientated perfectionism in AN, which is consistent with the idea of clinical perfectionism. Similarly, in a small study (Bastiani et al, 1995), AN was related to self-imposed, rather than socially prescribed perfectionism. The authors conclude that Strober's (1991) personality characteristics of wish to avoid harm, obsessiveness, and self-doubting perfectionism were characteristic of this group. The theory that perfectionists are self-doubters could explain the discrepancy between standards set by the self and by others in Pliner and Haddock's (1996) study, as self-doubt rather than socially prescribed perfectionism accounted for the observed differences in this study.

In support of the relationship between perfectionism and AN, Halmi, Sunday, Strober, Kaplan, Woodside, Fichter, Treasure et al. (2000) suggested that perfectionism is a robust, discriminating feature of AN. This study described itself as the largest clinical study of females with AN ($N = 322$). In particular,

subscales of the MPS-F (Frost et al., 1990) such as concern over mistakes, parental criticism, doubts over actions, and extreme adherence to high personal standards were higher in participants with AN when compared to controls. These categories are predominantly associated with both the self and social aspects of perfectionism (Shafran and Mansell, 2001). However, this study used a mixture of participants with a history of AN, with 146 restricting, 116 purging, and 60 binge eating and purging participants. This study therefore represents a mixed group of participants and is not specific to the DSM-IV (APA, 1994) criteria for AN.

The literature concerning the relationship between multidimensional perfectionism and ED is again complex. There clearly appears to be an association between perfectionism and AN. However, non-clinical studies have observed that both self orientated and socially prescribed aspects of perfectionism are associated with disordered eating. Specific clinical studies, which focus on the restricted eating in AN appear to suggest that it is associated with self-orientated perfectionism, particularly, when other factors such as self-esteem are controlled. Clinical studies which mix restrictive, bulimic and binge eating forms of ED, appear to find that socially prescribed perfectionism gains more significance. Similarly, binge eating disorder has been specifically associated with socially prescribed perfectionism (Pratt, Telch, Labouvie, Wilson and Agras, 2001). This indicates that different aspects of the perfectionism construct may be more significant for different diagnostic forms of the ED.

Positive and Negative Aspects of Perfectionism in Eating Disorders

Individuals with ED also differ in terms of levels of normal and neurotic perfectionism (Mitzman, Slade and Dewey, 1994). In a study of 123 females, Davis (1997) suggested that general perfectionism was positively associated with body esteem only when neurotic perfectionism was low. This study suggested

that perfectionism can have positive influences on body esteem. However, this is only in situations where neurotic and dysfunctional perfectionism are low.

Similarly, in a study of 203 undergraduates (Davis, Claridge and Fox, 2000) the authors suggest that perfectionism is not itself a risk factor for the development of ED, and that the context of striving for high personal standards in an anxious and highly critical state should be taken into consideration (Davis, 1997, Slade and Dewey, 1986).

In a further study of adaptive and maladaptive perfectionism in clinical participants and controls (Ashby, Kotman and Schoen, 1998), individuals with ED scored more highly on maladaptive perfectionism measures, but not on adaptive measures. The research suggests that individuals with ED have disproportionately more maladaptive than adaptive perfectionistic traits. Studies of positive and negative perfectionism, further suggest that individuals with ED differ in terms of the balance between these concepts when compared with controls and other psychiatric disorders. Individuals with ED scored higher than depressed participants, athletes and healthy controls on measures of negative perfectionism, and higher than depressed participants and controls on positive perfectionism (Terry-Short, Owens, Slade and Dewey, 1995). Positive perfectionism is suggested to be associated with the positive and successful feelings of being able to restrict food (Shafran and Mansell, 2001). Similarly, Slade and Owens (1998) suggest that a small number of positive perfectionists might be motivated by the idea of thinness for its own sake. However, these individuals may not present to clinicians if they do not have the same emotional disturbances as other individuals with AN. The empirical literature clearly indicates that it is the relative balance of positive and negative aspects of perfectionism, which contribute to its dysfunctional nature and is a significant factor in its relationship with ED.

Summary

The empirical literature highlights the fact that there is an association between perfectionism and ED, but this relationship is complex. Currently, there does not appear to be enough evidence to suggest that perfectionism is a specific risk factor for ED, which renders it difficult to assess whether ED are an extension of the perfectionistic personality as suggested by Shafran et al., (2002). The relationship between perfectionism and BN in particular appears to be influenced by factors such as perceived weight status and self-esteem.

In a review of the literature of risk factors for the development of ED, Jacobi et al. (2004) highlight the complexity of assessing risk factors for ED. They have suggested that more than 30 variables have been identified as potential risk factors, which are of biological, social, psychological, familial and developmental origin. In their study, which used a 'stringently applied risk factor approach' (p.20) to identify potential biological and psychosocial risk factors, they observed that perfectionistic behaviours are well observed clinically in AN patients, and research has observed higher levels of perfectionism in AN and BN. However, they suggest that perfectionism could only be considered at present as a correlate rather than a risk factor, in that there is evidence of a statistical association.

Furthermore, the multidimensional construct of perfectionism is unclear. It seems that from clinical studies, AN in particular does have a consistent relationship with self-orientated perfectionism. Some researchers endorse the concept of socially prescribed perfectionism, particularly in studies where individuals have more bulimic and binge eating symptoms. However, these studies often mix diagnostic categories of ED, which makes it hard to interpret the findings. Self-esteem again appears to have a significant role, as the association between AN and self-orientated perfectionism is linked to self-esteem. Positive and negative aspects of

perfectionism also appears contribute to the development of ED in terms of their relative balance to each other.

SUGGESTIONS FOR FURTHER DIRECTION AND RESEARCH

The empirical literature on the relationship between perfectionism and ED, is unclear. Research has focused on perfectionism as a risk factor for ED, or the contribution of the differing constructs of perfectionism to ED. Consequently there is limited evidence of theory-driven research aimed at testing the comprehensive models of ED (Cooper, 1997). In the theoretical and empirical literature, researchers appear to agree that there is an association between ED and perfectionism, and between perfectionism and AN in particular. However, the precise nature of this relationship is complex. This review will now illustrate how the relationship between perfectionism and ED could be better understood.

Improved Clarity in the Perfectionism Construct.

The definition of perfectionism is multifaceted and broad, and attempts to refine it have only begun in recent years with the introduction of the concept of clinical perfectionism (Shafran et al., 2002). However, there is little research on clinical perfectionism and the authors clearly explain that should be viewed as a clinical construct (see Shafran et al., 2004), which suggests that it is not well understood in the empirical literature yet, and may not be used as widely in future research studies as other concepts of perfectionism, such as multidimensional perfectionism has been. Further attempts within the literature could be made to refine current definitions and to improve clarity of the definition of perfectionism. For example, the theoretical and empirical literature clearly states a role for both positive and negative perfectionism. However, the research literature appears overly complicated as there are several dichotomous constructs with different names, which essentially define the same concept (Shafran and Mansell, 2001).

It might help to clarify the concept of perfectionism concept if consistent terminology was adopted within the research literature.

Further Studies of Cognitive Specificity

Some researchers have suggested that a closer examination of specific perfectionism cognitions is needed (Flett et al., 2002), which may also help clarify the suggested theoretical relationship between perfectionism and ED. The content of cognitions has received little attention in the research literature and further examination of the content specificity of cognitions has been requested (Cooper, 1997). Weight and shape concerns are recognised as part of the core psychopathology of ED (Vitousek, 1996; Cooper, 1997; Fairburn et al., 2003), and studies have examined the content of cognitions (e.g. Cooper and Fairburn, 1992; Cooper, Todd and Wells, 1998). These have suggested that negative self related beliefs and underlying assumptions regarding eating, weight and shape are required for an ED to develop (Cooper et al., 1998). Negative self-beliefs are common to other forms of psychopathology such as depression (Cooper and Hunt, 1998; Cooper and Turner, 2000). However studies examining the exact content of cognitions would enable researchers to assess for qualitative differences in the cognitions reported, and then to examine the relationship between eating, shape and weight cognitions and perfectionistic beliefs.

In an attempt to understand the cognitive content of individuals with ED, studies have also focused on core beliefs (Leung, Waller and Thomas, 1999); Waller, Ohanian, Meyer and Osman, 2000; Waller, Dickson, and Ohanian, 2002). This research indicates that individuals with ED often demonstrate dysfunctional cognitions, which are not related to eating, weight or shape. Individuals with AN demonstrated different patterns of association in their core beliefs to individuals with BN (Leung et al., 1999). Furthermore, different core beliefs predict different behaviours, and in BN, certain core beliefs predicted levels of binge eating and

purging (Waller et al., 2000). In a study of the relationship between core beliefs, 'ego-dysfunction characteristics' such as perfectionism (Valdiserri and Kihlstrom, 1995), and unhealthy eating in women with BN, five core beliefs from the Young Schema Questionnaire (YSQ; Young, 1994) were associated with unhealthy eating. These were functional dependence, emotional inhibition and deprivation, insufficient self-control and social isolation. Perfectionism correlated most strongly with unrelenting standards, and was not specifically implicated in the development of BN. Although this study therefore did not reveal any further information on the specific nature relationship of ED to perfectionism, the relationship between perfectionism and unrelenting standards supports earlier definitions of perfectionism by Hollender (1965) and Burns (1980), that refer to the pursuit of high and unrealistic standards.

Advocates of schematic processing research such as Vitousek and Hollon (1990, Vitousek, 1996) have suggested that the study of cognitions is problematic in AN for the following reasons. Firstly, individuals may distort self report measures in an attempt to preserve their disorder, or conversely, may wish to please and be over-compliant. Secondly the effects of starvation can produce cognitive changes and make self-report difficult. Thirdly, research does not properly address cognitive theory, as it is considered more important to understand the causal mechanisms at the schema level rather than record the cognitive content. Using adaptations of the Stroop task (Stroop, 1935), schematic processing research has predominantly focused on selective attention (such as Fairburn, Cooper, Cooper, McKenna and Anastasiades, 1991; Cooper, Anastasiades, and Fairburn, 1992). Individuals with ED demonstrate attentional biases (slower response times) towards threat related stimuli, such as eating, weight or shape related words. These take longer to cognitively process than non-eating and shape related words because of these individuals' preoccupation with food and weight

(Vitousek, 1996). However these results may also be distorted by the effects of starvation on cognitive processing (Vitousek, 1996), and the study of core beliefs and schematic processing does not seem to have yielded any further light on the relationship between perfectionism and ED.

Research Considerations

The course of ED and movement across diagnostic boundaries highlights the complex inter-relationship between the diagnostic categories of ED. However, confusion about the diagnostic boundaries is further highlighted in the empirical literature. Methodologically, clinical studies of AN clearly include participants with restrictive, binge eating and purging forms in the same study, and draw conclusions about the relationship between perfectionism and ED. In support of this, Jacobi et al. (2004) suggests two significant problems with current research methodology used to identify perfectionism as a risk factor for ED. Firstly, studies mix full and partial cases of AN and BN, and then draw conclusions about the ED population in general. Secondly, risk factor studies for subgroups of AN and BN, such as restrictive and purging or non purging types, would require several thousand participants, and studies are typically under powered. Keel, Fichter, Quadflieg, Bulik, Baxter, Thornton, Halmi et al., (2004) suggest that the diagnostic criteria for ED influence how the disorder is recognised, researched and treated. Therefore the influence of the theoretical and empirical literature on clinical practice, indicates a need to provide thorough empirical studies with robust methodologies, which may help resolve some of the discrepancies within the literature. Furthermore, improved diagnostic and conceptual understanding of ED would also enable a better understanding of the relationship between ED and perfectionism.

Similarly, as there is an identified need for improvements in the diagnostic and conceptual understanding of ED, there is also a broad conceptual understanding of perfectionism, which further compounds the difficulties observed in understanding the relationship between perfectionism and ED in the empirical literature. In terms of perfectionism, there exists a breadth rather than a depth of study as researchers focus on the different constructs of perfectionism, rather than conducting theoretically driven studies, or improving methodological limitations. However, in spite of these difficulties, reluctance to engage in treatment, poor motivation to change, and the need for urgent medical treatment renders individuals with ED a difficult group to approach for research participation (Powers, 1996; Grave, Ricca and Todesco, 2002). As a result the ED and perfectionism literature would benefit from collaborative working between researchers. This would include agreeing on terminology and conceptual and diagnostic boundaries. Specifically, a request for more theory-driven research has been made (Cooper, 1997), with methodologies that have been designed specifically to test these theories. Difficulties in participant recruitment could be reduced with large multi-centre studies. This may help to improve current understanding of the role of perfectionism in ED, and provide a greater depth and clarity to the existing research literature.

CONCLUSION

Perfectionism is a broad and complex construct, which has both positive and negative, and multidimensional qualities. In recent years, clinical perfectionism, which stresses the personally demanding nature of high standards, has been developed. Clinical perfectionism is thought to contribute to several forms of psychopathology including ED.

ED are complex and 'multifaceted' difficulties (Rome et al., 2003, p.98) characterised by efforts to restrict food intake, which share common psychopathological mechanisms (Fairburn et al., 2003). From a theoretical perspective, early models of ED have proposed that perfectionism is a personality trait that contributes to the development and maintenance of ED, and more specifically to AN (Garner and Bemis, 1982). More recent cognitive models have identified a specific maintaining role for perfectionism in ED. Furthermore, perfectionism and ED are both considered as manifestations of a dysfunctional system for evaluating self-worth in some individuals (Fairburn et al., 2003). Theories have also suggested that EDs are an extension of perfectionistic beliefs and behaviours (Shafran et al., 2002). In support of this latter theory, many of the theories of ED, and maintaining influences such as self-control and the role of positive and negative reinforcement contingencies, appear in both the perfectionism and the ED literature. Similarly, perfectionistic behaviours such as checking, reassurance seeking and avoidance are also observed in those with ED.

Within the empirical literature, the relationship between perfectionism and ED remains unclear. Perfectionism does appear to correlate with ED, but there is not enough evidence to suggest that perfectionism is a specific risk factor. In total, more than 30 variables have been identified as risk factors for ED, which have development, physical, psychological and social origins (Jacobi et al., 2004). Studies also perfectionism in ED tend to mix diagnostic categories of ED, and are generally too small to be conclusive. (Jacobi et al., 2004). Moreover, the difficulties of engaging people with ED in research are well recognised (Powers, 1996; Grave, Ricca and Todesco, 2002). There continues to be a discrepancy between the empirical and theoretical literature. Researchers have called for a more precise understanding of perfectionism, and the construct of perfectionism

requires further clarification. Furthermore, to understand the relationship between perfectionism and ED, improvements in the diagnostic and conceptual understanding of ED are also needed. Researchers have suggested that the content of cognitions has not been widely investigated in the research literature (Cooper, 1997, Cooper, 1998). It may be helpful to examine the content of cognitions more fully, and to begin by looking at the automatic thoughts or self statement level. This would provide baseline data from which to explore further dysfunctional assumptions and core beliefs in ED. From this basis, it may then be possible to explore the contribution of perfectionism. To date, studies have examined the relationship between perfectionism and diagnostic categories of ED, rather than examining perfectionism and the specific cognitions that might contribute to the development of ED. These studies are difficult to compare given that they mix diagnostic categories, which are still under debate, and draw conclusions about the general ED population. Researchers have also requested more naturalistic techniques to study the content of cognitions (Zotter and Crowther, 1991), and studies such as Cooper and Fairburn (1992) reported that techniques such as asking participants to 'think aloud', were more effective than using self-report measures exclusively. Several studies in recent years have also used mirror based techniques (see Shafran and Fairburn, 2002; Farrell, Shafran and Fairburn, 2003; Farrell, Shafran and Fairburn, 2004). These provide more ecologically valid data, and help resolve some of the observed difficulties in using self-report measures with individuals with ED. It is therefore considered that clarity in both the perfectionism and ED constructs would contribute to a better understanding of the relationship between perfectionism and ED. This requires collaborative working from researchers, and an improvement in current methodologies. Cognitive content in ED requires further exploration, using more naturalistic methods, and from this the role of perfectionism could be more accurately explored.

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UNIVERSITY OF SOUTHAMPTON

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**Perfectionism and Thoughts About Eating, Weight and
Shape
An Exploratory Study**

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ABSTRACT

The role of cognitive distortion in the development and maintenance of eating disorders is well established (Cooper and Fairburn, 1992; Cooper, Todd and Wells, 1998). The purpose of this study was to examine whether participants who varied in their concerns about eating differed in their eating, weight and shape thoughts in two tasks: a mirror task which focused on weight and shape and one that did not. The influence of perfectionist beliefs on eating, weight and shape thoughts was then considered. High eating concerned participants reported significantly more negative, self-referent eating, weight and shape thoughts than the low eating concerned participants in the mirror task, and a greater overall belief in eating, weight and shape thoughts. However, there were more neutral thoughts reported overall by both low and high eating concerned participants. State but not trait perfectionism correlated significantly with measures of eating concerns, which were better predicted by measures of eating concerns. Perfectionism only predicted a small proportion of the variance in eating, weight and shape thoughts, in addition to measures of eating concerns. Results are discussed in relation to current cognitive theories, clarity of the perfectionism construct, and methodological limitations within the current literature.

Keywords: Eating Disorders, Perfectionism.

1. INTRODUCTION

1.1 Cognitive Disturbances in Eating Disorders

The role of cognitive distortion in the development and maintenance of eating disorders (ED) is well established (Cooper and Fairburn, 1992; Cooper, Todd and Wells, 1998). The study of cognitions in ED is informed by theories, such as Beck's (1967, 1976) cognitive model, which suggests that early life experiences lead to the development of schemas or core beliefs about the self, world and future. Assumptions trigger automatic thoughts or self-statements that shape affective responses and govern behaviour. Cognitive processing can therefore occur at different levels of processing, namely core beliefs, assumptions and automatic thoughts.

Distortions in thinking are recognised at all levels of cognitive processing in ED. Negative core beliefs can lead to the development of dysfunctional assumptions, which are 'rigid' and 'extreme' interpretations that are 'resistant to change' (Fennell, 2000; p.171). Specific life experiences can trigger dysfunctional assumptions, which give rise to negative automatic thoughts and produce adverse affective responses and behaviours (Beck, 1967, 1976). At the core belief level, individuals with ED had significantly higher levels of unhealthy core beliefs than control participants (Leung, Waller and Thomas, 1999). Specific beliefs have been identified in BN using Young's Schema Questionnaire (YSQ; Young, 1994), which are Defectiveness/ Shame, Emotional Inhibition, Failure to Achieve, and Insufficient Self Control. Furthermore, this study reported that beliefs were able to discriminate between characteristics of BN, as Emotional Inhibition was the best predictor of frequency of binge eating and Defectiveness/Shame predicted frequency of vomiting (Waller, Dickson and Ohanian (2002). At the schema level, research has also focused on errors in information processing, for example in the Stroop Task (Stroop, 1935), selective

processing of information produces slower response times for colour naming eating, weight and shape related words in participants with BN (Fairburn, Cooper, Cooper, McKenna and Anastasiades, 1991). Individuals with eating concerns demonstrated attentional biases to eating, weight and shape related words (Cooper, Anastasiades and Fairburn, 1993). Research has also focused on dysfunctional assumptions related to eating, shape and weight (Cooper, 1997). Individuals with AN have reported more eating, weight and shape assumptions than dieters and controls (Cooper and Turner, 2000). Similarly women with Bulimia Nervosa (BN) had a more depressive attributional style and more dysfunctional attitudes related to depression, compared with non-clinical controls (Goebel, Spalthoff, Schulze and Florin, 1989). Additionally, individuals with BN and depression who completed the Eating Disorder Belief Questionnaire (EDBQ; Cooper, Cohen-Tovée, Todd, Wells and Tovée, 1997) reported a similar number of negative self-beliefs, although individuals with BN present with more underlying assumptions specifically relating to weight and shape (Cooper and Hunt, 1998). At the next level of cognitive processing, automatic thoughts or self-statements are considered significant to the development of Anorexia Nervosa (AN) (Cooper and Fairburn, 1992), but are recognised in all EDs (Zotter and Crowther, 1991).

The study of the contribution of cognitive distortions to eating concerns, although extensive, is far from complete. The literature identifies weight and shape concerns as a core part of the psychopathology of EDs (Cooper, 1997; Fairburn, Cooper and Shafran, 2003), and negative thoughts about the self and underlying assumptions about eating, weight and shape are recognised in the development of ED (Cooper et al., 1998). Weight and shape concerns are thus recognised at all levels of cognitive processing, however there are limitations within the current literature, as the content of these cognitions has not been well documented. In

order to identify the content of the cognitions in individuals with ED, several changes in current research methodologies are needed. A thorough investigation of the specificity of cognitions is required (Cooper, 1997, Cooper and Hunt, 1998), including the precise cognitive content of eating concerns (Clark, Feldman and Channon, 1989; Cooper and Hunt, 1998). This has received little attention in the research literature (Cooper, 1997), and a study of cognitive content specificity would give a more accurate measure of cognitions specifically related to ED than previous research has provided. The cognitive model suggests that dysfunctional assumptions and core beliefs are reflected at the automatic thoughts or self-statement level (Beck, 1967, 1976). Therefore it would be logical to assess cognitive content specificity initially at the automatic thought level, and this might inform further research into dysfunctional assumptions and core beliefs.

Secondly, limitations of the current research literature are reflected in the measures that have been used. Traditionally, cognitive studies of EDs appear to have used self-report measures, although important cognitions can be lost as measures are completed retrospectively and self-report measures tend to cover specific areas of interest (Cooper and Fairburn, 1992, Cooper, 1997). An alternative approach would be to use more naturalistic procedures (Zotter and Crowther, 1991), that would provide more ecologically valid data and enable individuals to freely recall thoughts that they believe are important to understanding the development and maintenance of their eating concerns. More naturalistic and ecologically valid approaches have included the use of mirrors in studies to estimate body size, as mirrors provide the most visual information relating to body weight and shape (Farrell, Shafran and Fairburn, 2003, 2004). Furthermore, Parks and Hollon (1988) suggest techniques such as thought listing, event recording, and thought sampling during a specified event such as

eating (Zotter and Crowther, 1991) would provide thoughts relating to eating concerns, which were not predetermined or restricted to address specific questions as found on most self-report measures. This approach would also provide an immediate measure of eating related cognitions. Specifically, thinking aloud or Concurrent Verbalisation is more accurate than self-report questionnaire based measures at discriminating between cognitions in individuals with AN and BN (Cooper and Fairburn, 1992). Cooper and Fairburn's study (1992) also used mirror-based techniques, and participants were asked to verbalise their thoughts looking in a mirror.

The current research literature therefore appears limited because there is a need for further studies, which address cognitive specificity and content and use more naturalistic data collection procedures, such as thinking aloud and mirror based studies. Despite these methodological limitations of the research, current understanding of cognitive disturbances in eating concerns has provided the basis for development of cognitive theories of ED (Cooper, 1997). The following section provides a brief review of these, and considers potential further areas of study, such as the influence of perfectionism on the development and maintenance of ED.

1.2 A Theoretical Model of Eating Disorders

The most widely used cognitive models of ED are Garner and Bemis' (1982) model for AN, and Fairburn, Cooper and Cooper's (1986) model for BN (Cooper, 1997). More recently, cognitive theories of AN have been developed by Fairburn, Shafran and Cooper (1998), and Cooper (1997) has developed a model for BN. However, in a recent extension to existing cognitive theories of eating concern, the Transdiagnostic model (Fairburn et al., 2003), highlights that movement across diagnostic boundaries from AN to BN is common and the cognitive processes involved in AN and BN are not dissimilar. Therefore both AN and BN

may be maintained by the same cognitive processes, namely a dysfunctional belief system for evaluating self worth. The cognitive distortion encapsulated in the dysfunctional belief system specifically relates to over-valued ideas about body shape and weight (Fairburn et al., 1998; Fairburn et al., 2003) and their control (Slade, 1982, Fairburn et al, 1998; Fairburn et al., 2003). The influence of control, initially recognised by Slade (1982), suggests that control over eating provides a sense of autonomy and develops following a failure to control other areas of life, and further reinforces self-worth (Fairburn et al., 1998). The Transdiagnostic theory also proposes four potential maintenance factors for eating concerns: clinical perfectionism, core low self-esteem, mood intolerance and interpersonal difficulties. Clinical perfectionism a severe and dysfunctional state in which self worth is evaluated in terms of attempts to attain unrealistic standards and goals, which can often lead to failure and results in further self-criticism (Shafran, Cooper and Fairburn, 2002). Clinical perfectionism contributes to the dysfunctional system for self-evaluation in some individuals, in their attempt to control eating, weight and shape and avoid weight gain, and is promoted through a fear of failure to lose weight, selective attention to performance, and adherence to high standards of weight control (Fairburn et al., 2003). However, the concept of clinical perfectionism is specifically used to improve understanding and treatment of psychiatric conditions (Shafran, Cooper and Fairburn, 2003), and has only been researched in a small number of single case studies (see Shafran, Lee and Fairburn, 2004). Further studies of clinical perfectionism are therefore needed before its contribution to the ED literature can be more clearly understood. Although the concept of clinical perfectionism has only been introduced into the ED literature recently, there is a substantial body of research into perfectionism generally.

Perfectionism is widely regarded in the research literature as a multidimensional personality trait with self, social and other orientations (Hewitt and Flett, 1991). *Self-orientated perfectionism* refers to setting goals for the self to attain perfection and avoid failure, where as *other-orientated perfectionism* refers to expectations of the self for others, and *socially prescribed perfectionism* refers to the perception that other people require perfectionism from the individual (Hewitt and Flett, 1991). This multidimensional trait can be measured by the Multidimensional Perfectionism Scale (MPS-H, Hewitt and Flett, 1991), which is well researched in the literature, and therefore provides a good measure for studying the role of perfectionism in ED. However, the MPS-H is a measure of trait perfectionism, and in recent years the Perfectionism Cognitions Inventory has also been developed (PCI; Flett, Hewitt, Blankstein, and Gray, 1998). This is a state measure of perfectionism, which measures perfectionistic cognitions. In the literature on perfectionism, it is well recognised that perfectionism involves distorted beliefs and automatic thoughts. For example, Hamachek (1978) suggested that individuals often ruminate excessively about their abilities, and automatic perfectionistic cognitions are associated with striving to attain perfectionism (Hewitt and Flett, 1991). The two measures (MPS-H and PCI) correlate well, although there is little theoretical understanding of the relationship between state and trait perfectionism in the literature and further research is needed (Flett et al, 1998). Despite its importance in the Transdiagnostic theory of ED, the study of the role of perfectionism is in its infancy. An examination of the role of state and trait perfectionism in ED, using robust measurement tools would provide a good test of the model. However, the Transdiagnostic theory incorporates both cognitive distortions about eating weight and shape *and* perfectionism in some individuals, in the dysfunctional system for self-evaluation. Therefore the content of cognitions and the extent of the cognitive distortions about eating, weight and shape should be researched before the role of

perfectionism in eating concerns can be considered. Within the literature, studies such as Cooper and Fairburn (1992) have assessed the content specificity of cognitions in ED.

1.3 Methodological and Theoretical Perspective

In a study of cognitive processes at the automatic thoughts or self statement level, Cooper and Fairburn (1992) identified the characteristics of cognitive disturbances in eating concerns by examining the content of thoughts about eating, shape and weight. Participants with AN, BN, dieters and non-dieting controls completed eating, shape and weight related tasks (eating a mint chocolate, looking in a mirror and weighing themselves). Thoughts were recorded using a Thoughts Checklist specifically designed for the study, and another more ecologically valid task such as thinking aloud. Participants with AN and BN had more negative thoughts relating to eating, weight and shape than dieters and controls. This study provided valuable information about the frequency of automatic eating, weight and shape thoughts in individuals with ED, and further identified that dieters occupy an intermediate position in frequency of thoughts between individuals with AN and BN and controls.

A possible limitation of the Cooper and Fairburn (1992) study is that only eating, weight and shape concerns in eating, weight and shape tasks were considered, so it is not known if individuals with eating concerns are similarly pre-occupied with eating, weight and shape thoughts at other times. Although not a weakness of the Cooper and Fairburn (1992) study, as recent developments in the ED theoretical literature have incorporated perfectionism in some individuals, in addition to cognitive distortions about eating, shape and weight, in the dysfunctional system for self-evaluation. Measures of perfectionism should therefore be included in studies about eating, weight and shape thoughts. To date, there are no experimental studies within the literature that examine the

content of cognitions in eating concerns at the automatic thoughts level, which have also included a measure of perfectionism. Furthermore, the Transdiagnostic theory suggests that there are similar cognitive processing distortions in AN and BN (Fairburn et al., 2003), although studies have received criticism for mixing diagnostic groups of AN and BN and drawing conclusions about the ED literature in general (Jacobi, Hayward, de Zwaan, Kraemer, and Agras, 2004). Therefore in consideration of these difficulties, this study proposes to examine the content of thoughts in an eating, weight and shape related task and a control task which does not focus on eating, weight and shape. The control task, although not eating, weight or shape related, will encourage individuals to focus on aspects of themselves and their performance. Furthermore, this study will assess the role of perfectionism in eating, weight and shape concerns using both state and trait perfectionism measures, and it will recruit a large analogous sample who are measured in terms of eating concern. This may remove current difficulties associated with diagnostic groups and caseness.

1.4 Aims and Hypotheses

The aim of the present study was to partially replicate and extend research conducted by Cooper and Fairburn (1992). Participants were high and low eating concerns were recruited instead of individuals with diagnoses of AN and BN. Participants completed a weight and shape related task similar to Cooper and Fairburn's (1992) study, and a task which did not focus on weight and shape. The first aim of the study was to examine if participants with different levels of eating concern differed in their negative thoughts in a weight and shape (body-aware) task and in a task that did not focus on weight and shape (non body-aware).

The second aim of the study was to examine the influence of perfectionist beliefs on eating, weight and shape related thoughts. The aim of the study was therefore to assess the relative contribution of trait and state perfectionism to negative thoughts about eating, shape and weight in participants with varying levels of eating concerns.

The Transdiagnostic Theory of ED (Fairburn et al, 2003) suggests that over-valued ideas around weight and shape, and the need to control them operate in the context of low self worth. Therefore the study set out to set the following hypotheses:

- a) Participants with high eating concerns will report more negative eating, weight and shape thoughts on the weight and shape related task (body-aware) than the participants with low eating concerns.
- b) Within a group of participants with high eating concerns, participants will report more negative eating, weight and shape thoughts on the weight and shape related task (body-aware) than in the task that does not focus on body weight and shape (non body-aware).

The Transdiagnostic Theory of ED (Fairburn et al, 2003) suggests that for some individuals, perfectionist beliefs contribute to over-valued ideas about weight and shape and the need to control them, to produce a dysfunctional system for self-evaluation. Therefore as an extension to the first hypothesis, it is proposed that:

- a) There will be a relationship between state and trait perfectionism and negative eating, weight and shape thoughts.
- b) Perfectionism will contribute predictive power to the frequency of negative eating, weight and shape thoughts, in addition to the predictive power of measures of eating concerns on negative eating, weight and shape thoughts.

2. METHOD

2.1 Study Design

The first part of the study used a correlational design to look at the relationship between eating concerns and eating, weight and shape thoughts. The data was then split into groups and a mixed design was used with one between subjects factor (eating concern) and one within subjects factor (task). The dependent variables were the frequency and content of eating, weight and shape thoughts. The second part of the study used a correlational design, and measured the relationship between perfectionism and thoughts.

2.2 Participants

The participants were 95 women with a mean age of 20.07 years (SD 3.42) who were undergraduates at the University of Southampton. An all female group was chosen as women are considered more susceptible to eating disturbances than men (Haller, 1992). They were recruited through an advertisement placed on the university student recruitment intranet service.

In order to look at the interaction between the two tasks, the two groups were formed by taking the upper and lower quartiles of the distribution to produce high and low eating concerned groups, using the Eating Attitudes Test (EAT-26; Garner, Olmsted, Bohr and Garfinkel, 1982). The upper and lower quartiles were chosen rather than a median split because this provided data which represented the high and low scores within the data sample. There were 26 participants in each group. Participants had EAT-26 scores of less than 5 in the low eating concerned group and more than 13 in the high eating concerned group. Ages of the two groups were 20.19 years (SD 3.91) in the low group and 19.46 years (SD 1.03) in the high group. Mean age was not significantly different between the two groups, $t(50) = .92$, $p = .366$.

2.3 Measures

2.3.1 Demographic Information

Demographic information relating to age, height and current weight was collected. Current height and weight measures were used to calculate Body Mass Index (BMI).

2.3.2 Assessment Measures

2.3.2.1 The Eating Attitudes Test – 26 (EAT-26)

The EAT-26 is a 26-item, self-report measure, of behaviours and attitudes associated with disordered eating (Garner et al., 1982). It is one of the most widely used self-report measures of disordered eating (Mintz and O'Halloran, 2000), and has been completed by non-clinical participants (Hopkinson and Lock, 2004), adolescents (Jones, Bennett, Olmsted, Lawson and Rodin, 2001), and both inpatients (Watson, Bowers and Andersen, 2000) and outpatients with eating disorders (Fairburn and Cooper, 1992). The EAT-26 provides a total score and three subscale scores for Dieting, Bulimia and Food Pre-occupation, and Oral Control behaviours. Total scores range from 0 to 78. Increasing scores represent increasing frequency of eating disorder attitudes and behaviours. Scores greater than or equal to 20 have been associated with abnormal eating attitudes and behaviours (Jones, et al., 2001). Internal consistency of the EAT-26 is high ($\alpha = .90$; Jones et al., 2001). The EAT-26 has acceptable validity, as it correlates with similar measures (Berland, Thompson, and Linton, 1986) such as the EAT-40 (Garner and Garfinkel, 1979) and the Eating Disorders Inventory (EDI; Garner, Olmsted and Polivy, 1983).

2.3.2.2 Hospital Anxiety and Depression Scale (HADS)

The HADS (Zigmond and Snaith, 1983), which was administered to control for the effects of depressive symptoms, is a 14-item, self-report questionnaire that produces separate depression and anxiety scores (each range from 0 to 21).

Scores equal to or greater than 8 are suggested to represent caseness (Hermann, 1997). The HADS demonstrates good concurrent validity, and correlates well with other measures such as the Beck Depression Inventory (HADS-A = 0.61 to 0.83; HADS-D = 0.62 to 0.73), the General Health Questionnaire-28 (HADS-A = 0.50 to 0.68; HADS-D = 0.50 to 0.66) (Hermann, 1997).

2.3.2.3 The Multidimensional Perfectionism Scale (MPS-H)

The MPS-H (Hewitt and Flett, 1991) is a 45-item self-report questionnaire that measures 3 dimensions of trait perfectionism. The 3 subscales are: self-orientated (SOP; requiring the self to be perfect), Other orientated (OOP; requiring others to be perfect) and socially prescribed (SSP; the perception that others require the self to be perfect). Increasing scores represent increasing levels of trait perfectionism. In Hewitt and Flett's (1991) study of university students, the MPS-H has good internal consistency (self orientated = .89, other orientated = .79, and socially prescribed perfectionism = .86) and three-month test-re-rest reliabilities were reportedly high (self orientated = .88, other orientated = .85, and socially prescribed perfectionism = .75). The MPS-H is widely used with both psychiatric and non-clinical controls (see review by Shafran and Mansell, 2001) and eating disorders (see Bastiani, Rao, Weltzin, and Kaye, 1995; Hewitt, Flett, and Ediger, 1995; Pliner and Haddock, 1996).

2.3.2.4 Perfectionism Cognitions Inventory (PCI)

The PCI (Flett, Hewitt, Blankstein and Gray, 1998) is a 25-item self-report questionnaire that measures the frequency of current, or state, automatic perfectionistic cognitions. The PCI assesses, 'the frequency with which individuals make evaluative comparisons between the ideal, perfectionistic self and the current self or the current situation' (Flett et al., p.1364). Scores range from 1 ('Not at all') to 5 ('All the time'). Scores are summed to produce a total

score ranging from 25 to 125. High scores represent a high frequency of current perfectionistic thinking. The PCI has adequate three-month test-re-test reliability ($r=0.67$, $p<0.01$), and adequate validity as it correlates with scales of similar measures such as the Attitudes Towards Self Scale, which measures high standards ($r=.55$, $p<0.001$), self criticism – ($r=0.57$, $p<0.001$), overgeneralization ($r=0.43$, $p<0.001$), and failure preservation ($r=0.56$, $p<0.001$).

2.3.2.5 The Adapted Thoughts Checklist

This measure was adapted from the Thoughts' Checklists used in Cooper and Fairburn's (1992) study, which assessed thoughts about eating, weight and shape. The adapted version is a 25-item, self-report measure, of the frequency of and belief in thoughts about eating, weight, and shape. Frequency of thoughts are measured on 1 ('none of the time') to 6 ('all the time') scale. Belief in thoughts is measured on a 0 ('I don't believe this thought at all') to 100 ('I completely believe this thought') scale.

2.3.2.6 Concurrent Verbalisation

A Concurrent Verbalisation or 'Thinking Aloud' task was used to measure the content of cognitions. Sessions were tape-recorded, transcribed and analysed according to the following procedure from Davison, Robins and Johnson (1983). Transcripts were broken down into idea units, which are described as, 'small as possible while not distorting what was assumed to be the intention of the speaker' (Davison et al., 1983; p.26). An independent rater (rater 2) divided 22 (23.16%) randomly assigned transcripts into idea units. In order to increase validity of the Thinking Aloud task, Rater 2 was a graduate of English literature rather than psychology, to rule out the possibility of applying knowledge of psychological theory or the eating disorder literature that might have influenced ratings. Agreement was calculated between rater 1 and 2, by dividing the number of end boundaries agreed on by the total number of end boundaries used by rater 2.

Mean percentage agreement was calculated as 91% for the body shape and weight focused task (mirror task) and 97% for the control task (word puzzle task).

Idea units were then categorised as in the original study (Cooper and Fairburn, 1992, p.503) according to:

1. The number of positive and negative thoughts directly related to the task.
Past associations and memories were excluded.
2. Thoughts in each task were also coded according to the following categories from Cooper and Fairburn (1992):
 - a) Reference - Thoughts related to the self or others.
 - b) Valence - positive, negative or neutral thoughts.

2.3.3 Experimental Tasks

2.3.3.1 Body Shape, and Weight Focused Task

The task was designed to maximise awareness and evaluation of body weight and shape. Participants were asked to weigh themselves (weight related) whilst simultaneously looking in a mirror (body shape related) for four minutes.

2.3.3.2 Word Puzzle (Control) Task

This task was used as a control measure. Participants were asked to complete a word puzzle in four minutes (see Appendix F). The word puzzle had been piloted on 4 non clinical participants who produced a mean score of 19.5 words.

This was considered to be a similarly difficult and unrealistic task in which self-evaluation was encouraged, as participants were informed that a score of 25 words or less would reflect a 'poor' achievement, 26-30 words was 'average' and more than 30 words was 'good'.

2.4 Procedure

Participants were given both a verbal and written explanation of the study. After signing the consent form, participants were given instructions for the first

experimental task. The two experimental tasks were counter-balanced to avoid order effects. Participants were asked to Think Aloud during each task, and to help relieve any anxiety associated with Thinking Aloud were told, 'say any thoughts, ideas, beliefs, feelings and expectations that pop into your head. Some people wonder if they are really thinking these thoughts or if they are just saying anything to complete the task. Don't think too hard about it what you feel you want to say and don't worry if nothing comes to mind.' Participants were left alone for four minutes to complete the first task and Thinking Aloud was tape-recorded. At the end of the task, the Thoughts Checklist was administered. The same procedure was then applied to the second task. Participants then completed the EAT-26, PCI, HADS and MPS-H. Participants were provided with debriefing information at the end of the study, and were given the opportunity to ask further questions, and receive information relating to eating related concerns and contact details for professional support (Appendix H). Ethical Approval was obtained from the School of Psychology Ethics Committee.

3. RESULTS

3.1 Participant Characteristics

The mean age of the 95 participants was 20.1 years (*SD* 3.42). Mean current weight and height calculations provided a mean Body Mass Index of 21.4 kg/m² (*SD* 2.57), which is within the normal range.

Mean scores for the standardised measures were as follows: EAT-26 = 10.87 (*SD* 11.40), HADS Anxiety scale = 8.27 (*SD* 3.77) and HADS Depression scale = 3.43 (*SD* = 2.71). In view of that scores ≥ 20 are thought to represent dysfunctional eating attitudes and behaviours (Jones et al., 2001), EAT-26 scores were considered low within the sample. HADS Depression scale scores were also low, although HADS Anxiety scores were higher than expected as 51.58% of participants who scored 8 or above were considered to represent caseness (Hermann, 1997). Mean scores for the two perfectionism measures were as follows: PCI = 68.71 (*SD* 19.17), MPS-self orientated scale = 48.68 (*SD* 10.12), MPS-other orientated scale = 46.36 (*SD* 10.74) and MPS-socially prescribed scale = 48.74 (*SD* 9.78). MPS scale scores were T scores (mean = 50, *SD* = 10) and were within the normal range.

3.2 The Relationship Between Eating Concerns and Thoughts

The study was divided into two parts. The first part of the study assessed the relationship between eating concerns and thoughts in two conditions: one (mirror task) was designed to activate concerns about weight and shape; the other was a control task (word puzzle task). A correlational design was initially used to look at the relationship between eating concern and thoughts, and to look at the interaction between the two tasks, the upper and lower quartiles of the distribution was then calculated to produce high and low eating concerned groups.

3.2.1 Correlations Between Eating Concerns and Thoughts for Each Task.

A correlational analysis assessed the relationship between eating concerns (EAT-26) and negative eating, weight and shape thoughts on the Adapted Thoughts Checklist, for both tasks. This was to see whether eating concern would be associated with negative eating, weight and shape thoughts on a task that was expected to activate eating, weight and shape thoughts (mirror), and also on a task that would not be expected to elicit these thoughts (word puzzle). There were only two positive thoughts out of the 25 questions on the Adapted Thoughts Checklist and therefore these two thoughts were not included in the analysis. Table 1 shows correlations between EAT-26 scores and measures of the Adapted Thoughts Checklist, for the mirror task, as expected. However, correlations were also significant for the word puzzle task, which was not expected. The EAT-26 had the strongest correlation with mean frequency of negative eating, weight and shape thoughts on the mirror task. Correlations were weak with the word puzzle task.

Table 1
Correlation Matrix for Eating Concerns (EAT-26) and Frequency of, and Belief in Negative Eating, Weight and Shape Thoughts for the Two Tasks.

		Mirror Task			Word Puzzle Task	
		EAT-26	Frequency	Belief	Frequency	Belief
EAT-26	Pearson Correlation	1				
	N	95				
Mirror Task - Frequency	Pearson Correlation	.73	1			
	N	95	95			
Mirror Task - Belief	Pearson Correlation	.34	.28	1		
	N	94	94	94		
Word Puzzle - Frequency	Pearson Correlation	.38	.52	.05	1	
	N	95	95	94	95	
Word Puzzle - Belief	Pearson Correlation	.25	.33	.31	.28	1
	N	73	73	73	73	73

3.2.2 Data Analysis

The effect of both group (high vs. low eating concerns) and task (mirror vs. word puzzle) was then used to assess thoughts reported in the study. A Repeated Measures Analysis of Variance (ANOVA) with one between subjects factor (high vs. low eating concerns) and one within subjects factor (mirror vs. word puzzle task) was used to assess eating, weight and shape thoughts on the Adapted Thoughts Checklist and Thinking Aloud Task. The Adapted Thoughts Checklist provided two measures: mean frequency of, and mean belief in negative eating, weight and shape thoughts. The Thinking Aloud task provided a measure of positive and negative eating, weight and shape thoughts directly related to the mirror task, all positive, negative and neutral thoughts, and self and other referent thoughts. A Bonferroni Correction was applied to post hoc t-tests (probability value / number of t-tests conducted = $.05/4$). A probability value of $.0125$ was set as the criterion for statistical significance.

3.2.3 The Effect of Eating Concerns on Eating, Weight and Shape Thoughts

3.2.3.1 Adapted Thoughts Checklist: Mean Frequency

Table 2 shows the mean frequency of negative eating, weight and shape related thoughts on the Adapted Thoughts Checklist, for high and low ED groups. A two-way Repeated Measures ANOVA (group x task) for the mean frequency of eating, weight and shape thoughts showed a significant main effect of task, $F(1, 50) = 122.33$; $p < .01$; a significant main effect of group, $F(1, 50) = 26.61$; $p < .01$; and a group x task interaction, $F(1, 50) = 26.98$; $p < .01$. The group x task interaction is illustrated in Figure 1. Post hoc t-tests showed that the high eating concerned group had significantly more negative thoughts on the mirror task than the low eating concerned group, $t(50) = -5.86$, $p < .001$, but not on the word puzzle task, $t(50) = -1.98$, $p = .053$. Participants in the high eating

concerned group also had significantly more negative thoughts on the mirror task compared to the word puzzle task, $t(25) = 9.64, p < .001$.

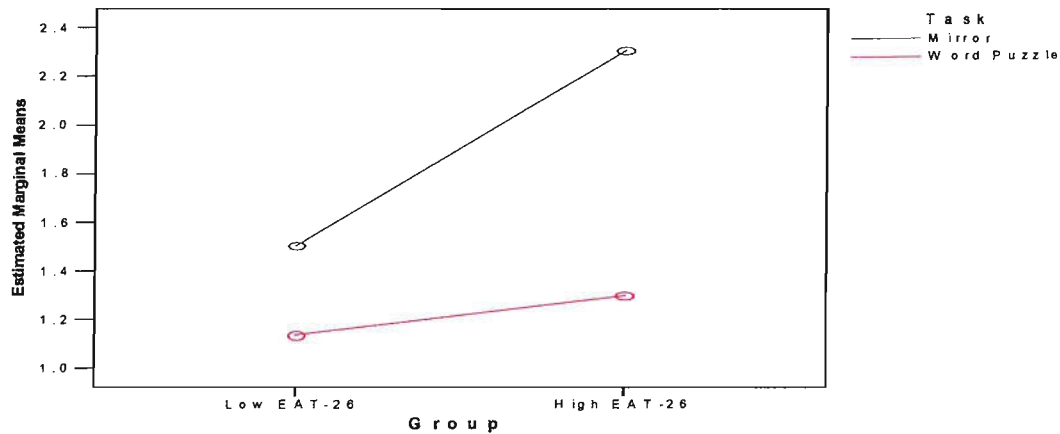


Figure 1
Group x Task Interaction for the Mean Frequency of Negative Thoughts on the Adapted Thoughts Checklist.

3.2.3.2 Adapted Thoughts Checklist: Mean Belief

Table 2 shows the mean belief percentage rating for negative eating, weight and shape related thoughts on the Adapted Thoughts Checklist, for high and low ED groups. A two-way Repeated Measures ANOVA (group x task) for mean belief in negative eating, weight and shape related thoughts showed a main effect of task, $F(1, 40) = 11.23, p = .002$; and a main effect of group, $F(1, 40) = 7.11, p = .011$. There was no task x group interaction, $F(1, 40) = .022, p = .884$.

Table 2

Mean Frequency of, and Mean Belief in Negative Eating, Weight and Shape Thoughts for Low and High Eating Concerns.

Variable	Task	Low ED (SD) (n = 26)	High ED (SD) (n = 26)
Mean Frequency of Negative Thoughts	Mirror	1.50 (.36)	2.3 (.60)
	Word Puzzle	1.14 (.16)	1.3 (.37)
Mean Belief in Negative Thoughts	Mirror	52.35 (15.52)	64.81 (10.70)
	Word Puzzle	43.07 (20.55)	54.68 (20.84)

As predicted, participants believed their negative eating, weight and shape thoughts more in the mirror task than in the word puzzle task. The high eating concerned group believed their negative thoughts more overall, than the low eating concerned group.

3.2.3.3 Categorisation of the Thinking Aloud Task

Thinking Aloud provided concurrent verbalisation data for the two tasks, and supplemented the questionnaire data, collected retrospectively, from the Adapted Thoughts Checklist. Data was categorised according to positive and negative eating, weight and shape thoughts directly related to the mirror task, all positive, negative and neutral thoughts and self-referent and other referent thoughts. Directly relevant positive thoughts were categorised as thoughts positive to the participant such as, *'I don't weigh as much as I thought I would, which is good.'* Directly relevant, negative thoughts were, *'I can see my large hips and large thighs'*. For positive, negative and neutral thoughts, positive thoughts included, *'Nearly nine and a half or sixty kilograms. So I have lost weight. This is good.'* Negative thoughts were, *'my weight is just over ten stone. Bit disappointed with that because I was trying to get down to nine stone over the last year.'* Neutral thoughts had no value attached such as, *'I weigh just over eight and a half stone, which is what I expected really.'* Self-referent thoughts were categorised as relating to the self, and other referent thoughts related to other people. Self referent thoughts were, *'My bulges are really obvious where I've put on weight.'* Other referent thoughts were, *'Guys probably worry about being a bit too skinny / and girls always worry about being a bit too fat.'*

3.2.3.4 Data Analysis

Three repeated measures ANOVAS were completed for the Thinking Aloud Task. Each analysis had a one between subjects factor (high vs. low eating concern). The first ANOVA had one within subjects factor (positive vs. negative thoughts) to

assess the valence of eating, weight and shape thoughts directly related to the mirror task only, as this was expected to activate eating, shape and weight concerns. The second ANOVA had two within subjects factors of task (mirror vs. word puzzle) and valence (positive vs. negative vs. neutral thoughts) to assess the contribution of neutral thoughts. The third ANOVA had two within subjects factors of task (mirror vs. word puzzle) and thought type (self referent vs. other referent) to measure concerns relating to the self or others. Table 3 shows the mean number of positive and negative eating, weight and shape thoughts that were directly relevant to the mirror task, and the mean number of positive, negative and neutral thoughts and self and other referent thoughts, for the high and low eating concerned groups, on the mirror and word puzzle tasks.

3.2.3.5 Thinking Aloud: Positive and Negative Thoughts Directly Relevant to the Mirror Task

A two-way Repeated Measures ANOVA (group x valence) showed a significant main effect of valence, $F(1, 48) = 10.49, p = .002$; and a group x valence interaction, $F(1, 48) = .925, p = .341$, which is illustrated in Figure 2. There was no main effect of group $F(1, 48) = .81, p = .37$. Post hoc t-tests showed that participants in the high eating concerned group reported significantly more negative than positive thoughts, $t(23) = -3.00, p = .006$, but there was no difference in the frequency of positive and negative thoughts in the low eating concerned group, $t(25) = -1.60, p = .122$. There were no overall differences in valence between the high and low eating concerned group for positive, $t(48) = -.047, p = .962$, or negative thoughts, $t(48) = -1.12, p = .270$.

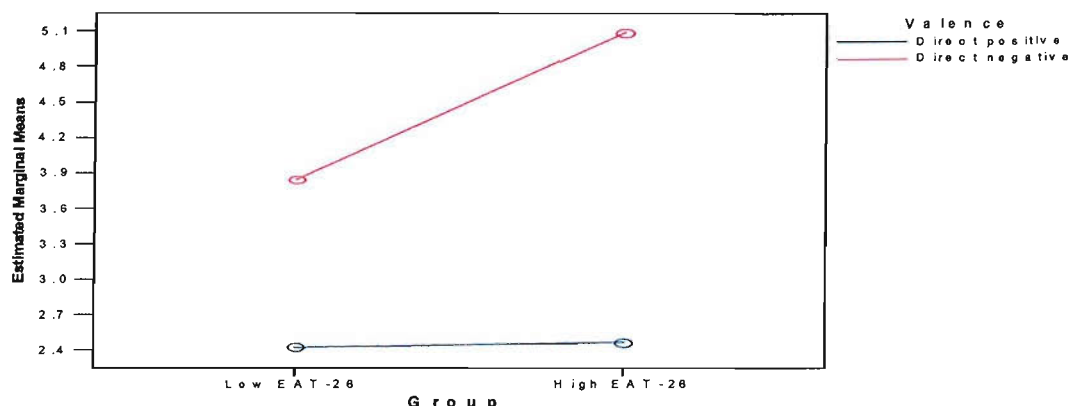


Figure 2
Group x Valence Interaction For Direct and Immediately Relevant Positive and Negative Thoughts.

3.2.3.6 Thinking Aloud: All Positive, Negative and Neutral Thoughts

A three-way Repeated Measures ANOVA showed a main effect of task, $F(1, 47) = 37.262, p < .01$; and a main effect of valence, $F(1.357, 63.758) = 52.768, p < .01$. Overall, there were significantly more neutral than positive or negative thoughts. There was also a task x group interaction, $F(1, 47) = 6.241, p = .016$. There was no main effect of group, $F(1, 47) = .738, p = .395$. There was no interaction between valence x group, $F(2, 94) = .106, p = .90$; task x valence, $F(1.830, 86.00) = .324, p = .705$; or task x valence x group, $F(2, 94) = .416, p = .661$.

The group x task interaction is illustrated in Figure 3. Participants reported significantly more thoughts in the mirror task than the word puzzle task in both the low eating concerned, $t(25) = 3.38, p = .002$, and the high eating concerned groups, $t(22) = 4.90, p < .001$. The high eating concerned group reported more thoughts on the mirror task than the low eating concerned group, although this trend was not significantly different, $t(48) = -1.40, p = .167$. On the word puzzle task, the high eating concerned group actually reported less thoughts on the word puzzle task than the low eating concerned group, however this was not

significantly different, $t(47) = .55, p = .583$.

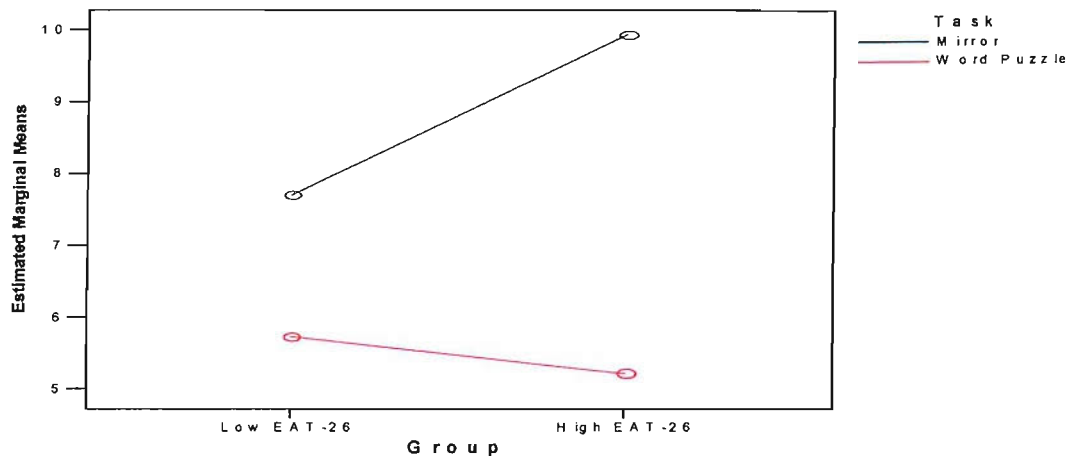


Figure 3

Task x Group Interaction for All Positive, Negative and Neutral Thoughts.

3.2.3.7 Thinking Aloud: Self and Other Referent Thoughts

A three-way Repeated Measures ANOVA with two within subject factors (task and thought type) and one between subject factor (group) showed a main effect of task ($F(1, 47) = 35.60, p < .01$) and a main effect of thought type, $F(1, 47) = 56.77, p < 0.01$. There was a task x group interaction, $F(1, 47) = 6.33, p = .015$, and a task x thought type interaction, $F(1, 47) = 55.92, p < .01$. There was no effect of group, $F(1, 47) = 69.40, p = .43$. The thought type x group interaction, $F(1, 47) = .34, p = .562$, and task x thought type x eat group interaction, $F(1, 47) = 1.10, p = .299$ were not significant.

Figure 4 illustrates the task x group interaction. Post hoc t-tests showed that participants reported significantly more thoughts on the mirror task than the word puzzle task in both the low eating concerned group, $t(25) = 3.38, p = .002$, and the high eating concerned group, $t(22) = 4.75, p < .001$. However, the high eating concerned group did not report significantly more thoughts than the low group on the mirror task, $t(48) = -1.40, p = .167$, or the word puzzle task, $t(47) =$

.71, $p = .480$. Figure 4 shows that the high eating concerned group actually produced less thoughts on the word puzzle task. From the graph it would appear that there was a trend in results, however the post hoc tests were not significant.

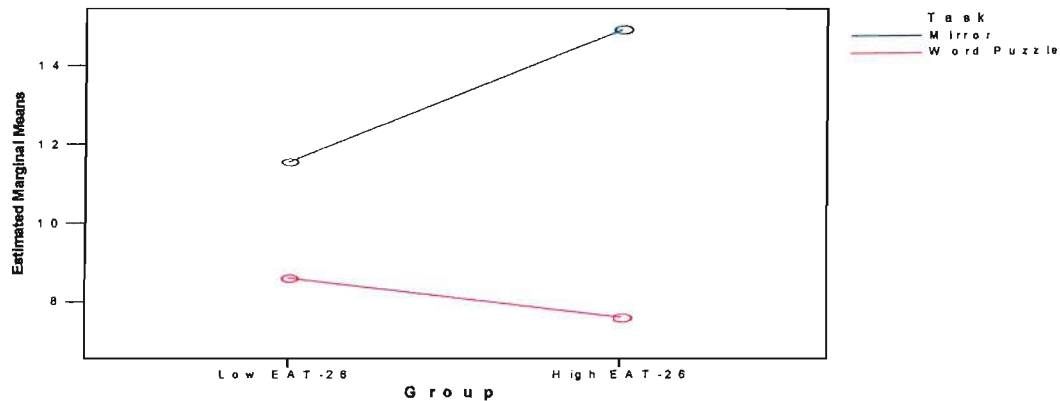


Figure 4
Group x Task Interaction for Self and Other Referent Thoughts

Figure 5 illustrates the task x thought type interaction. Participants reported significantly more self referent thoughts on the mirror task than the word puzzle task, $t(48) = 8.77, p < .001$, but not other referent thoughts, $t(48) = -1.27, p = .210$. On the mirror task, participants reported significantly more self referent thoughts than other referent thoughts, $t(49) = 8.63, p < .001$, but this difference was not significant on the word puzzle task, $t(48) = .37, p = .715$.

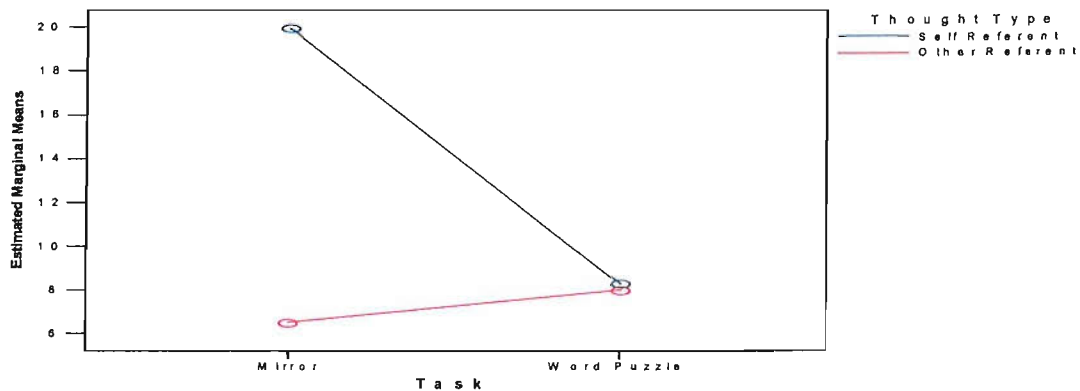


Figure 5
Task x Thought Type Interaction for Self and Other Referent Thoughts.

Table 3

Mean values for Task and Group for Directly Relevant Thoughts, All Positive, Negative and Neutral Thoughts, and Self and Other Referent Thoughts.

Task	Thought	Low ED (SD) (n = 26)	High ED (SD) (n = 24)
Mirror	Direct	2.42	2.46
	Positive	(2.47)	(2.78)
	Direct	3.85	5.08
	Negative	(3.75)	(4.1)
Mirror	Positive	3.27	5.00
		(2.90)	(5.568)
	Negative	7.54	10.00
		(5.559)	(5.657)
	Neutral	12.27	14.78
		(8.321)	(12.004)
Word Puzzle	Positive	.58	.43
		(.809)	(.662)
	Negative	5.00	5.22
		(3.311)	(3.503)
	Neutral	11.58	10.00
		(7.880)	(7.693)
Mirror	Self	17.54	22.35
		(9.81)	(11.22)
	Other	5.54	7.43
		(5.86)	(5.86)
Word Puzzle	Self	8.92	7.57
		(4.31)	(5.39)
	Other	8.23	7.65
		(6.98)	(5.71)

3.3 The Relationship Between Perfectionism and Negative Eating, Weight and Shape Thoughts.

3.3.1 Data Analysis

The second part of the study examined the relationship between perfectionism and negative eating, weight and shape thoughts. Firstly, correlation analysis ($n = 95$) examined the relationship between eating concerns (EAT-26), the two perfectionism measures used in the study (MPS and PCI) and the HADS, as anxiety was higher than expected in the sample. Secondly, a stepwise multiple regression analysis assessed the contribution of anxiety (HADS), eating concerns

(EAT-26), and perfectionism (PCI) to negative eating, weight and shape thoughts using the Adapted Thoughts Checklist.

3.3.2 Correlation Analysis between Eating Concern and Perfectionism

There were significant positive correlations between the EAT-26, PCI and the HADS Anxiety and Depression subscales (Table 4). The EAT-26 did not significantly correlate with any subscales of the MPS. However, the PCI correlated significantly with the self and social scales, but not the other orientated scale of the MPS.

Table 4

Pearson Correlation coefficients (r) and statistical significance values (p) for Eating Concerns, Anxiety, Depression and Perfectionism ($N = 95$)

	EAT-26	HADS Anxiety	HADS Depression	PCI	MPS-Self	MPS-Other	MPS-Social
EAT-26	1						
HADS Anxiety	.30)	1					
HADS Depression	.28	.50	1				
PCI	.47	.50	.36	1			
MPS-Self	.13	.21	.04	.54	1		
MPS-Other	.09	.04	.06	.18	.41	1	
MPS Social	.19	.33	.36	.52	.53	.48	1

3.3.3 Multiple Regression analysis to assess the Contribution of

Perfectionism to Negative Eating, Weight and Shape Thoughts

The EAT-26 and PCI were included in the regression Model as predictors of negative eating, weight and shape thoughts. Multiple correlation co-efficients for the EAT-26, $R = .73$, and the EAT-26 and the PCI together, $R = .76$, showed that the EAT-26 was the best predictor of negative eating, weight and shape thoughts, with the PCI making only a small contribution. R^2 values suggested that the EAT-26 contributed 52.7% of the variation in negative eating, weight and

shape thoughts, and the EAT-26 and PCI together contributed 57.2% of the variation. The inclusion of the PCI in the regression model only accounted for an additional 4.5% of the variance in negative eating, weight and shape thoughts. In support of this result, standardised beta weights (β) for the EAT-26 were, $\beta = .62$, $t(92) = 7.97$, $p < .001$, and for the PCI were $\beta = .24$, $t(92) = 3.09$, $p = .003$.

Conversely, standardised beta weights for the excluded HADS-A were $\beta = .01$, $t(92) = .14$, $p = .89$. Partial correlations controlled for the effects of each variable in the regression model, and showed that the EAT-26 ($r = .64$) had the strongest association with negative eating, weight and shape thoughts, followed by the PCI ($r = .31$).

4. DISCUSSION

This study had two aims. Firstly, to assess the effect of eating concern and task on eating, weight and shape thoughts and characteristics, using the Adapted Thoughts Checklist and Thinking Aloud task. Secondly, to assess the relationship between perfectionism and negative eating, weight and shape thoughts, and to predict the contribution of eating concerns and state perfectionism on negative eating, weight and shape thinking.

4.1 Results of the study

4.1.1 Eating Concerns and Thoughts

Participants were predominantly undergraduates with a BMI within the normal range. Eating concerns and depression were generally low in this group, although anxiety levels were higher than expected. Perfectionism scores as measured by the MPS-H, were within the normal range.

Using the Thoughts Checklist, the study found that high eating concerned participants reported more negative eating, weight and shape concerns in an eating, weight and shape focused task (mirror task), than low eating concerned participants. Within the high eating, concerned group, there were also significantly more negative eating, weight and shape thoughts in the eating, weight and shape task than in the control task (word puzzle task). Participants with high eating concerns also reported a greater belief in their negative eating weight and shape thoughts than low eating concerned participants, and there was also a greater belief in these thoughts on the eating, weight and shape task than in the control task.

Using the Thinking Aloud task, the study found that high eating concerned participants reported significantly more negative than positive thoughts on the eating, weight and shape task, where as there was no difference between the

two tasks in the low eating concerned group. Within the high eating concerned group, participants reported more total *self* and *other referent* thoughts in the eating, weight and shape task than in the control task. There were also more *self referent* than *other referent* thoughts in the eating, weight and shape task, and more self-referent thoughts reported on the eating, weight and shape task compared to the control task.

In terms of valence, it was expected that high eating concerned individuals would produce more negative thoughts than positive or neutral thoughts overall, compared with the low eating concerned participants, and on the mirror task compared to the word puzzle task. However, the results showed that all participants reported more neutral thoughts. The results further indicated that although the high eating concerned group did not produce more negative thoughts than the low group, high eating concerned individuals reported proportionately more negative to positive thoughts.

4.1.2 The Relationship Between Perfectionism and Eating Concerns

The second part of the study showed that state (PCI) rather than trait (MPS-H) perfectionism correlated significantly with the EAT-26, and that eating concerns (EAT-26) were the best predictor of negative eating, weight and shape thoughts. Perfectionism (PCI) contributed only a small proportion of predictive power in addition to the EAT-26.

4.2 Explaining the Relationship Between Eating Concerns and Thoughts

Individuals with eating concerns report more negative eating, weight and shape related self-evaluation than those who do not restrict eating (McFarlane, McCabe, Jarry, Olmsted and Polivy, 2001) and current cognitive behavioural models of ED can explain this relationship. The Transdiagnostic model (Fairburn et al., 2003) proposes that individuals with high eating concerns have a dysfunctional system

for evaluating self worth, in which they evaluate themselves mainly in terms of eating, weight and shape and their ability to control them. The pursuit of high eating, weight and shape goals are difficult to achieve, which results in harsh self-criticism, rather than a re-evaluation of standards, and leads to a pre-occupation with eating, weight and shape, striving to pursue weight loss, unrealistic standards and harsh self-criticism. This suggests that high eating concerned individuals may be more susceptible to self-referent, negative eating, weight and shape evaluations, as reported in the present study. Conversely, low eating concerned individuals do not have the same dysfunctional system for self worth, and therefore they produce fewer negative eating, weight and shape thoughts. There are no studies to date that have examined eating, weight and shape concerns in a task that does not focus on weight and shape. In the present study, participants reported more negative eating, weight and shape thoughts, a greater belief in their thoughts, and more self referent thoughts on the eating, weight and shape focused mirror task, than the word puzzle task which did not focus on weight and shape. Specifically, individuals with high eating concern in the mirror task also produced proportionally more negative to positive thoughts than the low eating concerned group. The idea that eating, weight and shape thoughts need to be activated by eating, weight and shape triggers, is supported by this study because differences were observed between the eating, weight and shape focused task and the non eating weight and shape task. Additionally the greater belief and self-referent thinking on the mirror task is reflected in the weight and shape nature of the task, which asked participants to focus exclusively on themselves.

Consistent with the present study and the Transdiagnostic theory, a higher frequency of negative eating, weight and shape thoughts has been identified in individuals with AN and BN compared to non-clinical controls (Clark et al., 1989;

Zotter and Crowther, 1991; Cooper and Fairburn, 1992). However, Zotter and Crowther (1991) note that the presence of distorted and dichotomous thoughts, rather than the frequency of thoughts, may be better at discriminating between clinical and non clinical groups. There have been mixed results in reports of belief in negative eating, weight and shape thoughts. In contrast to the present study, Cooper and Fairburn (1992) showed that participants with ED did not believe their negative thoughts more than controls. Conversely, Clark et al. (1989) observed that individuals with AN and BN reported thoughts of greater intensity than controls. In general, the literature tends to support the findings of the present study, and suggests that individuals with high eating concerns will report a greater belief in eating, weight and shape related thoughts.

In terms of valence, the high proportion of neutral thoughts could be attributed to the selection of a non-clinical sample, despite the prediction that high eating concerned individuals would report more negative thoughts overall. For example, a study of mirror cognitions and behaviours in people with high and low body shape concern, showed that women with high body shape concern reported more negative or mixed thoughts than neutral or positive (Farrell et al., 2004).

However, the present study highlighted two important findings. Firstly, high eating concerned individuals produced more negative eating, weight and shape thoughts, although they did not produce more negative thoughts overall. Secondly, the significantly greater proportion of directly relevant negative to positive thoughts reported in the high eating concerned group, which was not observed in the low group, may provide insight into the cognitive processes involved in self evaluation. That is, individuals with high eating concerns may not challenge their negative thoughts with positive thinking as readily as low eating concerned individuals, particularly, if they are susceptible to holding stronger beliefs about these thoughts. This has clearly has implications for treatment

approaches, in that individuals with high eating concern may have greater difficulties than anticipated using cognitive behavioural techniques such as thought challenging.

4.3 Explaining the Relationship Between Perfectionism and Eating Concerns

This is the first study to date that has examined the relationship between eating concerns and state and trait multidimensional perfectionism. In contrast to the findings of the present study, previous research has identified a correlation between trait perfectionism and eating concern measures (Pliner and Haddock, 1996; Halmi, Sunday, Strober, Kaplan, Woodside, Fichter, Treasure et al., 2000; Sherry, Hewitt, Flett, and Harvey, 2003), although the current study used different measures. The perfectionism subscale of the Eating Disorders Inventory (EDI; Garner et al., 1983) is most commonly used as a measure of perfectionism (Bastiani et al., 1995), and Shafran, and Mansell (2001) suggest that this is a unidimensional measure of perfectionism, so the results of the present study are not directly comparable with these studies.

There are no studies to date that have looked at the relationship between state perfectionism and eating concerns, or the predictive power of state perfectionism and eating concerns in relation to negative eating, weight and shape thoughts following an experimental task. However previous research has suggested that perfectionism predicted BN in women who perceived themselves to be overweight (Joiner, Heatherton, Rudd and Schmidt, 1997). In an extension to this study of 342 undergraduates, the relationship between perfectionism and weight status was greatest in those with low self esteem (Vohns, Bardone, Joiner, Abramson and Heatherton, 1999). The current study does not compare easily with this research, as it examined the relationship between eating thoughts and

perfectionism rather than ED and perfectionism. The following section discusses a number of factors that could explain the findings of the present study.

4.4 Explaining the Relationship Between State and Trait Perfectionism

This study predicted that both state and trait measures of perfectionism would correlate with measures of eating concern. However, the results may reflect the fact that state (PCI) and trait (MPS-H) perfectionism scales measure different aspects of the perfectionism construct (Flett et al., 1998). In spite of these differences, the PCI correlated with both *self orientated* and *socially prescribed* perfectionism. This is consistent with a previous study of 311 undergraduates, which showed that perfectionistic personality styles are associated with perfectionistic thinking (Flett et al., 1998). However, the relationships between state and trait perfectionism and eating concerns remains unclear, and there are no studies to date, within the current literature with which to compare the current findings. The MPS-H may represent a general form of perfectionism, or may be sensitive only to more extreme cases of eating concern than this study reported. The PCI (PCI; Flett et al., 1998) may be able to detect a varying severity of perfectionistic thinking through a wider range of eating, weight and shape concerns. Given our current knowledge about perfectionism and its role in the causation and maintenance of ED, it would be advisable for future studies to incorporate both state and trait measures of perfectionism until the relationships are better understood.

4.5 Explaining the Predictive Power of Perfectionism

4.5.1 The Transdiagnostic Model

The model suggests that perfectionism may contribute to the dysfunctional system for evaluating self-worth in some, but not all cases, as it promotes the pursuit of weight loss and avoidance of weight gain through restrictive eating, despite emaciation and poor physical health (Fairburn et al., 2003). The authors

highlight particular relationships between perfectionism and AN. The present study did not recruit or assess participants for AN, and did not recruit clinical participants. Therefore it is not probable that this relationship, which is most frequently observed between perfectionism and symptoms of AN, would have been present in the current study. The selection of non-clinical participants could therefore account for the weak correlation between the MPS-H and eating concern.

4.5.2 The Perfectionism Construct

The present study suggested that perfectionism contributed only a small proportion of additional variability in negative eating, weight and shape thinking, in addition to a direct measure of eating concern (EAT-26). This result may be explained by perfectionism and ED sharing similar cognitive processes, such as a dysfunctional system for evaluating self worth (Fairburn et al., 2003). The literature suggests that the individual's behaviour in EDs, which involve striving towards an impossible standard, is perfectionistic (Vohs et al., 1999). The concept of clinical perfectionism suggests that eating concerns may manifest themselves as perfectionist goals and standards, which are applied in the domain of eating, weight and shape (Shafran et al., 2002). Individuals judge their self worth in terms of their ability to pursue and obtain their goals. If ED are a form of perfectionism in the domain of eating, weight and shape, this may suggest a considerable overlap between the EAT-26 and the measures of perfectionism, and could explain how the PCI contributed only a small amount of predictive power to the regression analysis.

4.6 Methodological Considerations

The study had several limitations. The quartile split used to obtain high and low eating concerned groups, was considered to be the most appropriate method for comparing the data on several within group levels. However this method can lose

power within a study (Cohen and Cohen, 1983). The high eating concerned group were participants selected with EAT-26 scores of ≥ 13 . In comparison, previous studies have selected high eating concerned participants with EAT-26 scores ≥ 20 (e.g. Pliner and Haddock, 1995). The study could have initially screened participants to form the high and low eating concerned groups.

Future studies could use clinical samples to test the hypotheses outlined in this study, which could highlight a clearer relationship between perfectionism and eating concerns. However an analogous sample was used within this initial study for several reasons. Firstly the study examined negative eating, weight and shape thoughts across a wide range of eating concerns, and did not specifically intend to compare clinical and control participants. The results of the study supported this approach as the two eating concerned groups occupied more intermediate positions on the eating concern spectrum, than clinical and control groups, and statistically significant differences in negative eating, weight and shape thoughts were still observed. It has been suggested that there is no question that individuals with ED will display more eating concerns than controls (Vitousek and Hollon, 1990). Secondly, there are difficulties associated with researching diagnostic groups, as most individuals do not meet the full criteria for eating disorders (Fairburn and Harrison, 2003). Thirdly, time limitations did not permit the use of clinical samples. Individuals with eating disorders are difficult to recruit for research participation, as they can be reluctant to accept their condition and often require urgent medical help initially (Powers, 1996; Grave, Ricca and Todesco, 2002). Fourthly, the two tasks required a high level of self-focused attention. This could have been extremely distressing for individuals with eating disorders, and it was therefore considered more ethically appropriate to initially conduct this study with an analogous sample.

Thinking Aloud provided a substantial amount of qualitative data and the results were disappointing, particularly as the Cooper and Fairburn (1992) study reported that the Thinking Aloud task and rating procedure was better than the Thoughts Checklist at discriminating between participant groups. To avoid making inaccurate inferences, only the thoughts with an evaluative negative or positive statement attached were coded as such, and this may account for the high proportion of neutral comments in the study. Measures of affect, tone of voice, and the structure of conversations could also have been included, which would have provided a greater understanding of thoughts and the cognitive processes and pathways involved in eating concerns. For example, some participants reported negative statements in a jovial tone of voice and immediately followed with positive statements. Future studies would benefit from further qualitative analysis procedures such as Grounded Theory (Glaser and Strauss, 1967), which would provide a more detailed analysis of the themes within the data. Thinking Aloud would be beneficial to future studies. Participants could rate their own comments as positive, negative or neutral, to provide more accurate measures of valence. Furthermore, individuals with eating concerns often report feelings of guilt and shame about their condition (Fairburn and Harrison, 2003), and qualitative procedures such as Thinking Aloud could be a more collaborative approach for researching the content of cognitions around eating, shape and weight than questionnaire based measures. However, the reliability of all self-report measures is questionable as individuals with ED can be secretive and withhold information due to shame associated with the condition, and reluctant to change (Zotter and Crowther, 1991).

Finally, depression was low within the group, although anxiety was high. This may have reflected the demands of the tasks, and resulted in task performance anxiety on the word puzzle task. Participants commented that the word puzzle

task was more difficult than they had expected, and it could have been made slightly easier and still reflected the demands and expectations of the mirror task. However, the two tasks were not equally matched. The word puzzle task was more cognitive demanding than the mirror task as participants were required to write, complete the word puzzle and Think Aloud. Future studies would benefit from tasks that placed the same level of cognitive demand on each participant.

4.7 Research Implications

Following this initial study, the research could now be repeated with clinical groups, such as individuals with AN and BN compared to control participants. A study with clinical participants may provide a more accurate measure of the relationship between eating concerns and perfectionism. The relationship between state and trait perfectionism with eating concerns also requires further investigation (Flett et al, 1998). This study highlights the need for future research to consider the contribution of state and trait perfectionism measures to both the perfectionism construct and to eating concerns. Future studies could also include mirror studies, which are considered as analogous to real life situations for assessing body size (Shafran and Fairburn, 2002).

4.5 Clinical Implications

Cognitive theories of eating disorders form the basis of most of the current treatment approaches (Cooper et al., 1998). Research examining cognitive content highlights the complex nature of automatic thoughts in high eating concerned individuals, and cognitive behavioural treatments continue to be needed to identify and challenge cognitive distortions at the automatic thoughts level. The higher proportion of negative to positive thoughts in the high eating concerned group, suggests that these individuals may struggle to challenge thoughts and strongly held negative eating, weight and shape beliefs. The role of perfectionism in eating concerns should also be addressed in clinical practice.

Studies that have begun to address the contribution of clinical perfectionism to eating concerns, identify the role of perfectionism, and help individuals to increase the extent of their self-evaluation (Shafran, Lee and Fairburn, 2004).

Clinicians should take into account the fact that perfectionism may hinder treatment progress, and the treatment of perfectionistic thoughts in addition to eating concerns could provide a significant benefit to current treatments.

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APPENDICES

Appendix A Guide for Authors: Clinical Psychology Review

Appendix B Guide for Authors: Eating Behaviors

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Appendix A

Guide for Authors: Clinical Psychology Review

Guide for Authors

SUBMISSION REQUIREMENTS: All manuscripts should be submitted to Alan S. Bellack, Department of Psychiatry, The University of Maryland at Baltimore, 737 W. Lombard St., Suite 551, Baltimore, MD 212 USA. Submit three (3) high-quality copies of the entire manuscript; the original is not required. Allow margins and type double-space throughout. Papers should not exceed 50 pages (including references). The paper's authors should enclose a letter to the Editor, requesting review and possible publication; they must also state that the manuscript has not been previously published and has not been submitted elsewhere. One author's address (as well as any upcoming address change), telephone and FAX numbers, and E-mail address (if available) should be included; this individual will receive all correspondence from the Editor and Publisher.

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TITLE PAGE: The title page should list (1) the article; (2) the authors' names and affiliations at the time work was conducted; (3) a concise running title; and (4) an unnumbered footnote giving an address for reprint requests and acknowledgements.

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Appendix B

Guide for Authors: Eating Behaviors

Guide for Authors

Eating Behaviors For full instructions, please visit <http://ees.elsevier.com/eatbeh>

Submission to the journal prior to acceptance Authors should submit their articles electronically via Elsevier Editorial System (EES) page of this journal <http://ees.elsevier.com/eatbeh>. The system automatically converts source files to a single Adobe Acrobat PDF version of the article, which is used in the peer-review process. Please note that even though manuscript source files are converted to PDF at submission for the review process, these source files are needed for further processing after acceptance. All correspondence including notification of the Editor's decision and requests for revision, takes place by e-mail and via the Author's homepage, removing the need for a hard-copy paper trail. Questions about the appropriateness of a manuscript for *Eating Behaviors* should be directed (prior to submission) to the Editor-in-Chief, Dr. Pete Miller, at millerpm@musc.edu

Submission of an article implies that the work described has not been published previously (except in the form of an abstract or as part of a published lecture or academic thesis), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out, and that, if accepted, it will not be published elsewhere in the same form, in English or in any other language, without the written consent of the Publisher.

Presentation of manuscript Please write your text in good English (American or British usage is acceptable but not a mixture of these). Italics are not to be used for expressions of Latin origin, for example, *in vivo*, *per se*. Use decimal points (not commas); use a space for thousands (10 000 and above). Please avoid justification, i.e., do not use a constant right-hand margin. Ensure that each new paragraph is clearly indicated. Present tables and figure legends on separate pages at the end of the manuscript. If possible, consult a recent issue of the journal to become familiar with layout and conventions. Number all pages consecutively.

Provide the following data on the title page (in the order given).

Title. Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.

Author names and affiliations. Where the family name may be ambiguous (e.g., a double name), please indicate this clearly. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a lower-case superscript letter immediately after the author's name in front of the appropriate address. Provide the full postal address of each affiliation, including the country and, if available, the e-mail address of each author.

Corresponding author. Clearly indicate who is willing to handle correspondence at all stages of refereeing and publication, also post-publication. **Ensure that telephone and fax numbers (with country and area code) are provided in addition to the e-mail address and the complete postal address.**

Present/permanent address. If an author has moved since the work described in the article was done, or is no longer visiting at the time, a 'Present address' (or 'Permanent address') may be indicated as a footnote to that author's name. The address at which the author actually did the work must be retained as the main, affiliation address. Superscript Arabic numerals are used for such footnotes.

Abstract. A concise and factual abstract is required (between 100-175 words). The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often prepared separately from the article, so it must be able to stand alone. References should therefore be avoided, but if essential, they must be cited in full, without reference to the reference list.

Keywords. Immediately after the abstract, provide a maximum of 6 keywords, to be chosen from the AFI list of index descriptors. These keywords will be used for indexing purposes.

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N.B. Acknowledgements. Collate acknowledgements in a separate section at the end of the article and do not, therefore, include them on the title page, as a footnote to the title or otherwise.

Shorter Communications To utilize journal space more fully, articles that can be condensed to a maximum of 6 double space printed pages will be published as short communications. Manuscripts may be submitted as short communications or the editors may suggest that a longer manuscript may be modified for inclusion in this section.

Arrangement of the article Subdivision of the article. Divide your article into clearly defined and numbered sections. Subsections should be numbered 1.1 (then 1.1.1, 1.1.2, etc.), 1.2, etc. (the abstract is not included in section numbering). Use this numbering also for internal cross-referencing: do not just refer to 'the text' but subsection may be given a brief heading. Each heading should appear on its own separate line.

Appendices. If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering: (Eq. A.1), (Eq. A.2), etc.; in a subsequent appendix, (Eq. B.1) and so forth.

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Figure legends, tables, figures, schemes. Present these, in this order, at the end of the article. They are described in more detail below. High-resolution graphics files must always be provided separate from the text file (see Preparation of illustrations).

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Examples: Reference to a journal publication: Van der Geer, J., Hanraads, J. A. J., & Lupton R. A. (2000). The art of writing a scientific article. *Journal of Scientific Communications*, 163, 51-59.

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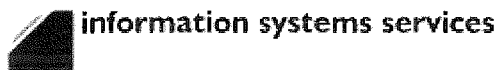
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Appendix C

Confirmation of Ethics Committee Approval, School of Psychology



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dissertation: Ethics Application
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Date: Tue, 24 Aug 2004 15:45:28 +0100

From: "Smith K.M." <K.M.Smith@soton.ac.uk>

To: hlr202@soton.ac.uk

Subject: Ethics Application

Dear Helen

Re: Perfectionism and Thoughts about Eating, Weight
and Shape

The above titled application was approved by the School of Psychology
Ethics Committee on 20 August 2004.

Should you require any further information, please do not hesitate in
contacting me. Please quote reference CLIN/03/49.

Best wishes,

Kathryn
Secretary to the Ethics Committee

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Appendix D

Participant Information Sheet

PARTICIPANT INFORMATION SHEET.

A Study Of Thinking and Judgement.

You are being asked to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please ask if anything is not clear, or if you would like more information.

What is the purpose of the study?

The study has different types of tasks which try to make you think how you feel about yourself.

Why have I been chosen?

In order to gain a cross-section of opinions, a wide variety of individuals have been selected. In this way, we hope to gather information from a representative sample of the general population.

Do I have to take part?

No. It is up to you to decide whether or not to take part.

What will I be asked to do for the study?

You will be asked to complete 2 tasks, and to say your thoughts out loud. These should take about 10 to 15 minutes and will be recorded. You will then be asked to complete 5 short questionnaires, which should take another 10 minutes to complete. The study will end here and you will have the opportunity to ask questions.

Will my taking part in the study be kept confidential?

All information, which is collected during the course of the research, will be kept strictly confidential. The results of the study will have all information which identifies you removed. The tapes will be held by the university in a locked cupboard until they can be destroyed.

What will happen to the results of the study?

A report of the study will be written. A summary of the results will be available on request.

Who is organising and funding the research?

I am a clinical psychology trainee at the University of Southampton, Doctoral Programme in Clinical Psychology. The research is being conducted as part of my training.

Who has reviewed the study?

The School of Psychology Research Ethics Committee, University of Southampton has reviewed the study.

Who can I contact for further information?

If you have any questions, or you wish to request a summary, please contact:
Helen Riley, School of Psychology, University of Southampton, SO17 1BJ.
Tel: 023 8059 5321, E-mail: h1r202@soton.ac.uk

Appendix E
Participant Consent Sheet

CONSENT FORM

A Study Of Thinking and Judgement.

Researcher: Helen Riley, Trainee Clinical Psychologist

Research Supervisors: Drs Lusia Stopa and Therese Allan

1. I have been given a copy of the information sheet explaining the purpose of this study.
2. I understand that data collected as part of this research project will be treated confidentially, and that published results of this research project will maintain my confidentiality.
3. In signing this consent letter, I understand that taking part is voluntary and that I am free to withdraw at any time, without giving reason or without my legal rights being affected.

I understand that I may withdraw my consent and discontinue participation at any time without penalty or loss of benefit to myself.

❖ I give consent to participate in the above study (Please circle)	Yes	No
❖ Signature _____	Date _____	
❖ Print Name _____		

I understand that if I have questions about my rights as a participant in this research, or if I feel that I have been placed at risk, I can contact the Chair of the Ethics Committee, Department of Psychology, University of Southampton, Southampton, SO17 1BJ. Phone: (023) 8059 3995

Appendix F

Word Puzzle Task

Word Puzzle

Look at the word puzzle below. The letters must link together. This can be horizontally, vertically, diagonally, or in any form as long as one side of the letter touches your next letter. Do not pick letters at random.

Your words must have a minimum of four letters.

You have five minutes to find as many words as you can.

30 words or less = 'poor'

More than 40 words = 'good'

31-40 words = 'average'

I	E	E	D	A
N	R	O	E	A
C	U	A	P	V
H	P	A	K	W
D	I	T	M	O

Write your words here:

Appendix G

Adapted Thoughts Checklist

ADAPTED THOUGHTS CHECKLIST

Please think back to the mirror and weighing task.....

1. In the column labelled 'LEFT' - Rate the extent to which each of the thoughts listed below occurred during the task. Use the 6 point rating scale below. Do this first then go to point 2.

The thought occurred:				
<u>None</u> of the time	<u>Some</u> of the time	<u>Much</u> of the time	<u>Most</u> of the time	<u>All</u> of the time
1	2	3	4	5

2. In the column labelled 'RIGHT' - Rate how much you believed each of the thoughts which went through your mind. Rate how much you believed each thought at the time it occurred by choosing a number from the scale below.

0	10	20	30	40	50	60	70	80	90	100
I did not believe					I completely					
believed this thought at all					this thought					

ADAPTED THOUGHTS CHECKLIST

Mirror and Weighing Task

LEFT

RIGHT

	I can't look at myself in a mirror	
	I'll go away and eat	
	As long as I don't look fat, then I'll be ok	
	I'm so fat	
	I'm so ugly	
	I look okay	
	My shape's completely out of proportion	
	I loathe my(part of body e.g. hips, stomach)	
	It shows that I have no self control	
	I'm not that thin - mirrors distort me	
	I'm a complete failure	
	I hate myself	
	I should lose weight	
	I shouldn't eat anything else today.	
	I may as well eat anything I like today	
	I can't look at my weight	
	I won't be able to do anything else for the rest of today.	
	I'm getting fatter and fatter	
	As long as I'm not heavier, then I'll be ok	
	I'm just going to go on getting heavier and heavier	
	I must keep my weight under control	
	I musn't let myself gain weight	
	My weight's okay.	
	I just can't eat like other people	
	I'll need to really cut down on what I eat today	

ADAPTED THOUGHTS CHECKLIST

Please think back to the writing task.....

1. In the column labelled 'LEFT' - Rate the extent to which each of the thoughts listed below occurred during the task. Use the 6 point rating scale below. Do this first then go to point 2.

The thought occurred:				
<u>None</u> of the time	<u>Some</u> of the time	<u>Much</u> of the time	<u>Most</u> of the time	<u>All</u> of the time
1	2	3	4	5

2. In the column labelled 'RIGHT' - Rate how much you believed each of the thoughts which went through your mind. Rate how much you believed each thought at the time it occurred by choosing a number from the scale below.

0	10	20	30	40	50	60	70	80	90	100
I did not believe					I completely					
believed this thought at all					this thought					

ADAPTED THOUGHTS CHECKLIST

Writing Task

LEFT

RIGHT

	I can't look at myself in a mirror	
	I'll go away and eat	
	As long as I don't look fat, then I'll be ok	
	I'm so fat	
	I'm so ugly	
	I look okay	
	My shape's completely out of proportion	
	I loathe my(part of body e.g. hips, stomach)	
	It shows that I have no self control	
	I'm not that thin - mirrors distort me	
	I'm a complete failure	
	I hate myself	
	I should lose weight	
	I shouldn't eat anything else today.	
	I may as well eat anything I like today	
	I can't look at my weight	
	I won't be able to do anything else for the rest of today.	
	I'm getting fatter and fatter	
	As long as I'm not heavier, then I'll be ok	
	I'm just going to go on getting heavier and heavier	
	I must keep my weight under control	
	I musn't let myself gain weight	
	My weight's okay.	
	I just can't eat like other people	
	I'll need to really cut down on what I eat today	

Appendix H
Participant Debriefing Sheet

PARTICIPANT DEBRIEFING SHEET

A study of Thoughts about Eating, Shape and Weight

Thank you for taking part in this study. Please take time to read this information below as it describes the study you have just participated in, and explains where you can get support and information for concerns about eating, weight and shape. Please ask if anything is not clear, or if you would like more information.

What has been the purpose of this study?

The study was firstly interested in your thoughts about eating, weight and shape. You were asked to complete two tasks. One task asked you to say your thoughts as you focused on eating, weight and shape, and one task asked you to say your thoughts as you were distracted from thinking about eating, weight and shape.

The study was then interested in perfectionism, and you were asked to complete two questionnaires which examined perfectionistic thinking. This is because there are some theories which suggest that perfectionism can sometimes be linked to our thoughts about eating, shape and weight. This is important for understanding how some people go on to develop eating disorders such as Anorexia Nervosa and Bulimia Nervosa.

Will my taking part in the study be kept confidential?

Yes. All information, which has been collected for the study, will be kept strictly confidential. The results of the study will have all information which identifies you removed. The tapes will be held by the university in a locked cupboard until they can be destroyed.

What will happen to the results of the study?

A report of the study will be written. A summary of the results will be available on request.

Further Information

Who can I contact for further information about the study?

If you have any further questions about the study, or you wish to request a summary, please contact Helen Riley, School of Psychology, University of Southampton, SO17 1BJ
Tel:023 8059 5321, E-mail: hr202@soton.ac.uk

I'm concerned about my eating patterns, who can I contact for help?

If you feel this study has raised concerns about your own eating patterns or thoughts about food, it may help you to discuss this further. The following people & organisations may be able to help:

- **GP** – Your GP can refer you to professionals who specialise in understanding and treating eating disorders. Your GP may also know of any other support services or groups in your area, who you may be able to talk to about your concerns.
- **The Eating Disorders Association (EDA)** – The EDA is an organisation which provides further support and information about eating disorders such as Anorexia, Bulimia and Binge Eating. The best place to look would be on their website at www.edauk.com
- **The researcher** – Helen Riley has leaflets from the EDA, and will be happy to talk to you about where you can access further information and support.

Please ask if anything is not clear, or if you would like more information.

Thank you for taking part in the study.