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**Investigating the Utility of a Self-Schema
Model of Perfectionism in Understanding
Anorexia Nervosa**

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Abstract

This thesis describes and evaluates a self-schema perfectionism model in understanding anorexia nervosa (AN) .

Female AN patients ($n = 105$) and university students ($n = 297$) completed self-report questionnaires pertaining to perfectionism, eating disorder pathology, psychopathology, and self-schema perfectionism in the domain of weight and shape. Also, adolescent girls in treatment together for AN ($n = 7$) were interviewed individually about inpatient relational experiences.

Self-schema perfectionism was initially a unique predictor of dietary restraint, controlling for trait perfectionism measures (Hewitt & Flett, 1991), accounting for a larger proportion of unique dietary restraint variance for nonclinical women (38.1% versus 8.1%). Second, compared to nonclinical women, women with AN exerted more effort pursuing weight/shape standards, evaluated their performance more favourably, and had higher striving intention (an index of raised weight/shape standards). Self-schema perfectionism and exerting effort were significant predictors of dietary restraint for both groups. Raising standards did not have explanatory utility. Third, when physical appearance comparison was entered into the model, it was a significant predictor of dietary restraint for women with AN, for who self-schema perfectionism lost its predictive utility. Physical appearance comparison was not a significant predictor of dietary restraint in nonclinical women, for who self-schema perfectionism retained its predictive utility.

Quantitative and qualitative findings, together, indicated that self-schema perfectionism has limited utility in understanding dietary restraint in AN and cannot be recommended to inform treatment. Whereas dietary restraint in nonclinical women

may relate to self-concept, in women with AN, dietary restraint and broader body-related attitudes and behaviour may be influenced greatly by relational and contextual factors.

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Chapter 1

Introduction

The research in this thesis focuses on a particular clinical group, individuals with anorexia nervosa (AN). AN is a serious illness with multiple adverse and long-lasting consequences. Schmidt & Treasure (2006) describe AN as a psychiatric “spot diagnosis” (p. 344) due to abnormal thinness often being a highly visible symptom of the disorder. This is due to a prolonged period of nourishment insufficient to sustain the level of activity, which is often extraordinarily high. The person persists in this behaviour, despite its deleterious consequences in virtually all aspects of his or her life. Indeed, the person may even defend their behaviour against exhortations by concerned others to cease (Serpell, Treasure, Teasdale, & Sullivan, 1999). Despite reported trends toward younger onset of AN and an increasing incidence of the illness among boys (Braun, Sunday, Huang, & Halmi, 1999; Bryant-Waugh, 2000) at least 90% of sufferers are adolescent girls and young women between the ages of 14 and 24. Currently, AN is the third most common chronic illness affecting young women (Steinhausen, 2009; Touyz, 2005), and the prevalence may be increasing (Hay, Mond, Butner, & Darby, 2008; Lucas, Crowson, O'Fallon, & Melton, 1999). Prevalence estimates for AN vary, with the 12-month prevalence among young women ranging from 0.2% to 1% (American Psychological Association [APA], 2013; Birmingham & Beumont, 2004). Lifetime prevalence rates for AN and partial syndrome AN in women are estimated at 4.3% (Wade, Bergin, Tiggerman, Bulik, & Fairburn, 2006).

AN is often associated with poor prognosis. Follow-up studies have reported 40% persistence after 10–15 years (Keel & Mitchell, 1997; Rigaud, Pennacchio, Bizeul, Reveillard, & Verges, 2011; Strober, Freeman, & Morrell, 1997). Associated costs are high. AN impacts negatively on the person's quality of life, disrupting their education and seriously impairing their academic, occupational, and social functioning (Kelly et al., 2009). The toll

on families and the economic and social burden for the community are also substantial. One study indicated that 9 to 14-years after treatment, 20% - 25% of patients were unable to support themselves independently (Hjern, Lindberg, & Lindbald, 2006). Another study (Wentz, Gillberg, Anckarsaster, Gillberg, & Rastam, 2009) found a 25% rate of severe disability, indicating that even mild, early onset cases of AN can often develop into chronic disability.

Deloitte Access Economics (2012) found that the total social and economic impact of the estimated 913,986 Australians who had an eating disorder in 2012 was \$69.7 billion. Over the past 10 years individuals with eating disorders have been disproportionately large users of health resources. Eating disorders are the 12th leading cause of Australian hospitalisation costs due to mental health, with inpatient admissions over-represented by AN. (Mathers, Vos, & Stevenson, 1999). Deloitte Access Economics (2012) estimated that the total health expenditure for eating disorders in Australia in 2008-2009 came to \$80.4 million; the majority (\$57.8 million) being accounted for by admitted services for AN. The average AN length of stay was more than 6.5 times longer than the average patient stay for all other illnesses.

AN has the highest mortality rate of any psychiatric disorder (Crow, Praus, & Thuras, 1999; Herzog et al., 2000; Lee, Chan, & Hsu, 2003). Up to 10% of patients with AN will die as a direct result of the disorder, and up to 20% of patients die from the illness after a prolonged history (Birmingham, Su, Hlynsky, Goldner, & Gao, 2005; Steinhausen, 2002, 2009). The mortality rate for AN is estimated at five times higher than the general population matched for age (Arcelus, Mitchell, Wales, & Nielsen, 2011), while the standardised mortality ratio (the ratio of observed to expected deaths) for AN has been shown to be as high as 12.8 (Eckert, Halmi, Marchi, Grove, & Crosby, 1995). Most of those deaths are due to the biological effects of starvation, which leave virtually no organ of the body unaffected (Zipfel,

Lowe, & Herzog, 2003). AN is also associated with severe psychological symptomatology, including anxiety, depression, hopelessness and suicidal phenomena (Steinhausen, 2009). Indeed, the degree of suffering in AN is indicated by the fact that death from suicide among individuals with the disorder is 32 times higher than expected in the general population. In comparison, patients with major depression are 20 times more likely to die from suicide (Steinhausen, 2009).

Reasons for this Research

There is an urgent need for a demonstrably effective psychological intervention for AN. Psychological treatment is currently recommended as part of a multi-faceted, integrated treatment of AN (Hay et al., 2014). However, a major problem for those providing psychological treatment is that outcomes are disappointing across a range of psychological approaches (Steinhausen, 2009). A Cochrane review concluded that in terms of efficacy, no specific psychological approach to treating AN could be recommended over any other (Hay et al., 2009).

Factors responsible for the development of AN may not be the same factors responsible for maintaining the disorder. Treatment must focus on the latter. Therefore, it is imperative that factors related to maintaining AN are identified. Clinical perfectionism is a cognitive behavioural model that was developed specifically to help explain how psychopathology may often be maintained (Shafran, Cooper, & Fairburn, 2002). Shafran et al. (2002) and Shafran, Cooper, & Fairburn (2003) suggested that clinical perfectionism has relevance to understanding the maintenance of eating disorders, especially AN which often “appears to be an expression of clinical perfectionism” (Shafran et al., 2002, p. 1218). The overall aim of the research presented in this thesis is to investigate the utility of a model based on clinical perfectionism in understanding AN. Although beyond the scope of this

thesis, it is anticipated that the understanding thus derived will contribute to developing an effective treatment for AN.

Organisation of Research and Methodologies Used

A non-experimental, comparative, research design was selected for this research in order to match the research emphasis on investigating and comparing the everyday experience of two naturally occurring and pre-existing groups of participants, a group of women diagnosed with AN and a nonclinical female comparison group. Thus, participants could not be randomly assigned to conditions, as occurs in experimental research. Furthermore, independent variables were not manipulated, which in this case would have been unethical due to the possibly adverse consequences for some participants. For example, manipulating weight-related behaviour may have exacerbated eating disorder symptoms in some of the participants with AN. However, there is a risk in non-experimental research of misinterpreting relationships between variables (Cresswell & Plano Clark, 2007). In this instance, the risk was one of falsely assuming causality. Thus, predictions based on findings were tested in a 6-month follow-up on the AN group.

Non-experimental research is amenable to a range of techniques, including naturalistic observation, interview, survey, case history, and psychometric scales (Cresswell & Plano Clark, 2007). The first three studies in this research employed quantitative methodology; the fourth study employed qualitative methodology. A necessary first step in the quantitative studies was the development of operational definitions for the theoretical constructs that were selected for investigation. Likert-scales were developed to measure those constructs, and to assess individual differences in a self-report questionnaire format. Self-report questionnaires are a cost-effective and time-efficient means of collecting data from large numbers of participants. In addition, they facilitate statistical analyses, promote uniformity and standardisation of content and presentation, help prevent the researcher's

opinions from influencing responses, enable behaviours to be examined that are difficult to observe, facilitate participant anonymity and thereby encourage honesty in their responses. Both pen-paper and online data collection were used. Online data collection is increasingly widely-used. Previous studies have found that online assessment does not alter results (Caro, Caro, Wouters, & Juniper, 2006; Denscombe, 2010; S. Jones, Murphy, Edwards, & James, 2008).

The qualitative research presented in this thesis is from a single-site. In the study a small group of adolescent girls were individually interviewed and spoke about their relationships with each other, their body-focused interactions, understandings and experiences while living together and receiving inpatient treatment for AN. In terms of investigating clinical perfectionism and AN, this was seen as an important contribution to wider debates over the role of relational dynamics in maintenance (Hewitt, Flett, Besser, Sherry, & McGee, 2003; Shafran, et al., 2002; Shafran, Cooper, et al., 2003; Treasure, Crane, McKnight, Buchanan, & Wolfe, 2011; Vandereycken, 2011).

The reason for collecting qualitative data specifically from a group of adolescent girls who were receiving inpatient care together was twofold: first, the information provided by them may contribute to future investigations into the possibly iatrogenic effects of treating patients with AN together, particularly as inpatients (Vandereycken, 2011); second, the young participants are the demographic most vulnerable to developing chronic and severe AN. Therefore, any iatrogenic and interpersonal maintenance factors were most likely to have emerged from the data provided by them. However, notwithstanding the importance of hearing the voice of individuals with AN, it was felt that the overall aim of the research in this thesis, i.e., to objectively evaluate the explanatory value of a model based on clinical perfectionism, was best achieved by giving greater weight to the quantitative components of the research than to the qualitative component. The external and objective stance required of

the researcher in quantitative research meant that the risk of personal influence or bias was reduced to a minimum (Cormack, 1996). Another consideration, that of establishing the truth or validity of both the qualitative and quantitative data and findings, was also addressed in that each approach counterbalanced the strengths and weaknesses of the other (Cresswell & Plano Clark, 2007), and the quantitative findings enhanced the credibility of the qualitative findings. In the following sections, whether the method used was qualitative or quantitative will be stated.

Overview of the Thesis

An overview of this thesis is shown in Figure 1.

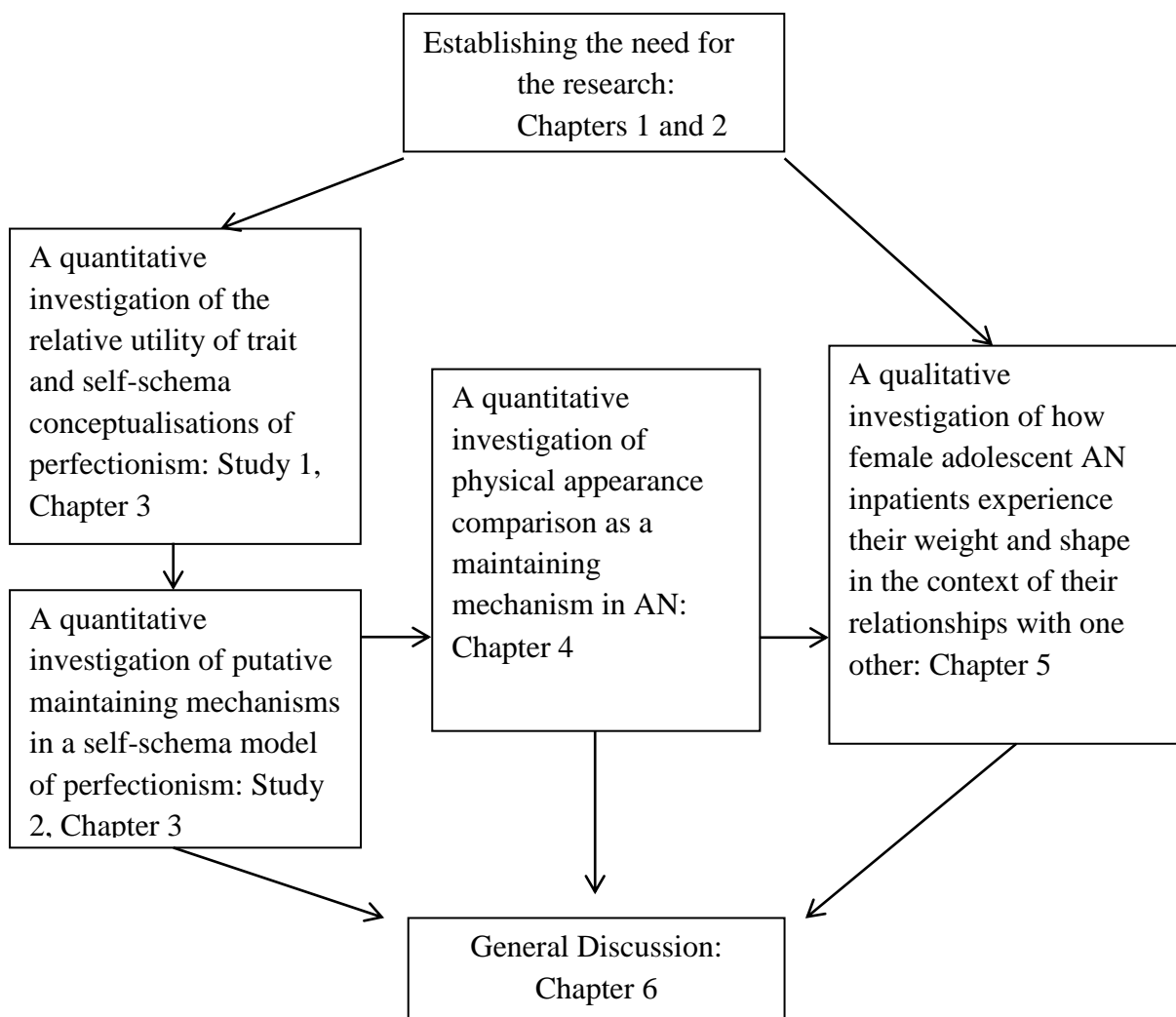


Figure 1. Overview of the thesis

Establishing the need for the research. The clinical perfectionism cognitive behavioural model is a theory and set of assumptions explaining how psychopathology such as AN is maintained, and thus how it may be treated. However, clinical practice needs to be informed by science, not simply by theory (Strober & Johnson, 2012). Chapter 2 describes the clinical perfectionism model, provides an illustration of how clinical perfectionism may be expressed by AN, describes a measure of clinical perfectionism, outlines a proposed theory-driven intervention, and reviews and evaluates the existing scientific evidence for clinical perfectionism.

Investigating the relative utility of trait and self-schema conceptualisations of perfectionism. One difficulty needing be addressed in this thesis was the unavailability when the research was commenced of a clinical perfectionism measure. Therefore, it was necessary in Chapter 3 to describe the core self-schema construct that was developed from the clinical perfectionism model, along with a measure that was developed to assess it. Although the self-schema perfectionism model was based on clinical perfectionism, it was not a direct representation of it. The first quantitative study of this thesis is also presented in Chapter 3. Its purpose was to answer the question, “Does a self-schema understanding of perfectionism better account for eating disorder symptomatology in AN than a multidimensional trait understanding of perfectionism?” To that end, the relative utility of a multidimensional trait conceptualisation of perfectionism (Hewitt & Flett, 1991b) and the self-schema perfectionism construct was investigated in predicting dietary restraint in individuals with AN, and in a nonclinical comparison group.

Investigating proposed mechanisms of maintenance in a self-schema model of perfectionism. In Chapter 4, the proposed mechanisms of maintenance in the self-schema perfectionism model of maintenance are described in detail, along with a rationale for their

inclusion and measures that were developed to assess them. Chapter 4 also presents the second quantitative study of this thesis, which investigated the utility of the self-schema perfectionism model in accounting for dietary restraint in individuals with AN, and also in a nonclinical comparison group. The purpose of the study was to answer three questions: “Is the self-schema model parsimonious (i.e., does each theory-relevant construct make a significant contribution to predicting dietary restraint in AN)? Does the evidence support the proposed theoretical pathways? Does the evidence support the proposed development of the psychological intervention for AN based on the model?”

Investigating physical appearance comparison as a maintaining mechanism in AN. Chapter 5 presents the third quantitative study in this thesis. In it physical appearance comparison was investigated as a mechanism of maintenance in AN. Chapter 5 also includes a discussion of the role of situational context and proposes that a contextualised, relational approach to understanding AN has utility in understanding AN.

Investigating how female adolescent AN inpatients experience weight and shape in the context of their relationships with each other. In Chapter 6 a qualitative study is presented. In it, adolescent girls receiving inpatient treatment for AN spoke freely about their bodies, especially their weight and shape, in the context of their relationships with each other.

The enormous diversity of theory about AN is predominantly from the point of view of clinicians and researchers. By attempting to understand relational dynamics and embodiment from the point of view of patients themselves it was possible for a small but representative group of patients with AN to contribute to theory.

Final discussion and conclusions. In Chapter 7 the findings from the aforementioned studies were considered and conclusions drawn about the utility of the self-schema model

derived from clinical perfectionism in understanding AN. In particular, it was possible to draw conclusions about the relative contributions of theoretical constructs and pathways within the model and about whether in addition to self-focused intrapersonal processes, social context and peer dynamics need to be considered as maintaining factors when designing psychological interventions.

Chapter 2

The Clinical Perfectionism Cognitive-Behavioural Model of Maintenance: A Critical Review of the Literature

Background and Aims

The first aim in this chapter is to describe Shafran et al.'s (2002) clinical perfectionism model in detail, and to provide an illustrative example of its expression in AN.

The second aim of this chapter is to examine the current, published, empirical evidence for the clinical perfectionism model. First, studies are examined which have investigated theory-specific constructs in isolation from the clinical perfectionism model as a whole. However, while a single-predictor approach to modelling of behaviour may be a useful starting point for understanding psychopathology, it cannot provide information about how those constructs operate within the model. Nor can it provide information about the most efficient set of constructs, and the likely effects of relationships and interactions between them. Thus, studies are then examined which have investigated the model and its relationship with psychopathology. Establishing empirically that clinical perfectionism reliably and parsimoniously predicts symptomatology is crucial if clinical perfectionism is to be systematically applied to developing and evaluating psychological interventions. Finally, studies are examined in which interventions based on the clinical perfectionism model have been delivered.

The Clinical Perfectionism Cognitive-Behavioural Model of Maintenance

Definition. Shafran et al. (2002) defined clinical perfectionism 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” (p. 778). The clinical perfectionism cognitive behavioural model of maintenance is shown in Figure 2.

Explaining maintenance. Shafran et al. (2002) proposed that having self-evaluation overly dependent on striving and achieving personally demanding standards in only one (or few) domains is intrinsically dysfunctional, and explains the continuous striving of people with clinical perfectionism. The narrowness of the schema for self-evaluation also explains their heightened fear of not achieving their standards, their interpreting not achieving standards as failure, their self-criticism and negative self-evaluation following actual or perceived failure, and their inability to relinquish standards even when those standards are unattainable and when continuing to pursue them results in adverse consequences. Indeed, Shafran et al. (2002) proposed that continuing to strive despite adverse circumstances is the hallmark of pathological perfectionism (Riley, Lee, Cooper, Fairburn, & Shafran, 2007; Shafran, et al., 2002). They suggested that the person with clinical perfectionism tolerates those adverse consequences because their self-evaluation depends on continuing to pursue personally demanding standards and goals; they may even interpret those adverse consequences as evidence of true striving.

Shafran et al. (2002) suggested that a number of cognitive biases contribute to maintaining clinical perfectionism. They include performance-related standards that are embodied in dichotomous thinking, which are operationalised as rules (e.g., expressed in terms of ‘I should’ and ‘I must’), which are personally demanding, and which are seen as either met or not. Shafran et al. (2002) also specified that the person with clinical perfectionism monitors his or her performance, evaluates it repeatedly and in a way that is excessively strict, negatively biased, and selectively attentive only to evidence of failure. Moreover, they proposed that continuing to strive is ensured even if success occurs, due to the person discounting success, for example, by interpreting it as evidence that standards are insufficiently demanding. Consequently, the person resets standards upwards, making it more

likely that he or she will experience failure, thereby maintaining self-criticism, negative self-evaluation, increased striving, and adverse consequences.

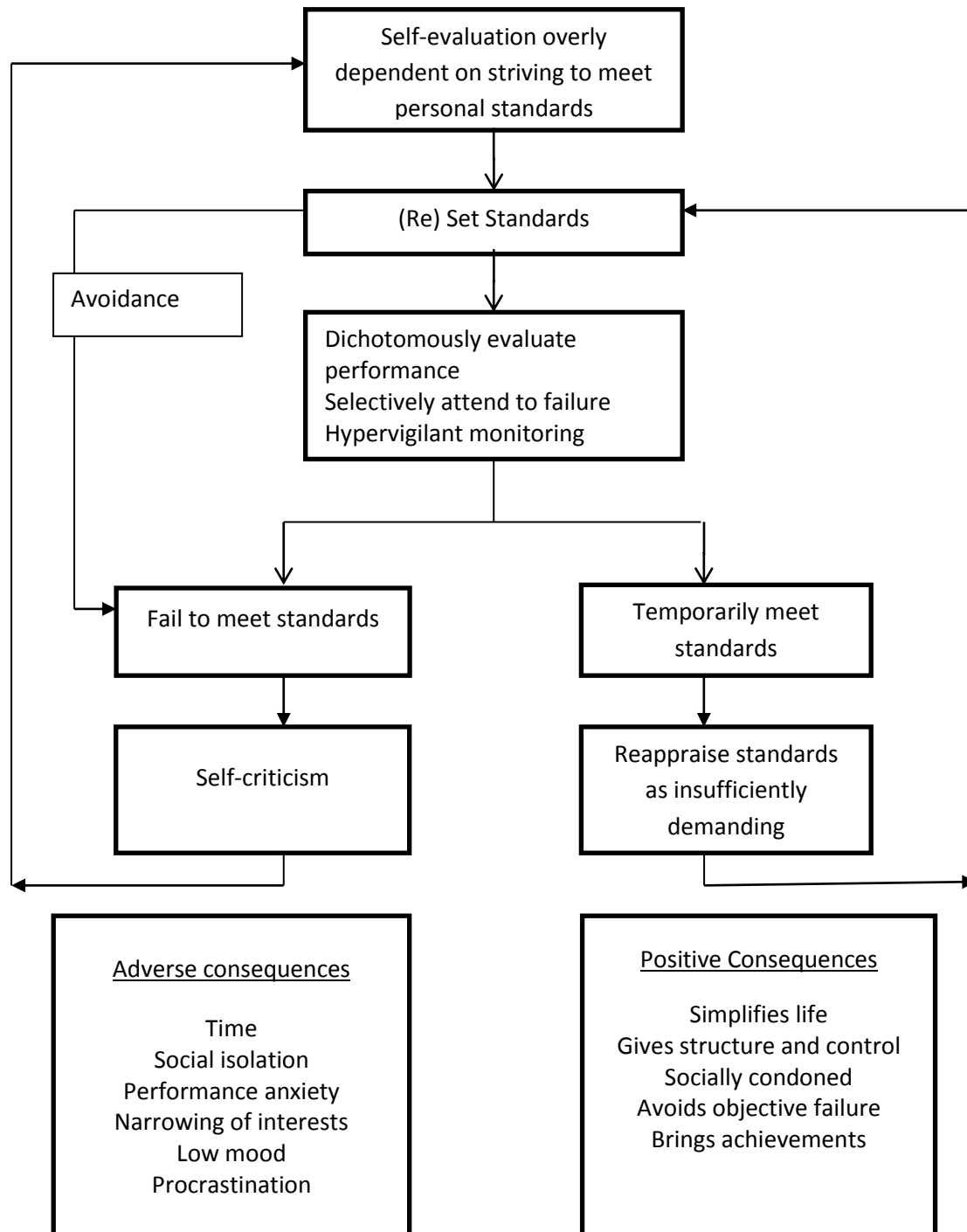


Figure 2. The maintenance of clinically relevant perfectionism, reproduced from Shafran et al. (2002).

A revision of the clinical perfectionism model is shown in Figure 3 (Shafran, Egan, & Wade, 2010). In it, Shafran et al. (2010) emphasised the role of performance-related behaviour in maintaining the cycle of striving, including performance checking, for example, by making comparisons with others, and counter-productive behaviours (e.g., being over-thorough). They suggested that for some individuals the fear of failure and pursuit of success becomes so overwhelming that trying to meet their standards is avoided altogether through counter-productive behaviours such as procrastination (e.g., delaying initiation of tasks because to complete the task perfectly is assumed to be impossible, difficult or unpleasant) and abandonment or premature cessation of tasks. Such avoidant behaviour provides little relief as the evaluation of self-worth still remains overly dependent on striving to meet unrealistically high personal standards of performance.

Shafran et al. (2002) included a number of positive and negative consequences of clinical perfectionism, including the simplification of life (a positive consequence) and social isolation (a negative consequence). However, while some of these were seen by them as potentially reinforcing, they did not see them as essential to maintenance. They also suggested that clinical perfectionism co-occurs with other psychiatric diagnoses, interacts with them, and makes them difficult to treat. Accordingly, clinical perfectionism has been described as a transdiagnostic process (Egan, Wade, & Shafran, 2011), although precise pathways were not elaborated. However, Shafran et al. (2002) suggested that an eating disorder such as AN does not simply co-occur with clinical perfectionism but is in many cases the expression of perfectionism in the domain of eating, shape or weight and their control. An illustration is provided below of AN as an expression of clinical perfectionism (see Table 1).

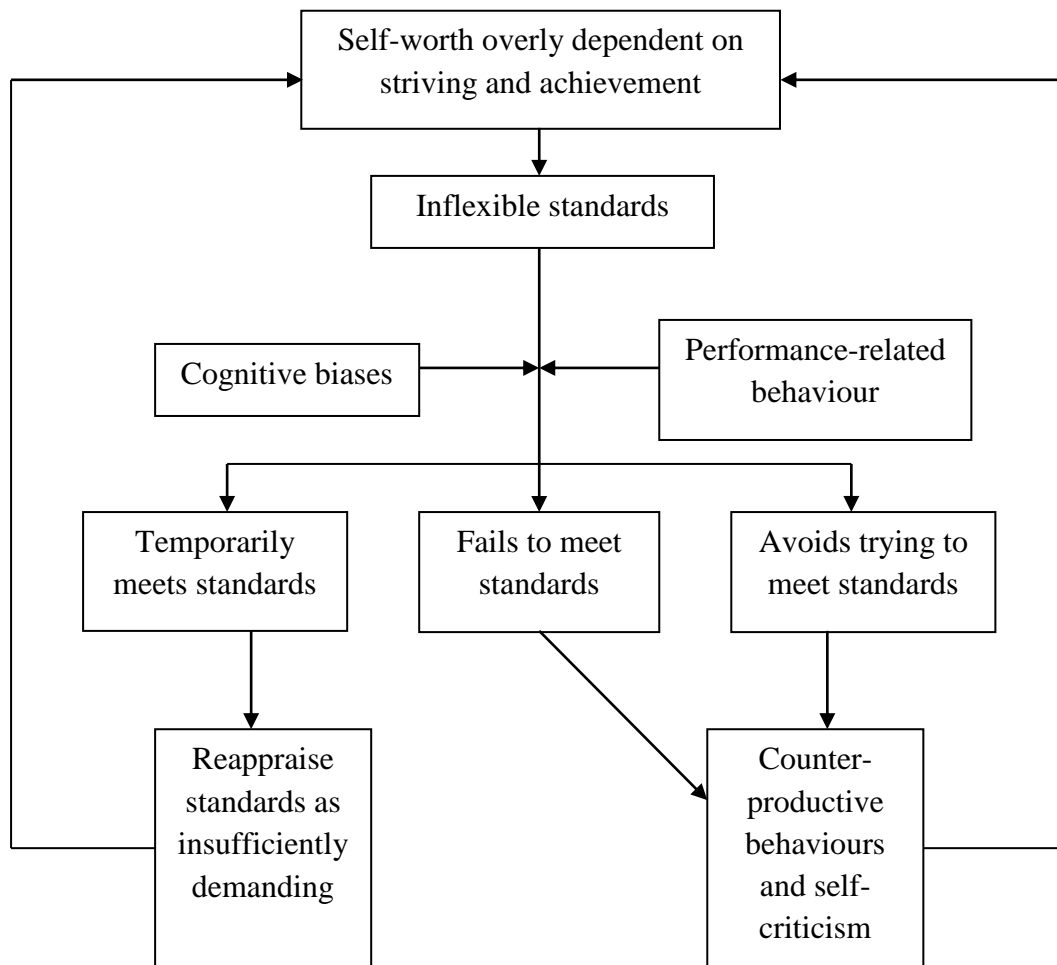


Figure 3. Why perfectionism persists, reproduced from Shafran et al. (2010).

Clinical perfectionism is not trait perfectionism. Perfectionism is traditionally conceptualised as a trait. Thus, perfectionism is generally seen as an intrinsic, stable, lifelong part of an individual’s character that generalises and explains their functioning across multiple behavioural domains (Mischel & Peake, 1982; Mischel, Shoda, & Mendoza-Denton, 2012). There is no single operational definition and measure of trait perfectionism.

Table 1***AN, an Expression of Clinical Perfectionism in the Domain of Shape and Weight: Illustrative Examples***

Construct/Process	Example
Self-evaluation overly dependent on striving to meet personal standards	Judging oneself entirely according to whether personally demanding food-related rules have been strictly adhered to
Set Standards	Aim to lose 3 kg in one week.
Fail to meet standards, resulting in self-criticism	Lose 2.5 kg in weight and judge the self as a blameworthy and worthless person
Temporarily meet standards, followed by reappraising standards as insufficiently demanding	Lose 3 kg in one week. Recall times when one could have eaten less, reinterpret 3 kg in one week as insufficient, and aim to lose 4 kg the following week
Dichotomously evaluate performance	Interpret losing 4 kg in a week as success. Interpret not losing 4 kg in a week as failure
Selectively attend to failure	Successfully lose 4 kg in a week, but nevertheless focus on one occasion when unplanned calories were consumed. Interpret this as insufficient effort and evidence of failure
Hypervigilant monitoring	Weigh all food consumed and count calories
<u>Adverse Consequences</u>	
Time	Several hours spent daily in planning and preparing meals and counting calories
Social isolation	Repeatedly turning down invitations to spend time with friends for fear of being expected to eat in their presence, resulting in invitations from friends eventually ceasing
Performance anxiety	Persistent worry that one has gained weight, hypervigilant monitoring for evidence that one has done so
Narrowing of interests	Increasing focus over time on food- and body-related activities, decreasing focus on other activities and hobbies
Low mood	Feeling depressed

Positive Consequences

Simplifies life and gives structure and control	Life lived entirely according to strict food-and weight-related rules and routines, thereby eliminating the need to confront many of life's tasks and complexities.
Socially condoned	Exceptional success in culturally approved behaviours, such as daily vigorous exercise, control of appetite and body weight.
Avoids objective failure	Avoidance of weighing due to fear of objective evidence of weight gain. Consequently, no feedback about inadequacy of intake. Also perhaps not undertaking other performance-based, meritorious and culturally approved activities, such as employment or higher education.
Brings achievements	Social status from being thinner than others.

Adapted and reproduced from the maintenance of clinically relevant perfectionism, Shafran et al. (2002).

Nevertheless, the development of multidimensional measures of perfectionism (Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Flett, 1991b), used in many studies, led to widespread acceptance of the view that perfectionism is multidimensional, and that it contains both intrapersonal and interpersonal processes. With respect to the processes measured by interpersonal dimensions, Shafran et al. (2002) suggested that perfectionism has interpersonal consequences which, over time, can come to contribute to maintenance, but which are not essential to it. In contrast, Shafran et al. (2002) suggested that intrapersonal dimensions, which address the self-imposed pursuit of high standards, have some overlap with clinical perfectionism. However, those dimensions are not always associated with dysfunction (Bieling, Beck, & Brown, 2004). Some people strive for self-imposed, personally demanding standards in a way that is positive (Frost, Heimberg, Holt, Mattia, & Neubauer, 1993), and leads to feelings of satisfaction (Hamachek, 1978; Terry-Short, Owens, Slade, & Dewey, 1995). Additional factors are required to explain dysfunction. Shafran et al. (2002)

proposed that extant trait perfectionism measures omit the core construct of dysfunctional perfectionism, i.e., self-evaluation dependent on striving to achieve self-imposed personally demanding standards in one or a few salient domains.

Clinical perfectionism is derived from self-schema theory. As such, Shafran et al. (2002) proposed that it goes beyond the simple description of phenomenology, and encapsulates core maintaining mechanisms. Historically, self-schema theory developed in response to findings that raised doubt about the generalisability of trait functioning (Mischel, 1968; Mischel & Peake, 1982; Mischel, et al., 2012). Self-schema theorists (Bem, 1981; Markus, 1977) dismissed the assumption of a one-to-one correspondence between a person's level on a trait and his or her stable, trait-relevant behaviour. Rather, they suggested that behavioural stability depends on the personal significance or salience of the trait for self-definition. They described self-schema as cognitive knowledge structures that contain the individual's ideas and beliefs about the self in circumscribed, personally meaningful areas of functioning, or domains. Self-schema effortlessly organise and automatically process information in a way that that reinforces and maintains the individual's self-view. Thus, self-schema are self-perpetuating and explain the individual's stable, domain-specific behaviour (e.g., Elder, Brooks, & Morrow, 2012; Holub, Haney, & Roelse, 2012; Nouredine & Stein, 2009). Having multiple, minimally overlapping self-schema is considered optimal in that it provides a psychological buffer against adversity in a circumscribed area of functioning. In contrast, having few, or a single, self-schema is seen as sub-optimal, and as a vulnerability factor to psychological dysfunction and distress (Keith, 2014; Koch & Shepperd, 2004; Linville, 1985, 1987; Rafaeli-Mor & Steinberg, 2002). Differences between trait and self-schema models of perfectionism are summarised in Table 2.

The treatment of clinical perfectionism. Shafran et al. (2002) proposed a theory-driven intervention for clinical perfectionism, consisting of four components: (1) identifying

Table 2***Differences between Trait and Self-Schema Models of Perfectionism***

Trait perfectionism	Self-schema perfectionism (clinical perfectionism)
No consensus over a precise operational definition. Therefore, the coexistence of multiple perfectionism measures, each reflecting a unique conceptualisation of perfectionism.	An elaborate mental knowledge structure containing an individual's beliefs and ideas about himself or herself in a circumscribed area or domain that has particular interest and meaning for that person.
Generalises and is used to explain an individual's functioning across multiple domains.	Does not generalise. Is used to explain an individual's functioning in a specific, personally valued and salient domain
Constitutional, stable and lifelong.	Not constitutional. Maintained by the person attending only to information that confirms pre-existing beliefs and ideas about the self while excluding disconfirming information.
Unchangeable.	Can be changed.
Differences among individuals in terms of how much trait perfectionism they have.	Differences among individuals in terms of self-worth being dependent on striving in a specific domain.

perfectionism as a problem, and helping the individual to recognise that part of the problem is the narrowness of his or her schema for self-evaluation. In addition, it may be the case that domain in which the perfectionism expressed (and by which the person evaluates himself/herself) is inherently dysfunctional (e.g., achieving thinness), and this should be identified; (2) broadening the person's schema for self-evaluation, achieved by examining existing methods of evaluating the self, helping the individual identify and adopt alternative ways of thinking and behaving, choosing additional and perhaps alternative domains that are not inherently dysfunctional; (3) conducting behavioural experiments to test competing hypotheses aimed at learning more about the nature of the person's perfectionism, and alternative ways of living; (4) psycho-education and cognitive-behavioural methods aimed at

modifying personal standards, self-criticism, “rules”, and cognitive biases such as selective attention to perceived failure.

Measuring clinical perfectionism. Developing quantifiable methods of assessment was essential to carrying out empirical investigations of clinical perfectionism. To that end, The Clinical Perfectionism Questionnaire (CPQ; Fairburn, Cooper, Lee, & Shafran, in preparation) and the Clinical Perfectionism Examination (CPE; Riley, Cooper, & Shafran, Unpublished) were developed. The 12 item CPQ assesses clinical perfectionism over the past month, with each item scored on a four-point Likert scale from 1 (*not at all*) to 4 (*all the time*), to yield a highest possible total score of 48.

Systematic Review

A systematic review was conducted to examine the evidence for the clinical perfectionism model. It included studies that have investigated specific theoretical constructs and pathways, those that may be said to have investigated the clinical perfectionism model and its relationship with psychopathology, and clinical perfectionism intervention studies.

The review was designed to address the following questions:

1. To what extent does investigating isolated theory-relevant constructs and pathways provide insight into their functioning within the model?
2. What is the evidence for the proposed content and structure of clinical perfectionism model?
3. Is clinical perfectionism transdiagnostic in its relationship with psychopathology?
4. How has clinical perfectionism theory been applied to designing interventions and their evaluation (i.e., have theory-relevant constructs been specific targets for intervention)?
5. Does a theory-driven psychological intervention for clinical perfectionism lead to changes in targeted behaviour?

6. To what extent can it be said that the change in behaviour is a result of changes in theory-specified constructs?
7. To what extent can it be said that that behaviour change occurred along theory-specified pathways?
8. What is the evidence for AN being an expression of clinical perfectionism?

Shafran et al. (2002, 2003) proposed that their definition of clinical perfectionism was new and captured the core characteristics of a clinically relevant construct. They also recognised that their 'new' construct required empirical evaluation. Therefore, all studies in this review were published from 2002 (when clinical perfectionism) was introduced, and met criteria considered essential to providing an empirical evaluation of clinical perfectionism. The inclusion/exclusion criteria for this review are outlined in Table 3. Studies were identified through electronic literature searching. Both the PsycINFO and Medline databases were accessed via the Ovid search platform (2002 to December 2012). A final search was conducted in June 2013. The search strategy was designed for the PsycINFO database (see Appendix A), was adapted for use in Medline, and ran automatically on a weekly basis through 'OvidSP Results AutoAlert: Clinical Perfectionism'. The second inclusion criterion was derived from Michie and Prestwich's (2010) coding scheme, which was developed to provide a method for describing the theoretical basis of behaviour change interventions, and which allows researchers to identify and describe how theories of behaviour are used to design and evaluate interventions (Michie & Prestwich, 2010). The third and fourth criteria were theory-driven. Together, the first four criteria were designed to ensure that evidence for the clinical perfectionism model was theoretically consistent, and to minimise risk of trait perfectionism content.

A standardised assessment of eligibility was carried out, working in a systematic manner according to specially designed eligibility checklist (Appendix B). Eligibility or non-

eligibility judgements were initially determined on the basis of title and abstract screening, followed by screening of full content.

Results and Discussion

Across the selected databases, 174 records were located to be screened for eligibility. Out of these 2 were removed due to duplication, and 172 were screened. A further 139 records were excluded following title review or abstract screening. Where eligibility or non-eligibility could not be determined on the basis of title and abstract screening, the full text of each paper was obtained and screened. Detailed examination of the full texts of 33 papers was carried out. The inclusion/exclusion decision process went through several iterations, with papers being discarded if it was clear that they did not meet the eligibility criteria. During the final iteration, applying the current review eligibility criteria in a strict and uniform manner meant excluding eight studies which had previously been included. Screening and selection procedure is outlined in the flow diagram in Figure 4. The eight excluded studies are shown in Table 4, along with reasons for their exclusion.

Of the 12 studies deemed eligible for the review, 3 studies investigated key theoretical constructs and pathways. Two of these disassembled the clinical perfectionism model in order to test hypotheses about isolated key theoretical constructs (Egan, Dick, & Allen, 2012; Shafran, Lee, Payne, & Fairburn, 2006). A further 2 studies investigated the content and structure of the clinical perfectionism model and 4 studies investigated the relationship between clinical perfectionism and maladjustment (Chang & Sanna, 2012; Dickie, Surgenor, Wilson, & McDowall, 2012; Dickie, Wilson, McDowall, & Surgenor, 2012; Hoiles, Egan, & Kane, 2012; Riley & Shafran, 2005; Steele, O'Shea, Murdock, & Wade, 2011); 3 studies were clinical perfectionism interventions (Glover, Brown, Fairburn, & Shafran, 2007; Riley,

Table 3***Inclusion and Exclusion Criteria for the Systematic Review***

Inclusion criteria	Exclusion criteria
Published from 2002	Published before 2002
Explicit reference to clinical perfectionism	No explicit reference to clinical perfectionism
Assessments of theoretical construct(s) are explicit and may be replicated for other studies	Assessments of theoretical construct(s) are not explicit and not able to be replicated for other studies
Perfectionism operationalisation & assessment includes the CPQ and/or a theory-consonant approach in which perfectionism is conceptualised as an intrapersonal construct which contains contingent judgements about the self (e.g., dependence of self-evaluation)	Perfectionism is operationalised and assessed only as a construct containing interpersonal processes and/or perfectionism is operationalised and assessed only as an intrapersonal construct, but contingent judgements about the self (e.g., dependence of self-evaluation) are absent
Quantitative and/or qualitative; experimental study, quasi-experimental study, or clinical intervention	Theoretical paper, review, or single case report
Participants aged 18 years and above	Participants younger than 18 years
Published during or since 2002	Published prior to 2002
Human subjects	Animal subjects
Published in English	Not published in English

et al., 2007; Steele et al., 2013). Ten of the 12 studies used the CPQ to measure clinical perfectionism. Reported mean CPQ scores, reliabilities, and correlations between the CPQ

and theory-relevant measures are shown in Appendix C. An outline of the review, showing the three categories of study, is shown graphically in Figure 5. A summary of the investigative study characteristics is shown in Table 5, and a summary of the clinical perfectionism intervention studies is shown in Table 6.

Investigating theoretical constructs and pathways. Three studies investigated theoretical constructs and pathways, all considered essential to maintenance, extracted from the clinical perfectionism model. Two were experimental (Egan, Dick, et al., 2012; Shafran, et al., 2006). Both used the CPQ to assess clinical perfectionism (see Appendix C for means, standard deviations, and correlations with theory-relevant measures). One study employed qualitative methodology (Egan, Piek, et al., 2012). Thus while standards, broadly, were the focus of investigation, the use of different methodologies meant that it was not possible to make direct comparisons across the three studies. One study (Egan, Dick, et al., 2012) randomly allocated 297 community volunteers (74% women) to either a difficult or normal condition in order to investigate the relationship between clinical perfectionism and standard setting and resetting following success or failure on successive sets of a non-verbal reasoning test (NVRT). While participants with high CPQ scores initially set a high standard for themselves, an essential maintaining mechanism of clinical perfectionism was subsequently not supported in that they did not continue to reset and pursue higher standards following both success and failure at achieving goals. Rather, they adjusted their behaviour in a way that was realistic and based on their previous performance. In the other study (Shafran, et al., 2006), 41 healthy female students and community volunteers were randomised to either a high standards or low standards condition, and as predicted, women who attempted to attain and stringently adhere to the highest possible standard in everything they thought, said and did for a 24-hour period showed more dysfunctional eating attitudes and behaviour than women who adhered to low personal standards over the same period.

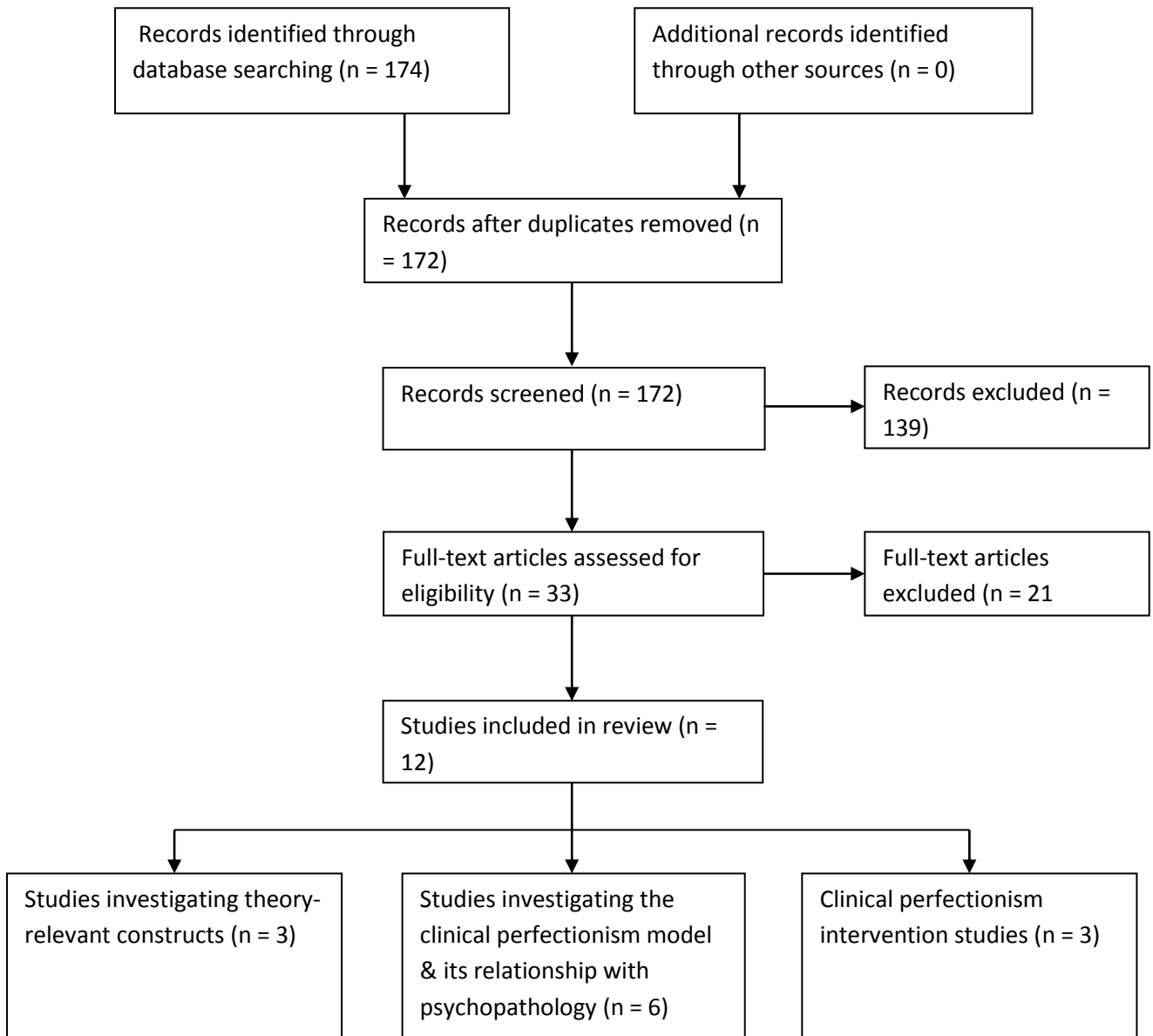


Figure 4. Preferred reporting items for systematic reviews and meta-analyses (PRISMA) flow diagram

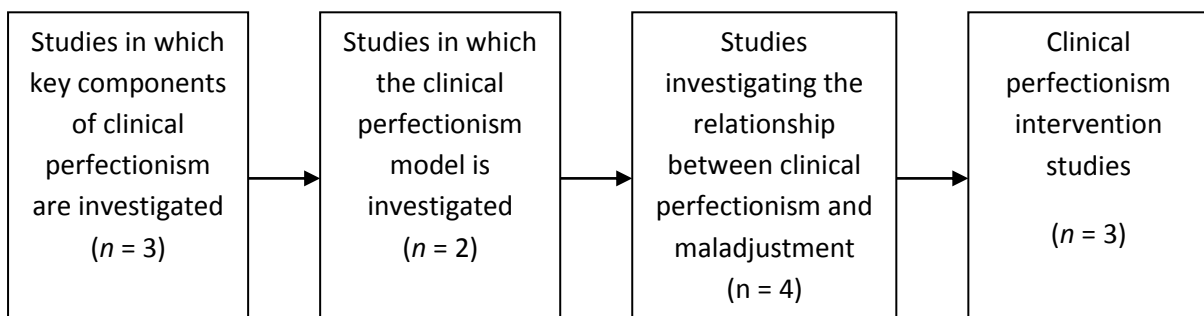


Figure 5. Outline of studies

Table 4***Studies Excluded from the Review during the Final Iteration and Reasons for their Exclusion***

Study	Makes explicit reference to clinical perfectionism	Assessments of key construct(s) are explicit and may be replicated or generalised to other studies	CPQ and/or an intrapersonal conceptualisation with contingent self-evaluation	Rationale for exclusion
Egan & Hine (2008)	Yes	Yes	-	Perfectionism assessed by the MPSF, a trait measure with intrapersonal, interpersonal, and aetiological dimensions
Kobori, Hayakawa, & Tanno (2009)	Yes	Yes	-	Perfectionism assessed by SOP, a trait measure assessing self-imposed pursuit of high standards, but without contingent self-evaluation
Lampard, Byrne, McLean, & Fursland (2011)	Yes	Yes	-	Perfectionism assessed by SOP factor of the EDI-P; a trait measure assessing self-imposed pursuit of high standards, but without contingent self-evaluation
Lethbridge, Watson, Egan, Street, & Nathan (2011)	Yes	Yes	-	Perfectionism assessed by intrapersonal SOP and interpersonal SPP of the EDI-P; neither with contingent self-evaluation
Shafran, Fairburn, Nelson, & Robinson (2003)	-	Yes	-	Theory-relevant concept investigated, but no reference to perfectionism, including clinical perfectionism

Study	Makes explicit reference to clinical perfectionism	Assessments of key construct(s) are explicit and may be replicated or generalised to other studies	CPQ and/or an intrapersonal conceptualisation with contingent self-evaluation	Rationale for exclusion
Shafran, Lee, Payne, & Fairburn (2007)	-	Yes	-	Theory-relevant concept investigated, but no reference to perfectionism, including clinical perfectionism
Steele & Wade (2008)	Yes	Yes	-	Intervention study. Perfectionism measured by com, a trait measure with interpersonal content, and by PS, a trait measure assessing self-imposed pursuit of high standards, but without contingent self-evaluation
Watson, Raykos, Street, Fursland, & Nathan (2011)	-	Yes	-	Theory-relevant concepts investigated, perfection is assessed on track fiction is a measure (EDI-P), with intrapersonal and interpersonal content, without contingent self-evaluation

Note. COM = Concern over Mistakes (Frost, et al., 1990), EDI-P = Perfectionism subscale of the Eating Disorders Inventory (Garner, 2004), MPSF = Multidimensional Perfectionism Scale (Frost, et al., 1990), PS = Personal Standards (Frost et al., 1990), SOP = Self-Oriented Perfectionism (Hewitt & Flett, 1991b), SPP = Socially Prescribed Perfectionism (Hewitt & Flett, 1991b).

Table 5

Studies Investigating Theory-specific Constructs and Pathways, and Studies Investigating the Clinical Perfectionism Model and its Relationship with Psychopathology: Summary of Study Characteristics

Study	Study name	Sample	Study design	Measures, Time Points, obtained α	Results
Egan, Dick, & Allen (2012)	An experimental investigation of standard-setting in clinical perfectionism	N = 206 adults (74% female; mean age 30.56), recruited online across six countries	Random allocation to normal and difficult conditions on NVRT. Repeated measures with 3 levels (3 sets on NVRT).	MPSF; CPQ; PANAS; CP-VAS, personal goal on NVRT. Assessed at baseline, and following honest feedback about performance on NVRT sets.	CPQ scores associated with goal on first set NVRT, & less likely to achieve goal CPQ scores not related to performance CPQ not a significant predictor of standard resetting following success or failure Successful performance predicted raising standards, and vice versa.
Egan, Piek, Dyck, Rees, & Hagger (2012)	A clinical investigation of motivation to change standards and cognitions about failure in perfectionism	n = 10 clinical (8 females) high on PANPS negative perfectionism + anxiety and/or depressive disorder n = 10 experienced athletes (six females) low on PANPS negative perfectionism	Qualitative, inductive content analysis	PANPS ($\alpha = .85$ for +ve perfectionism; $\alpha = .87$ for -ve perfectionism); SCID; BDI-II; One off structured clinical interview for clinical perfectionism	Themes consistent with clinical perfectionism. Clinical and athlete groups differed on six themes: 1) Advantages of perfectionism - identified by clinical group 2) Disadvantages of perfectionism - identified by clinical group 3) Choice to keep or relinquish perfectionism – clinical group preferred to keep 4) Consequences of change 5) Evaluation of self after failure to meet a standard; 6) Resetting standards following failure - clinical group would keep or reset upward; athletes would keep or reset downward.

Study	Study name	Sample	Study design	Measures, Time Points, obtained α	Results
Shafran, Lee, Payne, & Fairburn (2006)	The impact of manipulating personal standards on eating attitudes and behaviour	N = 41 women (community volunteers/university students), without current or past eating disorder, not dieting or depressed	Experimental design: Randomisation to (n = 18) high personal standards condition or (n = 23) low personal standards condition	EDE-Q; BDI-II; CPQ; MPSH; CP-VAS; EB-VAS; ratings of regret, over-evaluation of control Food eaten over 24 hours pre-manipulation & 24 hours post-manipulation. Manipulation checks using CP-VAS First assessment in 24 hours pre first session. Second assessment at first session, prior to randomisation. Final assessment post 24 hour period	After manipulation, participants in the high personal standards condition ate fewer high calorie foods, more attempts to restrict overall amount eaten, significantly more regret after eating than in the low personal standards condition. Prior to manipulation no differences between groups on items of CP-VAS. After manipulation those in high standards condition showed increase on all items consistent with clinical perfectionism and eating disorder behaviour
Riley and Shafran (2005)	Clinical perfectionism: A preliminary qualitative analysis	N = 21 adults (14 nonclinical, 7 clinical)	Qualitative analysis (Grounded Theory)	Semi-structured interview designed to explore the phenomenology of clinical perfectionism and is maintaining mechanisms	Phenomenology of clinical perfectionism: self-imposed dysfunctional standards; continual striving; striving in spite of adverse consequences 6 maintaining mechanisms: self-critical reaction to failure; positive emotional reaction to success; cognitive biases; rules & rigidity; avoidance; escape other maintaining mechanisms: safety behaviours; procrastination; fear driven; value driven

Study	Study name	Sample	Study design	Measures, Time Points, obtained α	Results
Dickie, Surgenor, Wilson, & McDowell (2012)	The structure and reliability of the Clinical Perfectionism Questionnaire	N = 491 university undergraduates at Time 1, of whom 142 were retested at Time 2	Correlational design using exploratory factor analysis and parallel analysis	CPQ & MPSF at Time 1 & at 4 months (Time 2) ($\alpha = .82-.90$ for MPSF)	10-item solution for CPQ; two distinct factors, modest internal consistency ($\alpha = .709-.710$) & test-retest reliability ($r = .491-.672$)
Chang and Sanna (2012)	Evidence for the validity of the Clinical Perfectionism Questionnaire in a nonclinical population: More than just negative affectivity	N = 243 university students (61 men, 182 women) university students, mean age = 19.64 (SD = 1.4) years	Correlational design Concurrent (correlations) and predictive (multiple regression) validity examined	CPQ ($\alpha = .83$); MPSH ($\alpha = .75-.82$); NA ($\alpha = .90$); BDI ($\alpha = .92$); BAI ($\alpha = .89$); PSS ($\alpha = .87$) Single assessment	Scores on CPQ positively associated with measures of depression, anxiety, stress. CPQ accounted for additional variance in depression, anxiety, stress, beyond that accounted for by MPSH and NA.
Steele, O'Shea, Murdock, & Wade (2011)	Perfectionism and its relation to overvaluation of weight and shape and depression in an eating disorder sample	N = 39 females receiving outpatient treatment for an eating disorder (mixed AN, BN, EDNOS). Average age = 25.2 (SD = 8.7) years	Correlational design Analyses using simultaneous multiple regressions	PSP = MPSF-PS ($\alpha = .90$); ECP = MPSF-COM ($\alpha = .92$); CPQ ($\alpha = .83$); Self-criticism assessed by the DEQ ($\alpha = -$); Depression subscale DASS ($\alpha = .96$); SWO = two items from EDE-Q ($\alpha = .94$) Single assessment	CPQ accounted for significant variance of depression ($d = .94$), after controlling for ECP ($d = 0.02$), PSP ($d = 0.66$), & Self-criticism ($d = 0.68$) None of measures accounted for significant amount of variance of SWO: CPQ ($d = .42$), ECP ($d = 0.21$), PSP ($d = 0.12$), & Self-criticism ($d = 0.57$)

Study	Study name	Sample	Study design	Measures, Time Points, obtained α	Results
Dickie, Wilson, McDowall, & Surgenor (2012)	What components of perfectionism predict Drive for Thinness?	Time 1 = 578 university students: females (68%) and males (32%). Mean age = 20 (SD = 4.14) years. At Time 1 Time 2 (4 months) 175 university students: females (79%) and males (21%). Mean age = 19.4 (SD = 4.2) years	Longitudinal Design Repeated measures	Time 1: CPQ ($\alpha = .81$); ECP: MPSF-COM & MPSF-DA; PSP: MPSF-PS ($\alpha = .79-.91$); Drive for Thinness subscale of EDI-3. ($\alpha = .93$) Time 2 (4 months): Time 1: CPQ ($\alpha = .78$); ECP: MPSF-COM & MPSF-DA; PSP: MPSF-PS ($\alpha = .80-.91$); Drive for Thinness subscale of EDI-3. ($\alpha = .94$)	Drive for Thinness correlated with PSP, ECP, & CPQ at Time 1. Similar, not identical, for Time 2. No significant differences between Time 1 & Time 2 for PSP, Drive for Thinness, & CPQ. ECP higher at Time 2. No significant differences between PSP or ECP at Time 1 or Time 2; females higher than males on the CPQ at Time 1 & Time 2 Time 1 & Time 2, correlations significant between Drive for Thinness & PSP for males and females at Time 1 but not at Time 2. Drive for Thinness & EC significantly correlated for both sexes at Time 1 & 2, but the same was only true for the CPQ among women. Females higher than males on CPQ & Drive for Thinness SEM: a unidirectional relationship between ECP and Drive for Thinness; ECP at Time 1 predicted Drive for Thinness at Time 2. Stability coefficients .79-.89, all analyses & constructs
Hoiles, Egan, & Kane (2012)	The validity of the transdiagnostic cognitive behavioural model of eating disorders in predicting dietary restraint	N = 224 females (community & university) recruited online, mean age = 31.27 (SD = 12.47) years. Self-reported mean BMI = 24.71 (range = 16.2-59.5)	Model testing procedure (concurrent validity)	EDE-Q: Global ($\alpha = .95$), R ($\alpha = .84$), EC ($\alpha = .83$), SC ($\alpha = .92$), WC ($\alpha = .87$); CPQ ($\alpha = .76$); RSES ($\alpha = .88$); TOMS ($\alpha = .77$), SAS-SR Single session completed online	7.6% Global EDE-Q score > 4 (i.e. extreme eating disorder psychopathology). > 4 on SC (26%), WC (65%), Restraint (11.1%), EC (3.7%) SEM: partial mediation model a good fit for the data. Pathways from maintaining mechanisms (e.g. CP) to core psychopathology (i.e., EC, WC, SC) and from core psychopathology to Restraint both significant. Direct pathway from maintaining mechanisms (CP) to Restraint not significant. Interpreted as maintaining mechanisms (CP) acting indirectly on Restraint via EC, WC, and SC.

Note: α = Cronbach's alpha; AN = AN; BAI = Beck Anxiety Inventory (Beck, Epstein, Brown, & Steer, 1988); BDI = Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961); BDI-II = Beck Depression Inventory –II (Beck, Steer, & Brown, 1996); BN = Bulimia Nervosa; CP = clinical perfectionism; CPE = Clinical Perfectionism Examination (Riley, et al., Unpublished); CPQ = Clinical perfectionism Questionnaire (Fairburn, et al., in preparation); CP-VAS = Clinical Perfectionism-Visual Analogue Scales; d = Effect Size; DASS = Depression, Anxiety, Stress Scales (S. H. Lovibond & Lovibond, 1995); DEQ = Depressive Experiences Questionnaire (Blatt, D'Affitti, & Quinlan, 1976); EB-VAS = Eating Behaviour-Visual Analogue Scales; EC = Eating Concerns subscale of the EDE-Q; ECP = Evaluative Concerns Perfectionism; EDE-Q = Eating Disorder Examination – Questionnaire (Fairburn & Beglin, 1994); EDI-3 = Eating Disorders Inventory-3 (Garner, 2004); EDNOS = Eating Disorder Not Otherwise Specified; MPSF = Multidimensional Perfectionism Questionnaire (Frost, et al., 1990); MPSH = Multidimensional Perfectionism Questionnaire (Hewitt & Flett, 1991b); MPSF-COM = Concern over Mistakes subscale of the MPSF; MPSF-DA = Doubts about Actions subscale of the MPSF; MPSF-PS = Personal Standards subscale of the MPSF; NA = Negative Affect Scale of the Positive and Negative Affect Schedule (D. Watson, Clark, & Tellegen, 1988); NVRT = non-verbal reasoning test; PANAS = The Positive and Negative Affect Scale; PANPS = The Positive and Negative Perfectionism Scale; PSP = Personal Standards Perfectionism; PSS = Perceived Stress Scale (Cohen, Kamarck, & Meremmelstein, 1983); R = Restraint subscale of the EDE-Q; RSES = Rosenberg Self-Esteem Scale (Rosenberg, 1965); SAS-SR = Social Adjustment Scale by Self-Report (M. M. Weissman, Prusoff, Thompson, Harding, & Meyers, 1978); SC = Shape Concerns subscale of the EDE-Q; SCID = Structured Clinical Interview for DSM-IV-TR (First, Spitzer, Gibbon, & Williams, 2002); SEM = Structural Equation Modelling; SWO = Shape and Weight Overvaluation; TOMS = Tolerance of Mood States Scales (Allen, Byrne & McLean, unpublished); WC = Weight Concerns subscale of the EDE-Q.

Table 6

Clinical Perfectionism Intervention Studies: Summary of Study Characteristics

Study	Design	Conditions	Treatment fidelity	Participants	Measures, time points, obtained α	Hypotheses tested about mechanisms of action	Mediation analysis carried out	Outcome
Glover et al. (2007)	Case series	2 conditions /1 group: 1) Waitlist (6-43 days) 2) Manualised treatment consisting of 10-14 sessions over 8-12 weeks Individual outpatient basis by therapist under supervision	Audiotapes of 4 participants independently rated	7 women & 2 men, with clinical perfectionism + range of Axis I diagnoses, no eating disorders	CPQ, MPSH, DAS, BAI, BDI-II Administered pre-treatment (6-43 days), post-treatment (8-12 weeks), follow-up (three months) CP-VAS at 4 pre-treatment/baseline, at start of each session, at follow-up	–	CP-VAS analysed visually, reported as "trends towards improvement"	Clinically significant improvements, maintained at follow-up for $n = 6$ on SOP and DAS, for $n = 3$ on CPQ. Statistically significant improvements at group level, maintained on SOP, DAS, CPQ. No significant differences at group level in anxiety/depression. Some improvements in individual mood state

Study	Design	Conditions	Treatment fidelity	Participants	Measures, time points, obtained α	Hypotheses tested about mechanisms of action	Mediation analysis carried out	Outcome
Riley et al. (2007)	Randomised controlled trial	2 conditions / 2 groups: 1) 10 sessions over 8 weeks Individual outpatient basis 2) Waitlist	Treatment manualised. Audiotapes of 10% of sessions randomly selected & independently rated as good adherence to protocol	18 women & 2 men ($n = 18$ completed study) $n = 6$ clinical perfectionism $n = 9$ clinical perfectionism & 1 Axis I comorbidity $n = 5$ clinical perfectionism & 2+ Axis I comorbidities Comorbid diagnoses not specified.	CPE, CPQ, MPSF, SCID, BDI-II, BAI, BSI Treatment condition: measures administered pre-treatment (0 weeks), post-treatment (8 weeks), follow-up (16 weeks) Waitlist: measures administered pre-waitlist (-8 weeks), Post waitlist/pre-treatment (0 weeks), post-treatment (8 weeks), follow-up (16 weeks)	–	–	75% clinically significant improved in clinical perfectionism from baseline to post-treatment, maintained at follow-up Improvements in comorbidities for treatment condition MPSH & MPSF scores reduced at post-treatment; not maintained on interpersonal subscales WL: $d = 0.27$ for CPE; $d = 0.38$ for CPQ; IT: $d = 2.05$ for CPE; $d = 1.36$ for CPQ

Study	Design	Conditions	Treatment fidelity	Participants	Measures, time points, obtained α	Hypotheses tested about mechanisms of action	Mediation analysis carried out	Outcome
Steele, Waite, et al. (2013)	Case series	3 conditions, administered successively / 1 group: 1) Waitlist (4 weeks) 2) Psycho-education: private reading (4 weeks) 3) Group CBT (eight 2-hour sessions over 8 weeks).	Manualised Evaluation of participant home work at end of psycho-education period & beginning of each group session Adherence 75-100%	21 adults (15 females, 6 males) commenced study, 19 completed, all attending clinics for treatment of anxiety & depression. All had high scores on COM $n = 7$, no Axis I (5 in remission from depression) $n = 5$, 1 Axis I $n = 9$, 2+ Axis I	CPQ ($\alpha = .83$); COM ($\alpha = .91$); PS ($\alpha = .79$); DAS ($\alpha = .94$); DASS-21 ($\alpha = .88$); MINI Administered at BL (Time 1), PrePsyEd (Time 2), PT (Time 3), PoT (Time 4), Three-month follow-up (Time 5)		Multi-level mixed effects linear regression analyses used to determine whether scores changed significantly over time, & time points at which statistically significant change occurred	PsyEd had no significant impact; Comparing WL, PsyEd, Group CBT: BL to PoT, main effects for time on all measures ($d_s > 1.45$); PT to Pot ($d_s > .91$); 21% completers clinically signif improvement Group CBT : BL to 3 month 3-month follow-up main effects for time on all measures ($d_s > 1.49$), 32% had clinically significant improvement

Note: α = Cronbach's alpha; BAI = Beck Anxiety Inventory (Beck, et al., 1988); BDI-II = Beck Depression Inventory-II (Beck, et al., 1996); BL = Baseline; BSI = Brief Symptom Inventory (Derogatis & Melisaratos, 1983); CBT = Cognitive Behaviour Therapy; COM = Concern over Mistakes subscale of the Multidimensional Perfectionism Scale (Frost, et al., 1990); CPE = Clinical Perfectionism Examination (Riley, et al., Unpublished); CPQ = Clinical Perfectionism Questionnaire (Riley, Cooper, Fairburn, & Shafran, unpublished); CP-VAS = Clinical Perfectionism Visual Analogue Scales; d = Effect size; DAS = Dysfunctional Attitudes Questionnaire (A. Weissman & Beck, 1978); DASS-21 = Depression Anxiety Stress Scale (S. H. Lovibond & Lovibond, 1995); MINI = The Mini-International Neuropsychiatric Interview (Sheehan, Janavs, Baker, Sheehan, Knapp, & Sheehan, 1998); IT = Immediate Treatment; MPSF = Multidimensional Perfectionism Scale (Frost, et al., 1990); MPSH = Multiple Perfectionism Scale (Hewitt & Flett, 1991b); PrePsyEdu = Pre Psycho-education; PS = Personal Standards subscale of the MPSF (Frost, et al., 1990); PsyEd = Psycho-Education; PoT = Post-treatment; PT = Pre-treatment; SCID = Structured Clinical Interview for DSM-IV-TR (First, et al., 2002); SOP = Self-Oriented Perfectionism subscale of the MPSH (Hewitt & Flett, 1991b); WL = Waitlist

Both studies were taken as analogues of clinical perfectionism. Shafran et al. (2006) suggested that the experimental manipulation of pursued standards induced the core psychopathology of clinical perfectionism in nonclinical, healthy, women (i.e., self-worth dependent on achieving high standards), as well as other phenomena seen in both clinical perfectionism and eating disorders. Egan, Dick et al. (2012) inferred that nonclinical individuals who score highly on the CPQ function in a manner consistent with having clinical perfectionism. However, the validity of that inference, along with meaningful cut-off scores and norms, has yet to be established. While consistent with clinical perfectionism, compared with low CPQ scoring participants, high CPQ scoring participants initially set higher standards for themselves on the NVRT, irrespective of whether or not this was realistic and resulted in failure, they subsequently failed to demonstrate an essential mechanism of maintenance.

Investigating standard setting and striving in isolation from the clinical perfectionism model may have limited validity in terms of how those constructs operate within the model. By definition, clinical perfectionism involves standards that are self-motivated, self-imposed, personally demanding, and in domains that are salient for self-evaluation. Indeed, Shafran et al. (2002) suggested that individuals with clinical perfectionism may not strive in domains that are not important to them. Nevertheless, they instructed the women in the high standards condition to strive globally. However, Shafran et al. (2006) noted that the study participants were self-selecting and aware that eating attitudes and behaviour were of interest. Thus, the domain may have been personally significant to them. Egan, Dick, et al. (2012) instructed participants to set and reset standards in a predetermined task and domain, irrespective of its personal significance. Whether the individuals high in clinical perfectionism would have continued to set high standards in a personally salient domain was not addressed in the study. Thus, the findings to date are inconclusive with respect to clinical perfectionism.

A qualitative study (Egan, Piek, Dyck, Rees, & Hagger, 2012) investigated motivation to change standards and cognitions about failure, both mechanisms of maintenance, in 10 individuals with high scores on a trait measure of negative perfectionism and Axis I co-morbidities (mostly Major Depression and anxiety disorders), and in high performing non-perfectionistic athletes. Using qualitative methodology meant that the constructs of interest could be investigated as phenomena embedded within the model, including in personally salient domains, thereby allowing for construct interrelatedness and ecological validity. Furthermore, having a clinical sample meant that the model could be explored in the context of explaining psychopathology. Thematic findings were largely consistent with an intrapersonal explanatory model, in that the clinical group reported many negative personal consequences of perfectionism, but preferred not to change, and unlike the athletes, they tended to cite internal, self-critical, attributions about failure. However, they were also highly motivated by the perception that only through achievement are they valued and respected by other people. This finding was consistent with interpersonal theories of motivation and maintenance (e.g., Carter, Kelly, & Norwood, 2012; Treasure, et al., 2011), and with the contention that negative feedback regarding one's social value triggers negative self-evaluation and associated affect (Leary, Haupt, Strausser, & Chokel, 1998; Tesser, Crepaz, Collins, Cornell, & Beach, 2000).

Investigating the content and structure of the clinical perfectionism model. Two studies investigated the clinical perfectionism model (Dickie, Surgenor, et al., 2012; Riley & Shafran, 2005). Direct comparisons were again not possible due to different methodologies being employed. Riley and Shafran (2005) employed Grounded Theory (Glaser & Strauss, 1967) in order to both investigate the phenomenology of clinical perfectionism and generate new theoretical insights. Participants were 14 nonclinical and 7 clinical individuals, 15 of who displayed the core psychopathology of clinical perfectionism (i.e., their self-evaluation

depended on pursuing personally demanding standards in a salient domain). However, Axis I diagnoses and mean scores on measures of psychopathology were not reported in full, although reference to these scores was made. Consistent with hypothesised constructs and pathways, all participants with clinical perfectionism reported (1) self-imposed dysfunctional standards; (2) continual striving; (3) striving in spite of adverse consequences. Six maintaining mechanisms were confirmed: (1) self-critical reaction to failure; (2) positive but fleeting emotional reaction to success; (3) cognitive biases, including all-or-nothing thinking, catastrophising, disqualifying the positive, focusing on the negative, more stringent judgements of the self than of others; (4) rules and rigidity; (5) avoidance, such as avoiding tasks due to fear of failure; (6) escape, such as escaping from difficult tasks due to fear of failure.

Four further maintaining mechanisms were identified: (1) safety behaviour (e.g., behaving in a way designed to avert a feared outcome); (2) procrastination (e.g., delay in initiating or completing tasks due to fear of failure); (3) fear driven motivation for achieving (e.g., striving to achieve due to the implications of failure); (4) value driven motivation for achieving (e.g., striving because being perfect is the "right" way to be). These findings were used subsequently to update the clinical perfectionism model (Shafran et al. 2010) and developing items for the CPQ.

One study (Dickie, Surgenor, et al., 2012) used quantitative methodology to investigate the structure and reliability of the CPQ. Items of the CPQ are shown in Appendix D. The study sample consisted of 491 male and female undergraduates, 142 of whom were retested after four months. Concurrent validity was assessed by correlations with subscales that load highly on the two robust higher order factors (Bieling, Israeli, & Antony, 2004; Frost, et al., 1993; Stoeber & Otto, 2006) derived from factor analysing the two well-established, independently developed, Multidimensional Perfectionism Scales (MPSF, Frost,

et al., 1990; MPSH, Hewitt & Flett, 1991b). The first MPS factor (i.e., Personal Standards Perfectionism), has been associated in some samples with adaptive functioning, and may address healthy aspects of striving and goal pursuit. To assess the first factor, Dickie, Surgenor et al. (2012) used the MPSF Personal Standards subscale (refers to the self-imposed setting and pursuit of high standards and goals). The second MPS factor (i.e., Evaluative Concerns Perfectionism), is robustly associated with dysfunction. To assess the second factor, Dickie, Surgenor et al. (2012) used the MPSF Concern over Mistakes subscale (refers to overly critical self-evaluations and over-concern with others' criticism and expectations) and the MPSF Doubts over Actions subscale (doubting one's ability to accomplish tasks). Some of the items in the in MPSF Personal Standards and MPSF Concern over Mistakes come close to assessing clinical perfectionism (Shafran et al., 2002). Dickie, Surgenor et al.'s (2012) finding of two CPQ factors, and their patterns of correlations with the MPS factors (see Appendix C), provided support for Dunkley, Blankstein, Masheb, and Grilo's (2006) suggestion that clinical perfectionism has two dimensions, namely, a standard setting dimension and a dimension that assesses self-critical evaluative tendencies. The inclusion of measures to more broadly assess cognitive and behavioural functioning would have made it possible to further test Dunkley et al.'s (2006) proposal that self-critical tendencies are more relevant than pursuing personally demanding, self-imposed standards to the critical processes that maintain psychopathology. Dickie, Surgenor et al. (2012) suggested that the study would have been strengthened by including measures to assess divergent/discriminant validity.

In Dickie, Surgenor et al.'s (2012) final CPQ 10-item solution, two items (7 and 8) were removed based on making a minimal contribution (item 8) and loading highly on both factors (item 7). However, item 7 assesses judging the self on the basis of one's ability to achieve high standards, which is central to clinical perfectionism. Thus, there may have been

conceptual grounds for also retaining item 7 on one of the CPQ factors, according to considerations of relatedness and interpretability (Pett, Lackey, & Sullivan, 2003). However, on psychometric grounds Dickie, Surgenor, et al. (2012) queried the merits of using the CPQ as opposed to already existing multidimensional trait measures.

Investigating the relationship between clinical perfectionism and psychopathology. Shafran et al. (2002) proposed that clinical perfectionism interacts and frequently contributes to the maintenance of psychopathology, including eating disorders, anxiety disorders and depression. To date, precise mechanisms across the various disorders have not been empirically established. The four studies reviewed in the section investigated the relationship between the clinical perfectionism model, in its entirety and indexed by the CPQ, and scores on a range of measures of maladjustment (Chang & Sanna, 2012; Dickie, Wilson, et al., 2012; Hoiles, et al., 2012; Steele, et al., 2011). However, none of the studies identified domains in which perfectionism was being assessed, and they did not investigate the relationship between maladjustment and the theory-specific pathways within the model. Only one study (Steele, et al., 2011) used a clinical sample. This consisted of 39 women who were attending a clinic for treatment of an eating disorder. However, eating disorder subtypes were not specified.

Two studies found support for clinical perfectionism over trait perfectionism measures in predicting scores on indices of non-eating disorder maladjustment (Chang & Sanna, 2012; Steele, et al., 2011). Importantly, Chang and Sanna (2012) found that after controlling for negative affectivity, clinical perfectionism accounted for medium amounts of additional variance in depression and perceived stress, and a small amount of additional variance in anxiety. Negative affectivity (or neuroticism) has been conceptualised as a broad, maladaptive, personality construct within which perfectionism resides (Enns, Cox, & Clara, 2005; Smith, Pope, Rhodewalt, & Poulton, 1989). Whereas negative affectivity pertains to

processes that are dispositional and which predispose some individuals to experiencing pervasive and chronic negative mood (Watson & Clark, 1984), clinical perfectionism pertains to processes that are cognitive and behavioural, circumscribed, relate to self-concept and to explaining psychopathology. Accordingly, Chang and Sanna's (2012) findings supported the notion that clinical perfectionism and negative affectivity (and thus also trait perfectionism) represent different processes.

The relationship between clinical perfectionism and indices of eating disorder maladjustment may not be straightforward. Clinical perfectionism was not a significant unique predictor of over-evaluation of weight and shape in a sample of women with eating disorders (Steele, et al., 2011). Over-evaluation of weight and shape is central to a cognitive behavioural view of eating disorders (Fairburn, Cooper, & Shafran, 2003). However, the finding needs to be considered in light of the fact that no other variable out of Personal Standards Perfectionism, Evaluative Concerns Perfectionism, or Self-criticism was a significant unique predictor, despite each having been associated previously with eating disorder symptomatology in both nonclinical and eating disorder samples (Dunkley, et al., 2006; Steele, Corsini, & Wade, 2007; Wade et al., 2008). In this instance, a larger sample may have detected more subtle effects, including making it possible to identify differences if they existed between eating disorder subtypes. However, AN was underrepresented among the eating disorders and, more broadly, obtaining a sample large enough to investigate the relationship between AN and clinical perfectionism may frequently be beyond the resources of researchers. Another consideration, the predictor variables in Steele et al.'s (2011) study may have related to eating disorder psychopathology in an interactive fashion rather than having independent associations (Bardone-Cone et al., 2008; Dunkley & Grilo, 2007). Moreover, being cross-sectional, the study was limited in its ability to understand how clinical perfectionism may impact on over-evaluation of weight and shape over time.

Also a cross-sectional study, Hoiles et al. (2012) found that clinical perfectionism did not exert a direct effect on dietary restraint in a large female community sample. This was despite there being a high degree of self-reported eating disorder pathology in the sample, and dietary restraint being a risk factor and a marker in the development of eating disorders (Stice, 2002; Stice, Ng, & Shaw, 2010). Further, clinical perfectionism led to dietary restraint via the putative core psychopathology of eating disorders (i.e., eating concern, weight concern, shape concern). Although the study was not longitudinal, and could not establish causality, Hoiles et al. (2012) suggested that the finding indicated that clinical perfectionism alone is not sufficient to lead to dietary restraint, the core psychopathology eating disorders needed to be present.

One study was longitudinal (Dickie, Wilson, et al., 2012). In a mixed-sex university sample, it was found that while clinical perfectionism, Personal Standards Perfectionism (i.e., MPSF Personal Standards), and Evaluative Concerns Perfectionism (i.e., MPSF Concern over Mistakes and MPSF Doubts about Reactions) were all positively associated with Drive for Thinness, which is a predictor of eating disorders, including AN (Abbate-Daga, Piero, Gramaglia, Gandione, & Fassino, 2007; Ahern & Hetherington, 2006; Garner, Olmsted, & Garfinkel, 1983; Levitt, 2004; Vansteelandt, Rijarnen, Pieters, Probst, & Vanderlinden, 2007), only Evaluative Concerns Perfectionism at Time 1 predicted Drive for Thinness four months later. Dickie, Wilson et al. (2012) suggested that while the study four-month follow-up was consistent across similar studies looking at the relationship between perfectionism and eating disorder symptoms over time (e.g., Steele, et al., 2007), a longer follow-up period would have strengthened the study findings.

From their two parallel studies (Dickie, Surgenor, et al., 2012; Dickie, Wilson, et al., 2012), Dickie, Wilson et al. (2012) concluded that adopting clinical perfectionism, along with the CPQ, as the most important conceptualisation and measure of pathological perfectionism

may be premature and “possibly disguise subtle mechanisms of action in the development and maintenance of eating disorder symptoms” (p. 243). However, while investigating clinical perfectionism in large nonclinical samples may be a way of determining risk, this was not the purpose for which clinical perfectionism was developed, which was to understand psychopathology in clinical samples. At this point, it is worth noting that of the nine studies thus far reviewed only three included clinical samples, all small. Two of these were qualitative studies in which the phenomenology of clinical perfectionism was investigated. It would thus be premature to draw conclusions about the utility of clinical perfectionism in understanding psychopathology.

Clinical perfectionism intervention studies. Three treatment studies met the current review inclusion criteria (Glover, et al., 2007; Riley, et al., 2007; Steele, et al., 2013), all of which included administering the CPQ to assess clinical perfectionism at baseline and to measure treatment change. Riley et al. (2007) also administered the Clinical Perfectionism Examination (CPE; Riley, et al., Unpublished) and Glover et al. (2007) administered a set of visual analogue scales developed to assess a number of the putative maintaining mechanisms of clinical perfectionism (CP-VAS; unpublished). The seven CP-VAS items are shown in Appendix E. The three studies are illustrated in Table 6. Across the studies, it was predicted that a cognitive behavioural intervention for clinical perfectionism would be superior to comparison study conditions at both post-treatment and follow-up in terms of reducing clinical perfectionism and negative affect. They also predicted that a cognitive behavioural intervention for clinical perfectionism would result in improvements in comorbid Axis I symptomatology, despite these not being a focus of treatment. Summaries of the combined findings and conclusions are presented below. However, researchers should be cautious when interpreting them due to aspects of study design, discussed later in this section, which limited the conclusions that could be validly drawn.

1. Reductions in clinical perfectionism at post-treatment, which were maintained at all points of follow-up.
2. Improvements in depressive and anxiety-related Axis I comorbidities at post-treatment, which were mostly maintained.
3. Significantly reduced scores at post-treatment and maintained at all points of follow-up on two self-referential trait perfectionism measures, i.e., self-oriented perfectionism from the MPSH (Hewitt & Flett, 1991b) and the Dysfunctional Attitude Scale (Weissman & Beck, 1978), and also on the MPSF total score (Frost, et al., 1990).
4. Significantly reduced scores at post-treatment, but not maintained at follow-up, on the interpersonal dimensions of the MPSH (Hewitt & Flett, 1991), i.e., socially-prescribed perfectionism (the perception that others hold extremely high expectations and standards for the self) and other-oriented perfectionism (the holding of high expectations and standards for others).

Conclusions across the three intervention studies were:

1. A brief cognitive-behavioural intervention for clinical perfectionism can be used as a stand-alone treatment for people with clinical perfectionism as their primary problem, or as an adjunct to existing cognitive-behavioural interventions for Axis I conditions (other than eating disorders) when clinical perfectionism is proving to be a barrier to change.
2. By reducing perfectionism, then other co-morbidities such as anxiety and depression can also be reduced despite these not being a focus of treatment.
3. Some aspects of personality assessed by existing measures of perfectionism may be amenable to change.

Notwithstanding the mainly positive findings and conclusions, for reasons that are now discussed, the three treatment studies in fact had difficulty demonstrating specificity of

effectiveness for a clinical perfectionism intervention. In addition, minimal evidence was established by them for theoretical constructs and pathways.

Multi-site, randomised controlled trials are widely viewed as the most rigorous way of determining whether a cause-effect relation exists between treatment and outcome (Sibbald and Roland, 1998). The Riley et al. (2007) study was a single-site, randomised controlled trial. It used computerised randomisation of participants to either a treatment (individual CBT) or waitlist (no-treatment) control condition, with all assessments conducted blind to the randomisation condition. Although this is a very common design, the lack of an alternative intervention comparison condition meant that non-specific treatment effects could not be controlled for (Michie et al., 2008). Thus it could not be said definitively that findings from the study were due to the cognitive behavioural intervention for clinical perfectionism. The remaining two studies were case series in which participants served as their own waitlist/no-treatment control condition (Glover, et al., 2007; Steele, et al., 2013). In their single-site study, Glover et al (2007) assigned all participants to a no-treatment baseline phase (waitlist control period) followed by treatment (individual CBT). However, again there was no intervention comparison condition to control for non-specific treatment effects. The Steele et al. (2013) intervention study was across two sites. All participants were all assigned to a no-treatment waitlist period, followed by a psycho-education period (information-alone condition), followed by a treatment condition (group CBT). However, since the psycho-education condition occurred prior to the perfectionism intervention for all participants, it was not possible to disentangle whether the study results were due solely to the group program, to a delayed effect of psycho-education, to a cumulative impact of the two interventions, or to an unidentified confounding variable.

Additional problematic features across the three studies included small sample sizes, which limited the power to distinguish treatment effects, and study conditions which were

only nominally the same. For example, Riley et al. (2007) had 10 participants randomised to each of the two conditions (18 participants completed the study), Glover et al. (2007) had 9 participants, and Steele et al. (2013) had 19 participants complete all of the study conditions. Furthermore, while in all cases treatment was manualised, followed the original (Shafran, et al., 2002) or updated (Shafran, et al., 2010) protocols, and was monitored for fidelity, there were between study differences in duration of the waitlist/no-treatment period (6 days-8 weeks), number of treatment sessions (8-14), length of treatment (8-12 weeks) and mode of treatment delivery (individual or group). Those factors also differed between participants within the Glover et al. (2007) study. While Glover et al. (2007) reported results largely on a case-by-case basis, they did not say how long individual participants spent in each study condition, and why. A further and broader problem was the unavailability of psychometric data, including norms, for the CPE and CPQ, and the associated problem of ensuring valid and reliable measurement. Change in those measures was reported in terms of effect sizes and clinical significance, with the latter determined according to criteria suggested by Jacobsen and Truax (1991). For pre-and post-treatment changes in CPQ scores Riley et al. (2007) concluded that the effect size for individualised CBT was large ($d = 1.31$), while Steele et al. (2013) found a smaller effect size for group CBT ($d = 0.92$). In terms of clinical significance, at post-treatment assessment only 21% of participants in the Steele et al. (2013) met criteria for clinically significant improvement according to their change in scores on the CPQ, and 32% at the three-month follow-up assessment, in comparison to 75% of participants in the Riley et al. (2007) study. While this may have been due to differences in mode of treatment delivery (i.e., individual versus group), participants in the Riley et al. (2007) study reported higher baseline scores on the CPQ, and received 10 sessions over 8 weeks, versus the 8 sessions over 8 weeks received by participants in the Steele et al. (2007) study.

Conclusion

The aim of this chapter was to review and evaluate the existing published evidence for the clinical perfectionism model of maintenance, particularly as a model for understanding AN. However, a strict application of the review inclusion criteria resulted in no study being located in which there was an AN sample.

Across the review, factors mainly associated with study design prevented drawing conclusions about theory-specified constructs and pathways. Nor could conclusions be drawn about the effectiveness of a theory-driven, cognitive behavioural intervention for clinical perfectionism. Limiting factors included use of large nonclinical samples to investigate a construct whose purpose is to understand psychopathology in clinical populations, a limited number and range of clinical samples, all of which were small, reliance on the still-unpublished and psychometrically embryonic CPQ, and non-equivalence among research/treatment protocols and measures. Nevertheless, overall it could be said that there was some evidence for clinical perfectionism contributing to maintaining eating disorder pathology once it is established, and that clinical perfectionism has promise in understanding and treating mainly depressive/anxious pathology.

There is a desperate need for an empirically based model to guide decisions regarding the psychological treatment of AN (Galsworthy-Francis & Allan, 2014). Illustrated earlier in Table 1, clinical intuition would dictate that the clinical perfectionism model 'fits' AN, and provides a rationale for the relentless pursuit of thinness and precipitous weight loss that characterises the disorder. However, at this time there is no empirical evidence on which to base conclusions regarding the utility of clinical perfectionism in AN. Given the life-threatening nature of AN, investigating the utility in AN of a model informed by clinical perfectionism is still called for. To that end, the self-schema perfectionism model was

developed, and is described and investigated in the following studies presented in Chapters 3 and 4.

Chapter 3

Investigating the Self-Schema Perfectionism Model of Maintenance

Objectives

This chapter has two objectives. The first objective was to describe self-schema perfectionism, a model whose development was informed by the clinical perfectionism cognitive behavioural model of maintenance. The second objective was to present two studies in which the self-schema perfectionism model was investigated. Study 1 investigated the relationship between self-schema perfectionism and AN, and the relative utility of self-schema versus trait conceptualisations of perfectionism (Hewitt, et al., 2003; Shafran, Cooper, et al., 2003) in the disorder. Study 2 builds on Study 1 by investigating the putative maintaining mechanisms of self-schema perfectionism.

Self-Schema Perfectionism: An Overview of the Model

The name *self-schema perfectionism* was used due to concern that using the name clinical perfectionism may have been a misrepresentation. Calling the model self-schema perfectionism aligned it with clinical perfectionism, while keeping it distinct. In addition, it made the conceptual orientation of the investigated model explicit, and distinguished it from trait perfectionism. The self-schema perfectionism model of maintenance is shown in Figure 6, and a description of theory-relevant constructs is presented next.

Over-evaluation of domain-specific striving. From clinical perfectionism, the core defining construct of self-schema perfectionism is "the overdependence of self-evaluation on the determined pursuit of personally demanding, self-imposed, standards [striving] in at least one highly salient domain, despite adverse consequences" (Shafran et al., 2002, p. 778). It is referred to in the studies that follow as over-evaluation of domain-specific striving. Applied to AN, the core explanatory construct of self-schema perfectionism is overdependence of

self-evaluation on self-imposed striving in the domain of weight and shape (over-evaluation of weight/shape striving), despite adverse consequences.

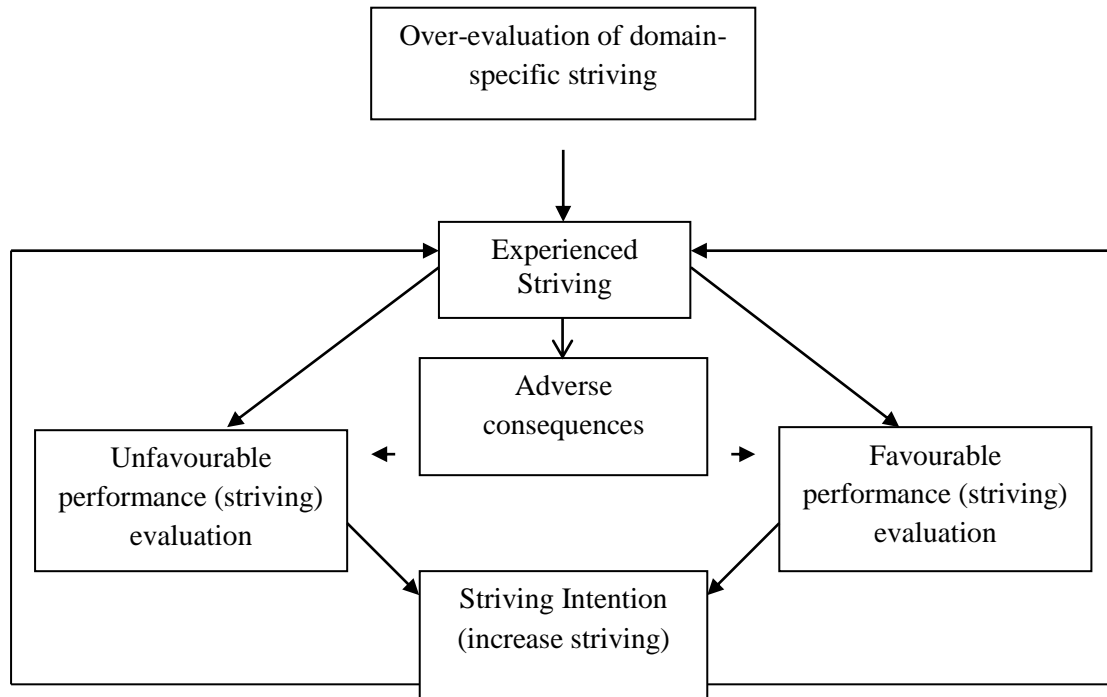


Figure 6. Self-schema perfectionism: A model of maintenance

Experienced striving. In the current research, experienced striving served as an index of effortful exertion in the pursuit of standards. Thus, striving meant working hard and pushing oneself, and related to control (see Surgenor, Horn, Plumridge, & Hudson, 2002), self-surveillance, remaining vigilant, and not relaxing or resting, and involved both cognitive components (e.g., maintaining commitment) and behavioural components (e.g. engaging in means-end behaviours; Bagozzi & Edwards, 1998). Importantly, striving is subjective, in that a standard experienced by one person as demanding, and involving considerable effort, another person may experience as not demanding at all. Only the individual can know whether they have pushed themselves, and to what extent. This points to how in clinical

perfectionism and self-schema perfectionism the essential feature is that standards have to be experienced as high and demanding for that individual (Shafran, et al., 2002). Another essential feature is that striving relates to the *process* or *performance* of goal pursuit (Bagozzi & Edwards, 1998; Shafran, et al., 2002). However, outcome and whether one achieves goals can serve as a way of monitoring and checking the quality of one's striving. For example, a person with AN may evaluate their effort or performance in terms of the extent to which they resisted eating despite strong feelings of hunger. Weight may be used at the end of the day to monitor performance and adjust eating the next day.

Performance evaluation. In the current research, performance evaluation refers to a judgement made by the person about the quality of their performance, or striving. The judgement can range from extremely favourable, through to extremely unfavourable, while passing through a neutral midpoint (Fishbein & Ajzen, 2010; Maze, 1973). Hypothetically, the judgement about performance is then applied contingently and globally to the self.

Bermudez (1999) suggested that an evaluation generally occurs unconsciously, and leads to a decision about a given future behaviour. Maze (1973) proposed that favourable evaluation generally denotes 'good', while unfavourable evaluation denotes 'bad'. Together, they prescribe what should and should not be done in order to be a good person. For example, patients with AN may evaluate food as healthy or unhealthy, decide that they should eat only healthy food, and believe that by doing so they enhance their self-value and worth.

Adverse consequences. Similar to the clinical perfectionism model, continuing to strive despite adverse consequences is the hallmark of self-schema perfectionism. However, a consequence may be both favourable and unfavourable, depending on point of view. For example, compromised cardiac functioning and reduced body temperature are objectively adverse consequences of starvation. However, for the AN patient, the experience of coldness

may be a subjectively positive consequence of starvation, and evidence of true striving. Conceptually, how an individual interprets a consequence can contribute to how they evaluate their performance.

Striving intention. Striving intention was introduced into self-schema perfectionism as an index of whether individuals with AN raised their personal shape/weight standards, and how much effort they expected to exert pursuing them. From clinical perfectionism, raising personal standards, irrespective of how well one performed in the past, is essential to explaining the maintenance of pathological striving and adverse consequences. Shown in Figure 5, striving intention followed from performance evaluation, and was assumed as the immediate antecedent of further striving. In other words, it was assumed that individuals act on their intentions.

Striving intention was derived from the theory of planned behaviour (TPB), which was developed to predict and explain health behaviours (Ajzen, 1985; Ajzen & Fishbein, 1980). Assumptions of the TPB literature are that behaviour is largely rational, under the individual's self-control, and strongly predicted by their behavioural intentions (Randall & Wolff, 1994). The relationship between intentions and actual behaviour is assumed to be causal (Webb & Sheeran, 2006), and although the intention-behaviour relationship is imperfect (Abraham et al., 1999; Armitage & Conner, 2001), intentions have nevertheless been demonstrated as important predictors of health behaviour. Despite the success of the TPB in predicting behaviour, measures of intention have been used only rarely outside research explicitly testing the TPB (i.e., utilising the predictors of attitudes, subjective norms, and perceived behavioural control). In formulating self-schema perfectionism, it was felt that understanding shape/weight-related behaviours in individuals with AN would benefit from the use of a striving intention measure, in preference to the more abstract constructs most often used in eating disorders research, such as body dissatisfaction.

Relationship between components of the model. The self-schema perfectionism model, like the clinical perfectionism model, was conceptualised as a closed system. Each of the model's constituent parts was seen as an essential link in a unidirectional, causal pathway that formed a feedback loop. As such, the model was self-contained, isolated from its environment, and self-perpetuating across time through information about past striving influencing striving in the future (Ramaprasad, 1983). Self-schema perfectionism retained the theoretical orientation, essence and simplicity of clinical perfectionism, but was a pared down version that could not be considered a direct representation of clinical perfectionism. It was used in the research presented in this chapter to answer the following questions:

1. Do individuals with AN have their self-evaluation dependent on shape/weight striving?
2. Does a self-schema conceptualisation of perfectionism better account for eating disorder pathology in individuals with AN than a trait conceptualisation of perfectionism?
3. After evaluating their performance, do individuals with AN raise their personal shape/weight standards following favourable and unfavourable evaluations of striving?
4. Does the self-schema perfectionism construct predict raising standards?
5. Does resetting standards upward help explain eating disorder pathology in individuals with AN?
6. Is the self-schema perfectionism model parsimonious?

The first two questions were addressed by Study 1. The remaining four questions were addressed by Study 2.

Study 1

This first quantitative study had two objectives. The first was to investigate the relationship between AN and the core construct of self-schema perfectionism, i.e., over-

evaluation of weight/shape striving. The second objective was to address a debate over clinical relevance by investigating relative utility of self-schema perfectionism and measures of trait perfectionism (Hewitt & Flett, 1991b) in predicting dietary restraint and depression in women with AN and female nonclinical controls. Key elements of the debate are described below, followed by discussion about dietary restriction and depressive pathology in AN.

The Debate over Clinical Relevance

Shafran et al. (2002) suggested that research using multidimensional trait conceptualisations of perfectionism has yielded few advances in the theoretical understanding and clinical treatment of specific psychiatric disorders. They proposed that clinical perfectionism has utility in understanding specific diagnoses, with AN perhaps being the best example.

Responding to Shafran et al. (2002), Hewitt, Flett, Besser, Sherry, & McGee (2003) identified key areas of divergence between clinical perfectionism and their own multidimensional trait conceptualisation and measure, the Multidimensional Perfectionism Scale (MPSH; Hewitt & Flett, 1991b). The areas are summarised below.

Generalisation versus domain specificity. Hewitt et al. (2003) suggested that conceptualising perfectionism as an attempt to perfect the self globally is more likely than a domain-specific focus to be associated with dysfunction. Shafran, Cooper, & Fairburn (2003) responded that pursuing personally demanding standards in the primary domain of self-evaluation *is* the person's means of perfecting himself or herself. The person applies self-evaluation in that domain to all aspects of the self (McFarlane, McCabe, Jarry, Olmsted, & Polivy, 2001).

Perfectionism and self-worth. Hewitt et al. (2003) suggested that self-evaluation is not part of perfectionism. Rather, perfectionism and self-evaluative reactions are related but

distinct concepts. They also suggested that conceptualisations and measures purporting to assess perfectionism should not be contaminated by content that refers to reactions to failure or success.

The role of interpersonal processes. Hewitt et al. (2003) argued that a purely intrapersonal, self-focused approach is insufficient to explain psychopathology, and that interpersonal processes are also essential. In contrast, Shafran et al. (2002; Shafran, Cooper, et al., 2003) proposed that while intrapersonal mechanisms are central and explain maintenance, the interpersonal consequences of clinical perfectionism are not essential to understanding maintenance.

Depressive Pathology in AN

Depressive disorder is the most common comorbid diagnosis in people with AN (Bardone-Cone et al., 2007), but is poorly understood in the disorder (Garcia-Villamizar, Dattilo, & Del Pozo, 2012). Although trait perfectionism has long been established as an important risk factor for both depressive mood and eating disorder pathology in AN, the relationship between perfectionism, depressive mood, and eating disorder symptoms remains unclear. Separating eating disorder pathology from depressive pathology may be one way of identifying if specific mechanisms are involved. For example, studies have found both the self-oriented perfectionism MPSH dimension (relates to the self-imposed setting and pursuit of demanding, high standards) and the socially prescribed perfectionism MPSH dimension (relates to perceiving that others hold exceedingly high standards for the self) to be elevated in individuals with AN compared to nonclinical controls (Bastiani, Rao, Weltzin, & Kaye, 1995; Halmi et al., 2000; Srinivasagam et al., 1995) and compared to groups with anxiety and depressive diagnoses (see Bardone-Cone, et al., 2007). However, there is reason to suggest that socially prescribed perfectionism may be the MPSH dimension that has associated with depressive pathology in AN. First, Shafran et al. (2003) proposed that the negative

interpersonal consequences of clinical perfectionism may over time contribute to maintaining difficulties and distress. Second, it has been suggested that the negative psychosocial consequences of AN may contribute to the development and maintenance of comorbid depressive pathology (Garcia-Villamizar, et al., 2012; Santos, Richards, & Bleckely, 2007). Third, the interpersonal dimensions of multidimensional trait measures are the dimensions most consistently associated with Major Depressive Disorder in non-eating disorder samples (Enns, Cox, Sareen, & Freeman, 2001; Hewitt & Flett, 1991a).

Dietary Restraint

Dietary restraint has been described as a non-weight-related marker of severity in AN (McFarlane, et al., 2001). Dietary restraint may be understood as a cognitively mediated attempt to monitor and control the type and quantity of food consumed, and to eat less than desired (Larsen, van Strien, Eisinga, Herman, & Engels, 2007; Lowe & Levine, 2005; van Strien, 2008; van Strien, Engels, van Staveren, & Herman, 2006). As such, dietary restraint relates conceptually to the current understanding of striving as an effortful process involving both cognitive and behavioural components. In particular, dietary restraint does not address the amount of food eaten. Rather, it addresses the process of exercising of self-control, in which the impulse to eat (a 'lower-level' goal) is suppressed in the interests of pursuing a 'higher-level' goal.

Westenhoefer (1991) identified two patterns of control over eating behaviour: 'flexible' restraint and 'rigid' restraint. Flexible restraint represents a graduated approach to eating, in which fattening foods can be eaten in small quantities without guilt. Rigid restraint represents a dichotomous, rule-based, all-or-nothing approach to eating, and is associated with self-recrimination and guilt when rules are broken. Rigid restraint describes the eating patterns and attitudes seen in individuals with AN, including for example, skipping meals,

fasting, eating very small amounts of food, eliminating or limiting specific foods, food types, or nutrient from one's diet (De Young et al., 2013).

Hypotheses and Predictions

The differences between Hewitt et al. (2003) and Shafran et al. (2002, 2003) are conceptual, and to a large extent they are irresolvable. Rather than debating what is or is not perfectionism, there may be more value in investigating the relative utility of trait and self-schema approaches to perfectionism in explaining a specific psychiatric disorders, in this instance AN, and to thereby contribute to the systematic development and evaluation of theory-driven interventions To that end, the following hypotheses and predictions were made:

- 1) Consistent with the hypothesis that AN is an expression of self-schema perfectionism in the domain of weight and shape, it was predicted that compared to nonclinical controls, women with AN would have their self-evaluation highly dependent on weight/shape striving.
- 2) Based on the hypothesis that a domain-specific, self-focused, self-schema understanding of perfectionism has greater clinical utility than a multidimensional trait understanding, it was predicted that over-evaluation of shape/weight striving would be uniquely related to dietary restraint in women with AN, whereas intrapersonal and interpersonal dimensions of trait perfectionism would not share unique relations with dietary restraint.
- 3) Based on the hypothesis that AN has adverse interpersonal consequences which contribute to depressive symptomatology, it was predicted that an interpersonal dimension of trait perfectionism would be uniquely related to depression in women with AN, whereas neither an intrapersonal trait dimension of perfectionism nor a self-

schema conceptualisation of perfectionism would share unique relations with depression.

Method

Participants. Clinical participants were 105 women who were within the first two weeks of being treated for AN in the specialist units of two hospitals in Sydney. Of these, 58 (55.2%) were recruited from a private hospital, and 47 (44.8%) were recruited from a public hospital. Objective medical data at admission were study inclusion criteria: DSM-IV diagnosis and admission to hospital by a specialist clinician, body mass index (BMI) less than 18, blood pressure less than 90 millimetres of mercury (mmHg) systolic, or less than 50 mmHg diastolic, pulse less than 50 heart beats per minute, temperature less than 35.5 centigrade, abnormal electrocardiogram (ECG) or an ECG with a corrected QT interval (a measure of the electrical cycle of the heart) of more than 0.44 seconds or a heart rate of less than 50 beats per minute, and significant electrolyte abnormalities. These medical inclusion criteria are serious physical effects of AN (Hay et al., 2014), and confirmed diagnosis among the clinical sample.

Nonclinical participants were 297 female students from a wide range of disciplines who were undertaking a first-year psychology course at an Australian university. Inclusion criteria were never having been diagnosed or treated for an eating disorder, nor currently being diagnosed or treated for any other psychological disorder.

Procedure. Shortly after admission to hospital the women were told that participation in research was voluntary, and that treating clinicians remained unaware of participation status. Declining to participate in this study was most often on the grounds of concurrent involvement in one or more other research projects. It was not possible to know how many declined to participate, nor whether this biased the sample. After consenting, a package of

questionnaires was given to each woman. She completed it privately and returned it in person to the researcher within 24 hours, at which point the researcher checked with her for missing data, which she then provided.

For the nonclinical participants, recruitment followed an opt-in procedure where potentially eligible participants responded to an online advertisement accessible only to students taking first year psychology. It was not possible to assess the numbers of students who chose not to participate; nor could potential bias in the sample be determined. The students received course credit for their participation. An initial 100 student participants completed pen-paper versions of the questionnaires. These were returned in person to the researcher, who checked with the participant for missing data. A further 197 protocols were completed online, in a format whereby progression through the protocol was achieved only by answering each question successively and in order. Thus there was no missing data among completed online protocols. Mean scores on all variables were compared according to whether they were on-line versus paper. No significant differences were found. This is consistent with findings from previous research (Caro, et al., 2006; Denscombe, 2010; Jones, et al., 2008) and enabled analyses to be carried out on the entire sample.

Note. Out of the entire research package that was completed by all subjects, three subsets of completed questionnaires were allocated and analysed separately in three quantitative studies presented in this thesis. Each study investigated a specific aspect and/or question in relation to the self-schema perfectionism model. Although the studies are presented separately across two chapters (Chapters 3 and 4), they form a progressive sequence addressing theory-driven questions.

Measures.

Over-evaluation of weight/shape striving. The study used two purpose-designed items to assess undue influence of weight (and shape) striving on self-evaluation. The format of the items was derived from the Eating Disorder Examination-Questionnaire (EDE-Q; Fairburn & Beglin, 1994). The two items rated severity of over-evaluation of weight (and shape) striving over the past 28 days (e.g., *has putting effort into controlling your weight influenced how you think about (judge) yourself as a person?*) on a Likert scale of 0-6 (0 = *Not at all*, 6 = *Extremely*). Written information was provided that controlling weight (shape) meant making sure that weight (shape) either stays the same or changes in a desired way. There were significant correlations between the weight and shape scores for both the clinical ($r = .802$) and nonclinical ($r = .796$) groups. Internal consistency was good (Cronbach's alphas = .872 and .885 for the clinical and nonclinical groups, respectively). Therefore, for each group the mean of the two scores was calculated and used for analyses. Using a single item to assess over-evaluation of weight/shape striving was consistent with a number of studies in which single EDE-Q items have been used to measure over-evaluation of weight and shape (e.g., Reas, Grilo, Masheb, & Wilson, 2005; Steele, et al., 2011). Furthermore, with respect to using a single-item, omnibus measure of a psychological construct versus summated responses to a number of specific examples or facets of the construct, there is evidence that based on empirical grounds neither method appears to be better than the other (Gardner, Cummings, Dunham, & Pierce, 1998; Wanous, Reichers, & Hudy, 1997).

Trait perfectionism. The self-oriented perfectionism and socially prescribed perfectionism dimensions of the Multidimensional Perfectionism Scale (MPSH; Hewitt & Flett, 1991) were used to assess intrapersonal and interpersonal dimensions of trait perfectionism. Those measures were selected due to their relevance to the exchange between Hewitt et al. (2003) and Shafran et al. (2003), described earlier in this chapter, and because

more broadly they are dimensions of interest in eating disorders research. Socially prescribed perfectionism reflects the perception of unrealistically high standards being imposed by others on the self, e.g., *the people around me expect me to succeed at everything I do*. Self-oriented perfectionism reflects the personal setting and pursuit of high standards, e.g., *I demand nothing less than perfection of myself*. A third MPSH dimension, other-oriented perfectionism, reflects one's high expectations of other people, e.g., *if I ask someone to do something, I expect it to be done flawlessly*, has not been related to eating disorders and was not used in this research. Each MPSH subscale has 15 items. No MPSH item has evaluative content, and in some items the wording is arranged in a way that ensures a mix of positive and negative endpoints (e.g., *I never aim for perfection in my work*), thereby minimising response biases (Francis et al. 2004). Agreement ratings are made on a 7-point scale (1 = *disagree*, 7 = *agree*), with reverse-coding where necessary to arrive at subscale scores which can theoretically range from 15 to 105. Higher scores indicate greater perfectionism.

The psychometric properties of the MPSH have been extensively investigated in clinical, student, and community samples (Cox, Enns, & Clara, 2002; Flett, Hewitt, Blankstein, & Gray, 1998; Flett, Sawatzky, & Hewitt, 1995; Frost, et al., 1993; Hewitt & Flett, 1991b, 2004; Hewitt, Flett, Turnbull-Donovan, & Mikhail, 1991). The three distinct but low to moderately correlated subscales demonstrate highly acceptable levels of internal consistency, with alpha coefficients - typically ranging from .70-.95, acceptable levels of inter-rate reliability and absence of response bias, good test-retest reliability at 3-months, ranging from .60 for socially prescribed perfectionism, .66 for other oriented perfectionism, and .69 for self-oriented perfectionism, and high stability over a 2.5 year period, with *rs* of .56 for self-oriented perfectionism, .58 for other oriented perfectionism, and .60 for socially prescribed perfectionism (Hewitt, et al., 1991)

The validity of the MPSH is well established. Hewitt & Flett (1991b) reported significant correlations between self and observer ratings for self-oriented perfectionism ($r = .35$), other oriented perfectionism ($r = .47$), and socially prescribed perfectionism ($r = .49$), and also between self and clinician ratings for self-oriented perfectionism ($r = .61$), other oriented perfectionism ($r = .43$) and socially prescribed perfectionism ($r = .52$). In addition, expected correlations, ranging from .18 to .70, have been found between dimensions of the MPSH and dimensions of the MPSF in college student (Flett, et al., 1995; Frost, et al., 1993), clinically depressed (Enns & Cox, 1999), and psychiatric samples (Hewitt, et al., 1991). Similarly, expected patterns of relationships have been found between the MPSH dimensions and corresponding and non-corresponding constructs and measures, including measures of self- and socially related behaviours (Hewitt & Flett, 1991b), personality and attitude measures (Enns & Cox, 2002; Enns, et al., 2001; Hewitt & Flett, 1991b; Hill, McIntire, & Bacharach, 1997), and symptoms of psychopathology (Antony, Bieling, Cox, Enns, & Swinson, 1998; Hewitt & Flett, 1991a, 1991b).

Consistent with previous research, the alpha coefficients for the clinical group in the current research were .940 and .904 for self-oriented perfectionism and socially prescribed perfectionism, respectively. The alpha coefficients for the nonclinical group in the current research were .909 and .865 for self-oriented perfectionism and socially prescribed perfectionism, respectively

Dietary restraint. The 5-item restraint subscale of the Eating Disorders Examination-Questionnaire Version (EDE-Q; Fairburn & Beglin, 1994; Fairburn & Beglin, 2008) was used to assess dietary restraint. The subscale addresses, during the past 28 days, deliberately trying to limit the amount of food eaten; going for long periods of time (i.e., 8 hours or more) without eating anything; attempting to avoid eating liked foods; trying to follow definite rules

regarding eating, for example, a calorie limit, a set amount of food, what or when one eats; wanting one's stomach to be empty.

The 36-item EDE-Q is the self-report version of the semi-structured, investigator-based clinical interview, the Eating Disorders Examination (EDE; Cooper & Fairburn, 1987; Fairburn & Cooper, 1993; Fairburn, Cooper, & O'Connor, 2008). The EDE and the EDE-Q have an identical rating scheme, and generate the same four subscales and global score. In addition to restraint, the subscales are eating concern (preoccupation with food, eating or calories, fear of losing control over eating, social eating difficulties, secrecy and guilt about eating), weight concern (over emphasising the importance of weight, inappropriate reaction to prescribed weighing, preoccupation with shape or weight, dissatisfaction with weight and desiring to lose weight), and shape concern (wanting a flat stomach, over emphasising the importance of shape, preoccupation with shape or weight, dissatisfaction with shape, fear of weight gain, discomfort seeing one's own body, avoidance of exposure, and feelings of fatness). A global score is derived from the four subscales and represents an indication of the global level of eating disorder psychopathology.

The EDE-Q compares favourably with the EDE. Studies using clinical and nonclinical samples have indicated moderate to high correlations between the two instruments (Binford, Le Grange, & Jellar, 2005; Carter, Aime, & Mills, 2001; Fairburn & Beglin, 1994; Grilo, Masheb, & Wilson, 2001b; Mond, Hay, Rodgers, Owen, & Beumont, 2004; Passi, Bryson, & Lock, 2003; Reas, Grilo, & Masheb, 2006; Reas, Wisting, Kapstad, & Lask, 2011; Wilfley, Schwartz, Spurrell, & Fairburn, 1997; Wolk, Loeb, & Walsh, 2005), especially in patients with AN (Mond, et al., 2004; Reas, et al., 2011). Both instruments are used by researchers and clinicians to obtain descriptive information regarding eating disorder symptoms and to assist in making eating disorder diagnoses (Grilo, Masheb, & Wilson, 2001a; Reas, Whisenhunt, Netemeyer, & Williamson, 2002). However, individually and collectively the EDE-Q

subscales have the advantage over the EDE of being practical, cost-effective, highly efficient, and appropriate for multiple situations, including screening and group administration (Fairburn, Cooper, & Waller, 2008; Garner, 1995; Wilfley, et al., 1997).

In eating disorder and non-eating disorder samples, the four EDE-Q subscales have demonstrated acceptable internal consistency, with alpha coefficient is ranging from 0.64 to 0.93 (Bardone-Cone & Agras, 2007; Luce & Crowther, 1999; Mond, et al., 2004; Penelo, Villarroel, Portell, & Raich, 2012; Peterson et al., 2007), comparable levels of test-retest reliability correlations over 1 to 14 days (Luce & Crowther, 1999), and comparable levels of temporal stability over 5 to 14 months (Bardone-Cone & Agras, 2007; Mond, et al., 2004; Reas, et al., 2006). In addition, scores on the EDE-Q have been found to discriminate between eating disorder and control groups (Elder, Grilo, Masheb, Rothschild, & Bourke-Martindale, 2006; Engelsen & Laberg, 2001; Mond, et al., 2004). EDE-Q norms have been provided for eating disorder and nonclinical groups (Carter, Stewart, & Fairburn, 2001; Luce, Crowther, & Pole, 2008; Passi, et al., 2003; Reas, Overas, & Ro, 2012; Wilfley, et al., 1997), including for an Australian general population female sample (Mond, Hay, Rodgers, & Owen, 2006).

Consistent with previous research, in the current study the alpha coefficients for the EDE-Q restraint subscale were 0.785 for the nonclinical sample, and 0.844 for the ANsample.

Depression. Symptoms of depression were assessed using the subscale from the *Depression, Anxiety Stress Scale* (DASS-21; Lovibond & Lovibond, 1995). The measure was chosen for the study in order to provide consistency with earlier research investigating clinical perfectionism (Steele, et al., 2011). The DASS-21 is a short version of the DASS-42 (Lovibond & Lovibond, 1995), has been found to have a reliable and cleaner 3-factor

structure (Crawford, Cayley, Lovibond, Wilson, & Hartley, 2011; Sinclair et al., 2012), and takes less time to complete. Each of the DASS-21 subscales contains seven (rather than 14) items. Items in the Depression subscale measure symptoms typically associated with dysphoric mood, such as sadness or worthlessness (e.g., *I couldn't seem to experience any positive feelings at all*). For each item, participants were asked to rate how much a particular statement applied to them over the past week on a four-point scale from 0 (*did not apply to me at all*) to 3 (*applied to me very much, or most of the time*). Higher scores indicate increased levels of depressive symptoms. Among university students, the DASS-21 subscales have been shown to have longitudinal stability over 3 to 8 years (Lovibond, 1998), as well as excellent internal consistency, with reliability coefficients (Cronbach's alpha) ranging from .88 to .94 for depression, .79 to .87 for anxiety, and .88 to .91 for stress (Antony, et al., 1998; Crawford, et al., 2011; Henry & Crawford, 2005; Osman et al., 2012; Sinclair, et al., 2012). The DASS-21 subscales have also demonstrated good convergent and discriminant validity, yielding moderate-to-high correlations ($r_s = .40$ to $.65$) with other existing measures tapping similar constructs (Antony, et al., 1998; Brown, Chorpita, Korotitsch, & Barlow, 1997; Crawford & Henry, 2003; Osman, et al., 2012), and expected lower correlations with measures tapping dissimilar constructs (Antony, et al., 1998; Gloster et al., 2008; Henry & Crawford, 2005). The DASS-21 subscales effectively differentiate between diagnostic groups, and are sensitive to clinical change in patients being treated for anxiety and mood disorders (Brown, et al., 1997). In addition, nonclinical normative data for the DASS-21 is available for adults in Australia (Crawford, et al., 2011).

Consistent with previous research, alpha coefficients for depression were .891 for the student participants, and .919 for the ANparticipants.

Ethics. The study was approved by the Human Research Ethics Committees at the University of Sydney, and the Western Sydney Area Health Service (see Appendix F).

Data Analysis. Data was analysed using PASW Statistic (SPSS) 18.0 for PCs software package. Descriptive statistics and exploratory data analyses were carried out on participant characteristics, over-evaluation of shape/weight striving, self-oriented perfectionism, socially prescribed perfectionism, restraint, and depression. Tests of normality were conducted. Skew and kurtosis were within acceptable levels for multi-variate analysis (skew $< |2|$, kurtosis < 7 ; West, Finch, & Curran, 1995). Independent samples t-tests, with alpha set at $p < .008$ in order to reduce the risk of Type I errors, correlational analyses using Pearson's test, and multiple regression analyses were conducted to test study hypotheses.

Results

Sample characteristics. Among the 105 women with AN, the average BMI was 16.0. Those from the private hospital ($n = 58$) were, on average, older ($M = 25.43$ years, $SD = 8.10$ years) than those ($n = 47$) from the public hospital ($M = 18.98$ years, $SD = 4.67$ years). The difference in mean age was significant; $t(103) = -4.84, p < .001$ (two-tailed). Of the 47 women recruited from the public hospital, 42 (89.36%) were born and educated in Australia, and identified as second or third generation Australians from a variety of ethnic backgrounds. Of these, 40 (95.23%) reported English as their first language. Comparable demographic data from the private hospital was not obtained. No significant differences were found in scores on any of the study variables between the two hospitals. Therefore, analyses were carried out on the entire AN sample.

Of the 297 university students who participated in the study, 81 (27.27%) provided information on weight and height. Their average BMI was 23.13. Again of the 297 students, 170 (57.24%) provided information on ethnicity. Among the 170, 122 (72%) reported English as their first language, 34 (20%) identified as Asian, 125 (73.53%) identified as Australian, New Zealand, British, North American, or Canadian, and 11 (6.47%) identified as "other" ethnicity.

The ages and questionnaire scores (ranges, internal reliability, means and standard deviations) for each group are shown in Table 7. For the AN group, the mean EDE-Q restraint score was within the range (i.e., one standard deviation) of scores reported elsewhere in an AN sample (Passi, et al., 2003); mean self-oriented perfectionism and socially prescribed perfectionism scores were within the range of those found in AN samples (Bastiani, et al., 1995; Cockell et al., 2002); the mean depression item score was comparable to that found by Steele et al. (2011) in a female eating disordered sample. For the students, the mean EDE-Q restraint score was comparable to that found by Mond, Hay, Rodgers, and Owen (2006) in a large community sample of Australian women aged 18-42 years; the mean self-oriented perfectionism and socially prescribed perfectionism scores were within the range of scores found in nonclinical controls across a number of studies (Antony, et al., 1998; Cockell, et al., 2002; Enns, et al., 2001; Hewitt & Flett, 1991a); the mean total depression score was within the range of norms provided by Crawford et al. (2011) for an age-matched Australian general population sample.

The AN participants had significantly higher scores on all of the study measures (all $ps < .001$) and were significantly older than the nonclinical student group ($p = .002$).

Hypothesis 1: The relationship between over-evaluation of weight/shape striving and clinical status. There was a significant relationship between clinical status (clinical versus nonclinical) and over-evaluation of weight/shape striving ($r = .612, p < .01$). As shown in Table 7, compared to the nonclinical women, the women with AN had their self-worth highly invested in weight/shape striving.

Inter-correlations between all measures are reported in Table 8. Further analysis revealed patterns of correlations between dietary restraint and depression and the three

Table 7***Mean Age, Internal Reliability, Scores (Means and Standard Deviations) and Independent Samples T-Tests***

Measure	Intenal Reliability		Possible Score Range	Achieved Score Range		Mean (Standard Deviation)		t-Test
	Clinical	Nonclinical		Clinical	Nonclinical	Clinical	Nonclinical	
	Depression	.919	.891	0-28	0-21	0-21	10.84(6.06)	
OEWS	.872	.885	0-6	3-6	0-6	4.99(0.78)	2.48(1.82)	20.84***
SOP	.940	.909	15-105	25-105	17-101	82.08(18.87)	64.82(16.30)	8.93***
SPP	.904	.865	15-105	18-95	20-94	65.09(17.44)	54.15(14.15)	6.34***
Restraint	.844	.785	0-6	0-6	0-5.6	4.34(1.60)	1.49(1.31)	18.05***
Age				18-56	17-36	21.87(7.16)	19.51(2.90)	3.21**

Note: OEWS = Over-evaluation of weight/shape striving; SOP = Self-oriented perfectionism; SPP = Socially prescribed perfectionism.

***Denotes statistical significance at the < .001 level (2-tailed)

**Denotes statistical significance at the < .01 level (2-tailed)

measures of perfectionism, i.e., over-evaluation of weight/shape striving, self-oriented perfectionism and socially prescribed perfectionism, differed between the two groups. In both groups of participants, over-evaluation of weight/shape striving was significantly correlated with both restraint and depression. For the nonclinical group, self-oriented perfectionism also correlated significantly with both restraint and depression. SPP correlated significantly with depression in both groups.

Hypothesis 2: Relative associations between over-evaluation of weight/shape striving, self-oriented perfectionism, socially prescribed perfectionism, and dietary restraint. For each group, simultaneous multiple regression analyses assessed the relative predictive contributions of the measures of over-evaluation of weight/shape striving, self-

Table 8

Inter-correlations between Scores on OEWSS, SOP, SPP, Restraint, and Depression as a function of Group

Measure	OEWSS	SOP	SPP	Restraint	Depression
OEWSS	—	.205**	.249**	.623**	.146*
SOP	.278**	—	.541**	.134*	.235**
SPP	.315**	.577**	—	-.076	.393**
Restraint	.323**	.115	.170	—	.054
Depression	.233*	.011	.212*	.283**	—

Note: Inter-correlations for female student participants ($n = 297$) are presented above the diagonal, and inter-correlations for female AN participants ($n = 105$) are presented below the diagonal. OEWSS = over-evaluation of weight/shape striving; SOP = self-oriented perfectionism; SPP = socially prescribed perfectionism.

**Denotes statistical significance at the $< .01$ level (2-tailed)

*Denotes statistical significance at the $< .05$ level (2-tailed)

oriented perfectionism, and socially prescribed perfectionism in accounting for the variance in dietary restraint. Over-evaluation of weight/shape striving, self-oriented perfectionism, and socially prescribed perfectionism were entered simultaneously into the regression analysis.

Shown in Table 9, consistent with the second hypothesis, for the anorexia group,

overvaluation of weight/shape striving ($\beta = .301, p < .01$) remained the only significant unique predictor of dietary restraint, after controlling for the effects of self-oriented perfectionism ($\beta = .018, p > .05$) and socially prescribed perfectionism ($\beta = .085, p > .05$).

The overall model was significant, accounting for 11% of the variance in dietary restraint ($R^2 = .110; F_{3, 101} = 4.15, p < .01$). For the student group, over-evaluation of weight/shape striving ($\beta = .639, p < .001$) and socially prescribed perfectionism ($\beta = -.120, p < .05$) were significant unique predictors of dietary restraint. The overall model was significant, accounting for 39.9% of the variance in dietary restraint ($R^2 = .399; F_{3, 291} = 64.313, p < .0005$).

Hypothesis 3: Relative associations between over-evaluation of weight/shape striving, self-oriented perfectionism, socially prescribed perfectionism, and depression.

Simultaneous multiple regression analyses assessed the relative predictive contributions of the measures of over-evaluation of weight/shape striving, self-oriented perfectionism, and socially prescribed perfectionism in accounting for the variance in depression. Over-evaluation of weight/shape striving, self-oriented perfectionism, and socially prescribed perfectionism were entered simultaneously into the regression analysis. As seen in Table 10, consistent with the third hypothesis, for the anorexia group socially prescribed perfectionism ($\beta = .261, p < .05$) remained the only significant unique predictor of depression, after controlling for the effects of overvaluation of weight/shape striving ($\beta = .205, p > .05$) and self-oriented perfectionism ($\beta = -.197, p > .05$). The overall model was significant, accounting for 10.1% of the variance in depression ($R^2 = .101; F_{3, 84} = 3.147, p < .05$). Similarly for the student group, socially prescribed perfectionism ($\beta = .367, p < .001$) remained the only significant unique predictor of depression, after controlling for the effects of overvaluation of weight/shape striving ($\beta = .049, p > .05$) and self-oriented perfectionism ($\beta = .027, p > .05$). The overall model was significant, accounting for 15.8% of the variance in depression ($R^2 = .158; F_{3, 221} = 13.775, p < .001$).

Discussion

The first objective of this study was to investigate the relationship between AN and the self-schema construct (i.e., over-evaluation of weight/shape striving). As predicted, it was found that compared to nonclinical female controls, participants with AN had high scores on a measure of over-evaluation of weight/shape striving. The finding provided initial support for AN being an expression of self-schema perfectionism in the domain of weight and shape, and for the proposal that the illness may relate to impairments in self-concept (Shafran, et al., 2002; Stein & Corte, 2003).

Table 9

Over-evaluation of Weight/Shape Striving, Self-oriented Perfectionism, and Socially Prescribed Perfectionism Regressed on Dietary Restraint

Model	Clinical			Nonclinical		
	B	<i>t</i>	Unique Variance	β	<i>t</i>	Unique Variance
(Constant)		1.104			2.169*	
SEWSS	.301	3.3022**	.081	.639	13.571***	.381
SOP	.018	.152	-	.068	1.262	.003
SPP	.085	.724	.005	-.120	-2.193*	.010

Note: OEWS = over-evaluation of weight/shape striving; SOP = self-oriented perfectionism; SPP = socially prescribed perfectionism.

***Denotes statistical significance at the < .001 level (2-tailed)

**Denotes statistical significance at the < .01 level (2-tailed)

*Denotes statistical significance at the < .05 level (2-tailed)

The second objective of the study was to address a debate concerning the clinical relevance of trait and self-schema conceptualisations of perfectionism. To that end, the study investigated the relative utility of the self-schema perfectionism construct (i.e., over-evaluation of weight/shape striving), self-oriented perfectionism, and socially prescribed perfectionism (Hewitt & Flett, 1991b) in predicting dietary restraint in AN and nonclinical controls. For the AN group, only self-schema perfectionism was a significant unique predictor of dietary restraint, controlling for the effects of self-oriented perfectionism and socially prescribed perfectionism, neither of which was a significant unique predictor.

Table 10

Over-evaluation of Weight/Shape Striving, Self-oriented Perfectionism, and Socially Prescribed Perfectionism Regressed on Depression

Model	B	<i>t</i>	Unique Variance	β	<i>t</i>	Unique Variance
	Clinical			Nonclinical		
(Constant)		.654			-1.800	
SEWSS	.205	1.867	.037	.049	.766	.002
SOP	-.197	-1.544	.026	.027	.363	-
SPP	.261	2.022*	.044	.367	4.921***	.092

Note: OEWS = over-evaluation of weight/shape striving; SOP = self-oriented perfectionism; SPP = socially prescribed perfectionism.

***Denotes statistical significance at the <.001 level (2-tailed)

*Denotes statistical significance at the <.05 level (2-tailed)

However, self-schema perfectionism was a significant unique predictor of scores on dietary restraint for the nonclinical group also, and accounted for a far larger proportion of unique variance (38.1% versus 8.1%). In addition, striving to fulfil others' expectations (socially prescribed perfectionism) was a modest but significant, negative ($\beta = -.120$), unique predictor of dietary restraint in the nonclinical women. This finding was unexpected given that socially prescribed perfectionism is typically a positive predictor of psychopathology, including eating disorder psychopathology (Bardone-Cone, et al., 2007; Hewitt, et al., 2003).

A third objective of this study was to investigate the relative utility of self-schema perfectionism (i.e., over-evaluation of weight/shape striving), self-oriented perfectionism, and socially prescribed perfectionism in predicting depressive pathology in AN and nonclinical

women. Socially prescribed perfectionism was a modest but significant unique predictor of depressive pathology in the AN group, and a highly significant unique predictor of depressive pathology in the nonclinical group, with neither self-schema perfectionism nor self-oriented perfectionism being significant unique predictors in both cases. These findings demonstrated further the utility of having a domain-specific self-schema perfectionism construct to understand eating disorder pathology. In addition, the findings were consistent with the observation that women with AN are overly concerned with meeting other's expectations (Bruch, 1978), and with suggestions that comorbid depression in AN is not solely due to the effects of a starvation (Eckert, Goldberg, Halmi, Casper, & Davis, 1982; Godart et al., 2007), but may relate to adverse interpersonal consequences (Shafran, Cooper, et al., 2003). More broadly, the findings were consistent with evidence that interpersonal mechanisms contribute to depressive pathology in women (Blatt & Zuroff, 1992; Bouchard & Shih, 2013; Casbon, Burns, Bradbury, & Joiner, 2004; Jack, 1993).

Conclusion

The current findings support the proposal that dietary restraint in AN may usefully be understood in terms of self-concept rather than disposition. However, the study findings indicated that different mechanisms were important in accounting for dietary restraint in the two samples of women, with self-schema perfectionism having greater explanatory relevance to the dietary restraint of nonclinical women than to the dietary restraint of women with AN. This indicated that self-focused, self-critical evaluation processes (Dunkley et al., 2006) may be more important in explaining dietary restraint in nonclinical women. In addition, concern over meeting meet others' expectations may have had a positive influence on dietary restraint in those nonclinical women. Also consistent with the greater explanatory relevance of self-schema perfectionism to dietary restraint in nonclinical women, the overall model accounted for a larger proportion of variance in their dietary restraint (39.9% versus 11%). It was

concluded that yet-to-be-identified mechanisms explain dietary restraint in women with AN. However, the current findings also indicated that eating disorder and comorbid depressive pathologies in AN may be maintained by different mechanisms, and may need to be targeted separately in treatment. The finding that in the nonclinical group, socially prescribed perfectionism was a negative unique predictor of dietary restraint, and a positive unique predictor of depressive pathology, further supported the suggestion that eating disorder and depressive pathologies are distinct, and indicated that socially prescribed perfectionism may not always have effects that are pernicious.

Study 2

Introduction

In Study 1, the core self-schema perfectionism construct (i.e., over-evaluation of weight/shape striving), was a significant unique predictor of dietary restraint in both AN and nonclinical female samples, accounting for a larger proportion of variance in the nonclinical dietary restraint scores than in the dietary restraint scores of the AN group. This second study extended upon Study 1 by testing hypotheses concerning three putative maintaining mechanisms in self-schema perfectionism: experienced striving (a preceding experience of exerting effort in the pursuit of weight/shape standards), performance evaluation (a judgement made about the quality of one's striving), and striving intention (an intention about future striving and an index of a change in weight/shape standards). Since evaluating theory-relevant concepts in isolation may not correspond to how they operate within the model, the study also investigated the predictive ability of the three maintaining mechanisms, in addition to the self-schema perfectionism construct.

Setting and pursuing high standards across multiple domains is generally seen as the central feature of the trait perfectionism (Blatt, 1995; Burns, 1980; Frost, et al., 1990; Hamachek, 1978; Hewitt & Flett, 1991b; Hollander, 1965; Shafran & Mansell, 2001), and

has been associated with AN (Bastiani, et al., 1995; Cockell, et al., 2002). However, pursuing high standards has also been associated with positive outcomes in some populations, and appears to be part of the healthy pursuit of excellence (Bieling, Israeli, et al., 2004; Frost, et al., 1993; Shafran & Mansell, 2001; Stoeber & Kersting, 2007; Stoeber & Otto, 2006). In line with striving often being positive, it has been suggested that pursuing personally demanding standards is not the aspect of clinical perfectionism that is dysfunctional (Dickie, Surgenor, et al., 2012; Dunkley, et al., 2006; Stoeber & Damian, 2014). However, no study has specifically investigated the extent to which individuals with psychiatric diagnoses and clinical perfectionism experience their standards in a salient domain as demanding, and whether this helps explain their pathology. That gap in the research was addressed in the current study.

It was assumed that a maintaining mechanism in self-schema perfectionism is the person evaluating their performance in a way this is biased towards perceiving failure. For example, they selectively attend only to perceived or actual shortcomings in their performance so that even when standards are successfully met, they are interpreted by them as evidence of insufficient striving. Shafran et al. (2002) suggested that perceiving and interpreting failure in this way maintains self-criticism and strengthens the association between the pursuit and achievement of standards and the person's schema for self-evaluation. Negative and unrealistic appraisals of performance have been extensively investigated in the context of maintaining social anxiety, in which failure is feared due to its negative implications for evaluation of the self by others (Webb, Ononalye, Sheeran, Reidy, & Lavda, 2010). However, while researchers have provided feedback to individuals high in perfectionism about their performance in laboratory tasks (Kobori, Hayakawa, & Tanno, 2009; Stoeber, Kempe, & Keogh, 2008), no study has specifically asked individuals how they

evaluate their own performance in their self-relevant domain. That gap in the literature was also addressed in the current research.

With respect to raising standards following both favourable and unfavourable evaluations of performance, studies have investigated whether university students with high scores on trait perfectionism measures raised their standards after receiving accurate (e.g., Kobori, et al., 2009) or random (e.g., Stoeber, et al., 2008) external feedback about success or failure on laboratory tasks. While findings have consistently supported hypotheses concerning initial standards being high, they have been inconclusive about standard resetting following success or failure. In nonclinical samples Stoeber et al. (2008) found that perfectionism showed a positive correlation with initial personal standards and predicted increases in standards following honest or false success feedback, while Kobori et al. (2009) found that perfectionism correlated positively with the likelihood of raising standards for the next performance, irrespective of actual past performance. However, also in a nonclinical sample, Egan, Dick, et al. (2012) found that while individuals with high scores on the CPQ initially set a higher standard for themselves, there was no relationship between CPQ scores and standard resetting following success or failure. To date, no study has investigated whether individuals who have psychiatric diagnoses and clinical perfectionism raise their standards in a personally salient domain after making a favourable or unfavourable evaluation of their performance. Nor has it been empirically investigated the extent to which the model explains standards being reset upwards, and whether those raised standards explained psychopathology. Again, those gaps in the literature were addressed by this study.

Hypothesis and Predictions

The hypothesis in Study 2 was that women with AN, who have their self-evaluation highly dependent on weight/shape striving, pursue personally demanding weight/shape standards (assessed by experienced striving; may be expressed in AN, for example, by hard

physical exercise in order to maintain a very low body weight), judge their performance negatively (assessed by performance evaluation; may be expressed in AN, for example, by judging that one has not exercised hard enough and has either gained or not lost sufficient weight), and reset their weight/shape standard upward (assessed by striving intention; may be expressed in AN, for example, by resolving to lose more weight through increased levels of physical exercise).

The following predictions were made:

1. Compared to nonclinical female controls, women with AN will have high scores on measures of over-evaluation of weight/shape striving and experienced striving. Their performance evaluation score will be negative, while their striving intention scores will be positive and high.
2. Women with AN will reset their weight/shape standard upward. Thus, compared to nonclinical controls, their striving intention scores will be high.
3. For women with AN, positive associations will be found between over-evaluation of weight/shape striving, experienced striving, striving intention, and dietary restraint at two time points. The associations between performance evaluation and over-evaluation of weight/shape striving, experienced striving, striving intention and dietary restraint at two time points will be negative.
4. For women with AN, experienced striving and performance evaluation will add to the prediction of striving intention beyond what can be accounted for by over-evaluation of weight/shape striving.

5. For women with AN, experienced striving, performance evaluation, and striving intention will add to the prediction of dietary restraint beyond what can be accounted for by over-evaluation of weight/shape striving.

Method

Participants. Clinical participants were 105 women who were within the first two weeks of being treated for AN in the specialist units of two hospitals in Sydney. Of these, 58 (55.2%) were recruited from a private hospital, and 47 (44.8%) were recruited from a public hospital. Nonclinical participants were 297 female students from a wide range of disciplines who were undertaking a first-year psychology course at an Australian university. Inclusion criteria and demographics for both study samples were outlined in detail in Study 1.

Procedure. The procedure for both study groups is described in detail in Study 1.

The clinical participants completed a package of questionnaires shortly after admission to hospital. Each woman did this privately and returned it person to the researcher within 24 hours. At 6-months a follow-up questionnaire was mailed out along with a prepaid return envelope. As the initial assessment was carried out when the clinical participants were at the beginning of their hospital admission, the 6-months timeline corresponded to the 3 month treatment + 3 month follow-up period typical of many treatment studies (e.g., Glover et al., 2007; Steele, Waite et al., 2013). Forty three (41%) of the follow-up questionnaires were completed and returned.

For the nonclinical participants, recruitment followed an opt-in procedure, where potentially eligible participants responded to an online advertisement accessible only to students taking first year psychology. An initial 100 student participants completed pen-paper versions of the questionnaires, after which a further 197 protocols were completed online. No significant differences were found between on-line versus paper protocols.

Measures. Measures of dietary restraint and over-evaluation of weight/shape striving, described in the previous study, were used in this study. In addition, three purpose-designed items were used to assess the putative maintaining factors of experienced weight/shape striving (i.e., experienced striving), performance evaluation, and weight/shape striving intention (i.e., striving intention). All of the items had formatting consistent with that used in the Eating Disorder Examination-Questionnaire (EDE-Q; Fairburn & Beglin, 1994). The items were as follows:

Experienced weight/shape striving. Participants were asked how much effort they had put into controlling their weight or shape over the past 28 days (e.g, *how much effort have you put into controlling your weight or shape?*) on a Likert scale of 0-6 (0 = *No effort at all*, 6 = *An extreme amount of effort*).

Performance evaluation. Participants were asked to rate their striving performance over the past 28 days (e.g, *by your own standards, how well have you done at working to control your weight or shape?*) on a Likert scale of -6 to +6 (-6 = *Extremely badly*, 0 = *Neither badly nor well*, 6 = *Extremely well*). They were told to be sure to respond *according to your own personal judgement*, rather than according to what they thought another person or outside observer would say.

Weight/shape striving intention. Participants were asked how much effort they intended to put into controlling their weight or shape, given their past effort and how well they had done at controlling their weight or shape (e.g., *given your effort and how well you have done over the past 28 days at controlling your weight or shape, how much effort will you now put into working to control your weight or shape?*) on a Likert scale of -6 to +6 (-6 = *Extreme decrease in effort*, 0 = *No change in effort*, +6 = *Extreme increase in effort*).

Data analysis. SPSS 18.0 was used to carry out exploratory data analyses on experienced striving, performance evaluation, striving intention, and dietary restraint at Times 1 and 2. Tests of normality were conducted. Skew and kurtosis were within acceptable levels for multivariate analysis (skew $< |2|$, kurtosis < 7 ; West et al., 1995). A paired sample t-test was conducted to investigate changes in dietary restraint between Time 1 (admission to hospital) and Time 2 (6 months follow-up). Independent samples t-tests, correlational analyses using Pearson's test, and hierarchical regression analyses were conducted to test study hypotheses.

Results

No significant differences were found in scores on any of the study variables between the public and private hospitals. Therefore, analyses for this study, as for the previous study, were carried out on the entire AN sample.

Differences on dietary restraint scores from Time 1 to Time 2. Of 105 follow-up questionnaires to AN participants, 43 (41%) were completed and returned. A paired-samples t-test was conducted on the data provided by the 43 participants to evaluate their change in dietary restraint from hospital admission (Time 1) to six months follow-up (Time 2). There was a statistically significant decrease in their dietary restraint scores from Time 1 ($M = 4.27$, $SD = 1.60$) to Time 2 ($M = 2.97$, $SD = 1.88$), $t(42) = 4.796$, $p < .0005$ (two-tailed). The mean decrease in dietary restraint scores was 1.3 with a 95% confidence interval ranging from 0.75 to 1.85. However, it is possible that a proportion of these 43 participants were not representative of the entire AN sample, given that five participants (4.76% of the anorexia sample) who did not return the follow-up questionnaire are known to have died as a result of their illness. It is also possible that a proportion of the 43 participants were those who responded to treatment, although their mean dietary restraint score at 6 months was still

above that found by Mond, Hay, Rodgers, & Owen (2006) for a large population sample ($N = 4,323$) of Australian women aged 18-42 years ($M = 1.30$, $SD = 1.40$).

Comparisons between groups on the study variables. To assess differences between the AN and nonclinical controls on theory-specific variables, group differences in scores were examined. The relevant statistics (mean scores, standard deviations, score ranges, independent samples t-tests) are presented in Table 11. The AN participants had significantly higher scores on all theory-specific variables, including performance evaluation, and dietary

Table 11

Scores (Means, Standard Deviations, Ranges) and Independent Samples T-Tests

Measure	Possible Score Range	Achieved Score Range		Mean (Standard Deviation)		t-Test
		Clinical	Nonclinical	Clinical	Nonclinical	
OEWSS	0-6	3-6	0-6	4.99 (0.78)	2.48 (1.82)	20.892***
EWSS	0-6	2-6	0-6	5.1 (0.80)	2.16 (1.56)	21.882***
PE	-6-+6	0-6	-5-+6	3.62 (1.63)	1.8 (1.73)	9.362***
WSSI	-6-+6	-5-+6	-5-+6	3.06 (2.70)	2.19 (2.10)	3.370***
Restraint	0-6	0-6	0-5.6	4.34 (1.6)	1.49 (1.31)	16.483***

Note: OEWSS = over-evaluation of weight/shape striving; EWSS = experienced weight/shape striving; PE = performance evaluation; WSSI = weight/shape striving intention. ***Denotes statistical significance at the <.001 level (2-tailed)

restraint (all $ps < .001$). Their comparatively high, positive performance evaluation scores were not consistent with a negative processing bias; no AN participant had a negative performance evaluation score.

Do women with AN reset their weight/shape standard upward following positive or negative performance evaluation? Overall, the ANgroup rated both their performance and striving intention significantly more positively than the nonclinical group. With respect to striving intention, 100 (95.24 %) ANparticipants indicated that they would increase their striving, indicating that standards were reset upward.

Table 12

Inter-correlations between Scores on OEWSS, EWSS, PE, WSSI, and Dietary Restraint (Times 1 and 2)

Measure	OEWSS	EWSS	PE	WSSI	Restraint 1
OEWSS		.699**	.053	.483**	.623**
EWSS	.258**		.268**	.427**	.620**
PE	-.026	.365**		-.112	.084
WSSI	.083	.023	-.010		.395**
Restraint 1	.323**	.505**	.104	-.095	
Restraint 2	.172	.221	.094	-.039	.490**

Note: Inter-correlations for female student participants ($n = 297$) are presented above the diagonal, and inter-correlations for female ANparticipants ($n = 105$) are presented below the diagonal. OEWSS = over-evaluation of weight/shape striving; EWSS = experienced weight/shape striving; PE = performance evaluation; WSSI = weight/shape striving intention; Restraint 1 = dietary restraint at Time 1; Restraint 2 = dietary restraint at Time 2

** Correlation is significant at the .01 level (2-tailed)

Do experienced striving and performance evaluation add to the prediction of striving intention beyond the core over-evaluation of weight/shape striving? To determine if experienced striving and performance evaluation added to the prediction of striving intention beyond what could be accounted for by over-evaluation of weight/shape striving, hierarchical regression analyses were conducted separately for each group. Over-evaluation of weight/shape striving was entered in Step 1, followed by experienced striving and performance evaluation on Step 2. Results of this regression analysis are presented in Table 13. As shown, for the ANgroup over-evaluation of weight/shape striving was not a significant predictor of striving intention. Controlling for over-evaluation of weight/shape striving, experienced striving and performance evaluation accounted for no additional variance in striving intention. The full prediction model accounted for 0.7% of the variance in striving intention.

For the nonclinical group, over-evaluation of weight/shape striving was a significant predictor of striving intention. Controlling for over-evaluation of weight/shape striving, experienced striving and performance evaluation were found to be significant independent predictors of striving intention. Step 2 explained an additional 5.2% of the variance in striving intention, with over-evaluation of weight/shape striving remaining a significant predictor. The full prediction model accounted for 28.5% of the variance in striving intention.

Do experienced striving, performance evaluation, and striving intention add to the prediction of dietary restraint beyond the core over-evaluation of weight/shape striving? To determine if experienced striving, performance evaluation, and striving intention add to the prediction of dietary restraint beyond what can be accounted for by the core self-schema, a second set of hierarchical regression analyses was conducted. Over-evaluation of weight/shape striving was entered in Step 1, followed by experienced striving and performance evaluation on Step 2, followed by striving intention on Step 3. Results of this

regression analysis are presented in Table 14. As shown, for the AN group, at Step 1 over-evaluation of weight/shape striving accounted for 10.4% of the variance in dietary restraint. The addition of experienced striving and performance evaluation at Step 2 accounted for additional 19.4% of variance in dietary restraint. Of these, only experienced striving was a significant predictor. Over-evaluation of weight/shape striving remained a significant predictor. The addition of striving intention at Step 3 accounted for an additional 1.5% of variance in dietary restraint. Striving intention was not a significant predictor of dietary restraint, while over-evaluation of weight/shape striving and experienced striving remained significant predictors. The full prediction model accounted for 31.4% of variance in dietary restraint.

For the nonclinical group, at Step 1, over-evaluation of weight/shape striving was found to be a significant predictor of dietary restraint, accounting for 38.9 % of variance. The addition of experienced striving and performance evaluation at Step 2 accounted for additional 6.7% of variance in dietary restraint. Of these, only experienced striving was a significant predictor. Over-evaluation of weight/shape striving remained a significant predictor. The addition of striving intention at Step 3 accounted for an additional 0.4% of variance in dietary restraint. Striving intention was not a significant predictor of dietary restraint, while over-evaluation of weight/shape striving and experienced striving remained significant predictors.

Discussion

The aim of this study was to extend on Study 1, first by testing hypotheses concerning three putative maintaining mechanisms: experienced striving (an immediately preceding experience of pursuing personally demanding weight/shape standards), performance evaluation (a judgement made about the quality of one's striving), and striving intention (an intention about future effort and an index of a change in weight/shape standards). Since

Table 13

Hierarchical Multiple Regression Analyses Predicting Striving Intention from Over-evaluation of Weight/shape Striving, Experienced Weight/shape Striving and Performance Evaluation

Variable	<u>AN</u>					<u>Nonclinical</u>				
	β	t	R^2	ΔR^2	p	β	T	R^2	ΔR^2	p
Step 1										
OEWSS	.083	.843	.007		.401	.483	9.474	.233		<.001
Step 2										
OEWSS	.081	.784			.435	.309	4.379			<.001
EWSS	.005	.048			.962	.265	3.623			<.001
PE	-.010	-.095			.925	-.200	-3.824			<.001
			.007					.285		
				—					.052	

Note. OEWSS = over-evaluation of weight/shape striving; EWSS = experienced weight/shape striving; PE = performance evaluation

Table 14

Hierarchical Multiple Regression Analyses Predicting Dietary Restraint from Over-evaluation of Weight/shape Striving, Experienced Weight/shape Striving, Performance Evaluation, and Striving Intention

Variable	<u>AN</u>					<u>Nonclinical</u>				
	β	t	R^2	ΔR^2	p	β	T	R^2	ΔR^2	p
Step 1										
OEWSS	.323	3.466	.104		.001	.623	13.649	.389		<.001
Step 2										
OEWSS	.198	2.277			.025	.362	5.872			<.001
EWSS	.478	5.111			<.001	.377	5.894			<.001
PE	-.065	-.719			.475	-.036	-.792			.429
			.299					.456		
				.194					.067	
Step3										
OEWSS	.208	2.399			.018	.338	5.328			<.001
EWSS	.478	5.148			<.001	.356	5.468			<.001
PE	-.066	-.737			.463	.021	.447			.655
WSSI	-.124	-1.488			.140	.077	1.504			.134
			.314					.460		
				.015					.004	

Note. OEWSS = over-evaluation of weight/shape striving; EWSS = experienced weight/shape striving; PE = performance evaluation; WSSI = weigh/shape striving intention.

theory-relevant concepts in isolation may not correspond to how they operate within the model, the study also investigated the predictive ability of the three maintaining mechanisms, in addition to the self-schema perfectionism construct. Importantly, given that the clinical sample constituted inpatients suffering from the serious physical effects of AN, and a very high proportion (4.76%) of them subsequently died as a result of the illness, it is likely that this was overwhelmingly a severely ill sample in which maintenance was well-established.

With respect to the first aim, as predicted, consistent with pursuing personally demanding standards, compared to the nonclinical group the women with AN reported exerting more effort and working harder in the pursuit of their weight/shape standards. Importantly, this did not mean that those weight/shape standards were necessarily higher than the weight/shape standards pursued by the nonclinical women. Rather, it meant that the women with AN subjectively felt that they had exerted more effort and pushed themselves harder.

Also with respect to the first aim, to the extent that self-schema perfectionism is maintained by selectively attending only to evidence of failure, it was expected that the women with AN would evaluate their performance unfavourably. An unexpected finding was that the women with AN evaluated their performance more favourably than did the non-eating disordered women. This finding did not provide initial support for assumptions concerning self-schema maintenance, and was not consistent with negatively biased weight/shape-related information processing in AN. Furthermore, the finding contradicted the view that people with AN are dysfunctional perfectionists who consider themselves unsuccessful in reaching their high self-standards (Silva, 2007; Westra & Kupier, 1996), and who have large discrepancies between their actual and ideal selves in terms of weight, shape, and appearance (Cash & Deagle, 1997; Higgins, 1987).

Self-efficacy (Bandura, 1977), a belief and confidence in one's own ability to set and attain meaningful goals and tasks, is generally understood as a construct that positively impacts on levels of motivation, effort, initiation and persistence, and prompts greater control over difficult tasks and higher ability to cope with adverse events (Lo & Abbott, 2013; Schwarzer & Jerusalem, 1995). However, in AN self-efficacy has been found to have both positive and negative implications. It has been identified as a significant predictor of illness severity (Lew, 2014), treatment response and length of stay in hospital (Pinto, Heinberg, Coughlin, Fava, & Guarda, 2008), and recovery (Dawson, 2014; Nipomnick, 2011). The current AN participants experienced their weight/shape standards as both demanding (high experienced striving) and attainable (favourable performance evaluation). Furthermore there was a strong relationship between effort (experienced striving) and reward/success (positive performance evaluation). This may have strengthened feelings of self-efficacy, thereby contributing to maintaining high weight/shape-related effort, motivation and persistence. In other words, investigating the role of self-efficacy may be important in understanding AN and maintenance.

A third question in this study was whether the women with AN reset their standards upward following a favourable performance evaluation. To the extent that the women with AN reset and then pursued higher standards, this aspect of self-schema perfectionism was seen to explain their precipitous weight loss and emaciation, and to be the critical aspect of maintenance. Support for upwardly resetting standards was found in that the women with AN indicated that they intended to increase their striving to a significantly greater degree than did the nonclinical women. Although not a direct test, the finding was consistent with Shafran et al.'s (2002) proposal that successfully met standards are reappraised as not sufficiently demanding. However, so-called adaptive perfectionists (i.e., those who strive for high personal standards in a way that is healthy and functional), and individuals high in self-

oriented perfectionism (the scale considered central to adaptive perfectionism), have also been found to reach for higher goals following success feedback (Stoeber, Hutchfield, & Wood, 2008), and to select a difficult goal subsequent to attaining standards (Korbori et al., 2008). While not direct analogies of clinical and self-schema perfectionism, these findings indicate that raising standards following success may not always explain dysfunction associated with perfectionism. Beyond the current scope of evaluating components of the self-schema perfectionism model in nonclinical women and women with AN, researchers have suggested that goal orientation may have explanatory value in understanding the implications of perfectionism for health and well-being. For example, Stoeber and colleagues (Stoeber, Stoll, Pescheck, & Otto, 2008; Stoeber, Stoll, Salmi, & Tiikkaja, 2009) found that striving for learning and mastery (emphasises improving one's ability in a specific domain) was associated with adaptive perfectionism and functioning, while striving for performance (emphasises demonstrating, performing, and proving one's ability, and being the best in a specific domain) was associated with maladaptive perfectionism and functioning.

With regards to the current study, the utility of the self-schema perfectionism model in explaining striving intention was next explored, followed by a test of whether the model explained dietary restraint (thus striving intention had a double role as a dependent and independent variable). The model failed to account for significant variance (0.7%) in the striving intention scores of the AN participants, with no theory-specific construct being a significant predictor. In contrast, the model accounted for 28.5% of the variance in the striving intention scores of the nonclinical women, with each theory-specific construct being a significant predictor. Next, the utility of the complete model in explaining dietary restraint was tested. For both groups, only experienced striving accounted for significant additional variance in dietary restraint, controlling for the core self-schema construct. The self-schema construct remained a highly significant predictor for the nonclinical group, and a modest but

significant predictor for the ANgroup. This finding of different patterns of results between the two groups in explaining striving intention but a similar pattern of results in explaining dietary restraint was consistent with concluding that the maintaining aspects of the self-schema perfectionism model consist of two distinct phases: a motivational phase, involving deliberation and culminating in striving intention; and a volitional, self-regulatory phase in which intentions are translated into action (Abraham, Sheeran, & Johnston, 1998). Importantly, the deliberative processes encapsulated within performance evaluation had predictive utility for the striving intentions of the non-eating disordered women, but not in the striving intentions of the women with AN. However, for both groups striving intention did not translate into action. Specifically, beyond the core self-schema construct, only experienced striving (i.e., a measure of past striving) predicted dietary restraint and was the most important predictor. Given that in the women with AN, striving intention related to resetting standards upward, the current findings did not support a critical aspect of maintenance.

General Discussion

The initial findings from the first study presented in this chapter supported a domain-specific self-concept understanding of dietary restraint in women, over a trait understanding in which dietary restraint is seen as one expression of a generalised behavioural tendency. However, despite the high scores of the women with AN on the core self-schema construct and all theory-relevant maintaining factors, neither the deliberative processes assumed in performance evaluation nor the volitional processes assumed in striving intention had predictive utility in their dietary restraint. These findings indicated that the investigated self-schema perfectionism model has limited explanatory utility in women's dietary restraint. Expanding the field of inquiry to include self-efficacy and goal orientation may enhance the

explanatory value of the model. However, in its current form self-schema perfectionism cannot be recommended as a model to guide psychological treatment in AN.

As stated earlier in this chapter, the current research could not also be interpreted as a test of the TPB (Ajzen, 1991). However, current findings were consistent with findings from the TPB that while large proportions of variance in intention are generally accounted for, when past behaviour is entered into the model, intention frequently loses its predictive utility (Fishbein & Ajzen, 2005; Ouellette & Wood, 1998). Past behaviour in this research (i.e., experienced striving) was the most important predictor of dietary restraint. Furthermore, in a subset of the AN group only dietary restraint at Time 1 correlated significantly with dietary restraint at Time 2 ($r = .490, p < .01$). However, a major limitation in drawing conclusions, this subset of participants was a small proportion (41%) of the entire AN sample, and the current conclusion with respect to the long term predictive importance of past behaviour must be seen as provisional only, given that the women whose illness may have been most severe were among those who were lost to follow-up.

As an alternative framework, dual-process models have been developed to assist in clarifying the role of intention to behaviour. They propose that behaviour results from two parallel and competing pathways (e.g., Strack & Deutsch, 2004), one that is reflective and involves cognitive effort and forethought; another that is impulsive, associative, and automatic. Findings are that while novel behaviours tend to be deliberative, frequently repeated behaviours, such as those involving food choice and eating (e.g., De Bruijn, 2010, 2010), tend to be habitual. As such, they are usually triggered by stimuli in the environment and are highly context-dependent, performed automatically and without conscious effort, and more likely to be predicted by previous behaviour than by a rational statement of intention (De Bruijn, 2010; Lally, van Jaarsveld, Potts, & Wardle, 2010; Norman & Conner, 2006; Ouellette & Wood, 1998; Verplanken & Aarts, 1999). Furthermore, such habitual behaviours

are often integrated into the self-concept (Charng, Piliavin, & Callero, 1988) and may persist for identity preservation purposes, even where this conflicts with attitudinal, normative, or control beliefs (Rise, Sheeran, & Hukkelberg, 2010). In addition, the feelings associated with performing a particular behaviour tend to be more important than deliberations about advantages versus disadvantages (French et al., 2005; Hagger & Chatzisarantis, 2005; Kraft, Rise, Sutton, & Roysamb, 2005; Rhodes, Blanchard, & Matheson, 2006), and what salient others, such as peers, in the environment are seen to be doing is likely to have a greater influence than perceptions of what others say or think one should do (Cialdini, 2003; Cialdini, Reno, & Kallgren, 1990; Lazarus, Eiser, & Rodafinos, 2009). These last two points have particular relevance in the treatment of eating disorders, where verbal expressions of motivation are not good predictors of treatment response (Waller, 2012), and debate persists about the wisdom of treating AN patients together (Vandereycken, 2012).

Chapter 4

Investigating Physical Appearance Comparison as a Maintaining Mechanism in AN

Introduction

The original self-schema perfectionism model consisted of self-focused, intrapersonal mechanisms purported to maintain pathological striving. Insofar as AN is an expression of self-schema perfectionism in the domain of weight and shape, it was proposed that those mechanisms maintain dietary restraint in the disorder. However, findings from the previous study failed to support the hypothesised explanatory functions of performance evaluation and striving intention in the dietary restraint of AN and nonclinical samples alike. This led to doubt about the validity and clinical utility of the self-schema perfectionism model with regards to dietary restraint in AN.

In the revised clinical perfectionism model, Shafran et al., (2010) gave greater emphasis to social comparison as a maintaining mechanism. They suggested that people with clinical perfectionism check their performance by comparing it with the performance of others, and this helps maintain their cycle of pathological striving.

The objective of this study was to determine whether, along with experienced striving, which was found in Study 2 to be a significant predictor of dietary restraint in both the AN and nonclinical groups, social comparison added to the prediction of dietary restraint in AN beyond the core construct of self-schema perfectionism, i.e. over-evaluation of weight/shape striving.

Comparisons and eating disorder pathology. Social comparison, especially that which emphasises external aspects of the body, has been found to be extremely important to the self-concept of women in the general population across a wide age range (Fisher, Dunn,

& Thompson, 2002; Heinberg & Thompson, 1992; Kjaerbye-Thygesen, Munk, Ottersen, & Kruger-Kjaer, 2004; Strahan, Wilson, Cressman, & Buote, 2006; Vander Wal & Thomas, 2004) with body-related comparison information frequently being more important than body-related objective information (Broemer & Diehl, 2004; Brown, Novick, Lord, & Richards, 1992). In addition, among nonclinical women appearance-related social comparison has been associated with body dissatisfaction and eating disorder disturbance (Bailey & Ricciardelli, 2010; Heinberg & Thompson, 1992; Thompson, Heinberg, & Tantleff, 1991) and also with anti-fat attitudes (O'Brien, Hunter, Halbdrestadt, & Anderson, 2007).

With respect to the broad construct of social comparison, there appears to be no difference between eating disordered individuals and nonclinical women in absolute levels of making interpersonal comparisons based on abilities and opinions (Morrison et al., 2003). However, associations have been found between AN, a tendency to make unfavourable social comparisons, submissive behaviour, and perceived low social rank (Connan, Troop, Landau, Campbell, & Treasure, 2007; Troop, Allan, Treasure, & Katzman, 2003; Troop & Baker, 2008). There has been minimal attention in quantitative research to body-related comparisons among individuals with AN.

Multiple factors influence the importance of social comparison, choice of comparison target, and domain. These include context (Brown, et al., 1992; Garcia, Tor, & Schiff, 2013; Halliwell & Dittmar, 2005), similarity-to-self, relational closeness, and physical proximity (J. D. Brown, et al., 1992; Carey, Donaghue, & Broderick, 2013; Garcia, et al., 2013; Gerner & Wilson, 2005; Trottier, Polivy, & Herman, 2007), and importance of domain to self-concept (Dittmar & Howard, 2004; Garcia, et al., 2013; Vartanian & Dey, 2013). According to Locke (2003), social comparison may be vertical (ranging from upward to downward comparisons) or horizontal (ranging from contrasting to connective comparisons). Vertical social comparison tends to be associated with competitiveness, in which outperforming others

assumes importance (Bogaerts & Pandelaere, 2013), and occurs frequently in domains that have high visibility (Alpizar, Carlsson, & Johansson-Stenman, 2005; Bogaerts & Pandelaere, 2013). Also, following from Study 2, findings from health behaviour research indicate that the presence of ‘salient environmental cues’ (Booker & Mullan, 2012), which in this study meant the presence of salient others in the environment, may influence the degree to which one behaviour takes precedence over another. For example, it has been suggested that the relationships between AN inpatients being treated together may influence their eating disorder attitudes and behaviours in hospital, with competitiveness (i.e., vertical comparisons) among them may impacting negatively on their ability to engage in treatment, and thus contributing to maintaining their eating disorder pathology (Vandereycken, 2011). It has also been suggested that AN inpatients being treated together collaborate over their illness (i.e., horizontal comparisons) and trade thinness and weight loss tips (Murray, 2002), and that this contributes to maintaining their eating disorder pathology.

About this study: The importance of environmental context. Environmental context is not part of the clinical perfectionism model, nor of the derivative self-schema perfectionism model that was investigated in Chapter 3. However, non-significant findings in that chapter in relation to performance evaluation and striving intention cast doubt on the roles of those intrapersonal cognitive processes in explaining eating disorder pathology (i.e., dietary restraint). In this study a ‘situated cognition’ (Smith & Semin, 2004) approach was adopted, in which interactions between the participant and salient others in their environment was seen as the locus of explanation. According to a situated cognition point of view, the fact that the AN participants in this study were all inpatients in specialist hospital units was seen as important, given that their weight/shape standards were understood as relationally embedded and determined.

Hypothesis and Predictions

From the study findings in the previous chapter, it was hypothesised that AN inpatients have their self-worth highly dependent on striving in the domain of weight and shape (i.e., over-evaluation of weight/shape striving) and pursue personally demanding weight/shape standards (i.e., experienced striving). In addition, according to a situated cognition standpoint, it was hypothesised that their weight/shape standards emerge out of their physical appearance comparisons with one another and influence their dietary restraint.

The hypothesis led to the following predictions:

1. Compared to women who do not have an eating disorder, women with AN will have high scores on a measure of physical appearance comparison.
2. For women with AN, positive associations will be found between over-evaluation of weight/shape striving, experienced striving, physical appearance comparison, and dietary restraint at two time points.
3. For women with AN, experienced striving and physical appearance comparison will add to the prediction of dietary restraint beyond what can be accounted for by over-evaluation of weight/shape striving.

Method

Participants. 105 women with AN constituted the clinical sample and 297 female university students constituted the nonclinical sample. Inclusion criteria and demographics for each sample were described in detail in Study 1.

Procedure. The procedure for both study groups is described in detail in Study 1.

The clinical participants completed a package of questionnaires shortly after admission to hospital. Each woman did this privately and returned it in person to the researcher within 24 hours.

An initial 100 student participants completed pen-paper versions of the questionnaires, after which a further 197 protocols were completed online. No significant differences were found between on-line versus paper protocols.

Measures. In addition to the measures used in Study 2, i.e., over-evaluation of weight/shape striving, experienced weight/shape striving, and dietary restraint, a new measure, physical appearance comparison, was introduced.

Physical Appearance Comparison Scale (PACS; Thompson, et al., 1991). The PACS is a brief, 5-item, measure of the degree to which individuals tend to compare their appearance with others (*In social situations, I compare my figure to the figures of other people*). Participants were asked to rate each statement on a five-point Likert scale (1 = *never*, 5 = *always*). High scores represent greater levels of comparing aspects of one's physical appearance with those of others, and have been shown to be strongly related to body image dissatisfaction and eating disturbance (Thompson et al., 1991). The PACS was selected for the current study because of its relevance to the domain of interest. Studies based on mixed-sex samples of University students have reported of Cronbach's alpha for PACS ranging from .76 to .85 (O'Brien, et al., 2007; Thompson, et al., 1991). In the current study, the Cronbach's alpha coefficient for PACS was .91 for the AN group, and .89 for the student comparison group.

Data analysis. Tests of normality were conducted separately for each group on their Physical Appearance Comparison Scale scores. For both groups the distribution of data

approached normality. An independent samples t-test, correlational analysis using Pearson's test, and hierarchical regression analyses were conducted to test study hypotheses.

Results

Comparison between groups on physical appearance. An independent-samples t-test was conducted to compare the physical appearance comparison scores for the two groups of participants. There was a significant difference in scores for the AN ($M = 20.05$, $SD = 3.50$) and the nonclinical participants ($M = 16.25$, $SD = 3.64$); $t(399) = 9.272$, $p < .001$ (two-tailed).

Inter-correlations between the study variables. The inter-correlations between the study variables are shown in Table 15. For both groups, physical appearance comparison was highly correlated with over-evaluation of weight/shape striving, with experienced striving, and with dietary restraint at Time 1. For the AN group, physical appearance comparison was not highly related with dietary restraint at Time 2. Only dietary restraint at Time 1 was highly correlated with dietary restraint at Time 2.

Do experienced striving and physical appearance comparison add to the prediction of dietary restraint beyond the core over-evaluation of weight/shape striving? To determine if experienced striving and physical appearance comparison added to the prediction of dietary restraint beyond what could be accounted for by over-evaluation of weight/shape striving, hierarchical regression analyses were conducted separately for each group. Over-evaluation of weight/shape striving was entered in Step 1, followed by experienced striving and physical appearance comparison on Step 2. Results of this regression analysis are presented in Table 16. Results were examined first for the AN group. At Step 1 of the regression analysis, over-evaluation of weight/shape striving accounted for 10.4% of the variance in dietary restraint, $F(1,103) = 12.011$, $p < .001$. The addition of experienced striving and physical appearance

Table 15*Inter-correlations between Scores on OEWSS, EWSS, PAC, and Dietary Restraint*

Measure	OEWSS	EWSS	PAC	Restraint
OEWSS		.699**	.399**	.623**
EWSS	.258**		.257**	.620**
PAC	.349**	.234*		.243**
Restraint 1	.323**	.505**	.406**	
Restraint 2	.172	.221	.137	.490**

Note: Inter-correlations for female student participants ($n = 297$) are presented above the diagonal, and inter-correlations for female AN participants ($n = 105$) are presented below the diagonal. OEWSS = over-evaluation of weight/shape striving; EWSS = experienced weight/shape striving; PAC = physical appearance comparison; Restraint 1 = dietary restraint at Time 1; Restraint 2 = dietary restraint at Time 2

** Correlation is significant at the .01 level (2-tailed)

*Correlation is significant at the .05 level (2-tailed)

comparison at Step 2 increased the amount of variance explained in dietary restraint by 25.1%, $F(3,101) = 18.585$, $p < .0005$. Of these, experienced striving was the strongest predictor of dietary restraint ($\beta = .411$, $p < .001$), then physical appearance comparison ($\beta = .266$, $p < .01$). Over-evaluation of weight/shape striving was not a significant predictor in Step 2 ($\beta = .124$, $p > .05$).

Next, results were examined for the nonclinical group. At Step 1 of the regression analysis, over-evaluation of weight/shape striving accounted for 38.9% of the variance in dietary restraint, $F(1,293) = 186.307$, $p < .0005$. The addition of experienced striving and physical appearance comparison at Step 2 increased the amount of variance explained in dietary restraint by 6.6%, $F(3,291) = 80.999$, $p < .0005$. Of these, only experienced striving

was a significant predictor of dietary restraint ($\beta = .360, p < .0005$). Physical appearance comparison was not a significant predictor of dietary restraint ($\beta = .003, p > .05$). Over-evaluation of weight/shape striving remained a significant predictor of dietary restraint ($\beta = .370, p < .0005$).

Discussion

This study was carried out to investigate, in the context of AN patients in hospital, whether physical appearance comparison was a mechanism of maintenance in dietary restraint. The study followed from the earlier finding that performance evaluation and striving intention, which was an index in AN for resetting standards upwards, did not have utility in predicting dietary restraint in women with AN, and also in nonclinical women. A situated cognition understanding was adopted, which emphasised the relationships between the participants as the locus of explanation. This meant that the study could not be described as an investigation of a model based on clinical perfectionism, given that in that model internal mechanisms alone determine weight/shape standards. A situated cognition approach made it possible to address an existing debate over whether AN patients should be treated together in hospital (Vandereycken, 2011). However, emphasising the importance of environmental context meant that there were limitations on the extent to which valid comparisons could be made between the AN and nonclinical groups, and on the extent to which findings could be generalised. Nevertheless, for each group there were theoretically relevant findings.

With respect to the AN inpatients, the study found that while over-evaluation of weight/shape striving was a significant predictor of dietary restraint initially, when the model included experienced striving and physical appearance comparison, both of which were significant predictors of dietary restraint, over-evaluation of weight/shape striving lost its

Table 16

Hierarchical Multiple Regression Analyses Predicting Dietary Restraint from Over-evaluation of Weight/shape Striving, Expressed Weight/shape Striving and Physical Appearance Comparison

Variable	<u>AN</u>					<u>Nonclinical</u>				
	β	t	R^2	ΔR^2	p	β	t	R^2	ΔR^2	p
Step 1										
OEWSS	.323	3.466	.104		.001	.623	13.649	.389		<.0005
Step 2										
OEWSS	.124	1.427			.157	.370	5.800			<.0005
EWSS	.411	4.903			<.0005	.360	5.951			<.0005
PAC	.266	3.086			.003	.003	.063			.950
			.356					.455		
				.251					.066	

Note. OEWSS = over-evaluation of weight/shape striving; EWSS = experienced weight/shape striving; PAC = physical appearance comparison

predictive utility. Given that over-evaluation of weight/shape striving is the core construct of self-schema perfectionism, the finding provided further evidence that the self-schema perfectionism model has limited applicability in the inpatient treatment of AN.

For the nonclinical group, when all of the predictor variables were entered into the model, over-evaluation of weight/shape striving and experienced striving were both highly significant predictors of dietary restraint. Physical appearance comparison was not a significant predictor of dietary restraint. Thus, it appeared that the core, intrapersonal, self-schema construct retained its explanatory validity in a population in which there were lower levels of weight/shape striving, lower levels of physical appearance comparison, and lower levels of dietary restraint than in AN.

For both groups, experienced weight/shape striving (which was assessed over a retrospective four-week period and was thus a measure of past striving behaviour) was a highly important predictor of dietary restraint. This was consistent with findings from health behaviour research about the importance of past behaviour in the understanding future behaviour (Ouellette & Wood, 1998), particularly where that behaviour may be habitual and/or integrated into the self-concept. In this instance, weight/shape striving may have been integral to the self-concept and identity preservation of the nonclinical women (Charng, et al., 1988), and may be seen as situated within a broader cultural context in which working on the body is inseparable from working on the self (Jones, 2008). The current findings were also consistent with a proposal that absorption or engagement in effortful striving enhances the experience of value, and thus also promotes maintenance (Higgins, 2006).

As predicted, the AN participants had high scores on a measure of physical appearance comparison, and physical appearance comparison was a highly significant predictor of their dietary restraint. The finding indicated, first, the importance of investigating

the relationships in hospital between AN patients, second, that those relationships may be influenced by external appearance aspects of their weight and shape, and third, that external factors may influence their weight/shape standards. This differed from the entirely internal regulation of standards initially postulated in the self-schema perfectionism model. In contrast, the nonclinical women were university students, for whom academic social comparison may have been more relevant and associated with academic positional concerns. It remains to be determined whether physical appearance comparisons between AN inpatients are vertical and competitive (Bogaerts & Pandelaere, 2013; Vandereycken, 2011), and relate to social rank (Troop & Baker, 2008), especially in relation to thinness, or whether they are horizontal and relate to connection, belonging and conforming to a contextually normative appearance (Ison & Kent, 2010). However, the finding that physical appearance comparison had predictive utility in dietary restraint in the AN participants provided tentative support for suggestions that “visible and valued” may be a motivating factor in individuals with AN (Schmidt & Treasure, 2006), that the self-acceptance of individuals with AN may be closely tied to feeling accepted by others (Baldwin & Sinclair, 1996), that relational factors may be important when making decisions about treatment (Hewitt, et al., 2003; Rieger et al., 2010; Treasure, et al., 2011), and that such factors should be borne in mind when treating AN patients together (Vandereycken, 2011).

Conclusion

The findings from this study indicated that in terms of explaining dietary restraint in women during inpatient AN treatment, having self-evaluation highly dependent on weight/shape striving (the core construct of self-schema perfectionism) is less important than exerting high levels of weight/shape-effort and comparing one’s physical appearance with that of relevant others. Whether this finding may be generalised across all AN sufferers is yet to be determined, and is beyond the scope of this thesis. However, the pattern of findings was

different for the nonclinical female university students. For them, self-evaluation highly dependent on weight/shape striving and the exertion of weight/shape-related effort had predictive utility in dietary restraint, whereas physical appearance comparison did not. Together, the findings indicated that for women with AN, but not for nonclinical women, domain salience, social context, and aspects of interpersonal functioning, especially those that have meaning in terms social position or rank, are more important in understanding dietary restraint than private self-judgements. The findings call into question the relevance of an entirely self-focused, de-contextualised, conceptualisation of weight/shape standards in AN. Furthermore, they indicated that the self-schema perfectionism model that was initially investigated in this thesis has limited utility in the inpatient treatment of AN.

Chapter 5

Weight and Shape in the Context of Inpatient Relationships in a Specialist Unit

Introduction

Female adolescents constitute an important eating disorder demographic, with girls between the ages of 13 and 18 being the main recipients of interventions for AN. Currently, evidence supports multidisciplinary outpatient care as the first-line treatment in adolescent AN (Gowers et al., 2007; Hay et al., 2014). However, hospitalisation for the management of acute medical instability is considered to be essential in preventing associated mortality (Golden et al., 2003; Katzman, 2005). Furthermore, when weight gain and nutritional rehabilitation are goals of treatment (Gentile, Manna, Ciceri, & Rodeschini, 2008), inpatient is superior to less intense forms of treatment, due its faster rate of weight gain (Hartmann et al., 2011). It is recommended that whenever possible and practicable, inpatient AN treatment should occur in a specialist eating disorders unit (Hay et al., 2014). However, there are widespread views and practices in relation to weight goals and rates of weight gain in treatment (Allan et al., 2010; Garber et al., 2013; Golden et al., 2008; Katzman, 2012; Key, Mason, Allan, & Lask, 2002; Roots, Hawker, & Gowers, 2006; Willer, Thuras, & Crow, 2005). Furthermore, notwithstanding eating disorder severity and psychiatric comorbidities, some studies have found that inpatient treatment, including for adolescents in specialist units (Salbach-Andrae et al., 2009; Winston, Paul, & Juanola-Borrat, 2012), is not superior to outpatient treatment (Gowers et al., 2007), and may even be associated with poor outcome and prognosis (Salbach-Andrae et al., 2009). Consequently, it has been suggested that features of the inpatient environment may often be adversely affecting outcomes (Treasure, et al., 2011; Vandereycken, 2011). For example, Vandereycken (2011) proposed that relationships among AN patients in hospital may play a role in maintaining eating disorder

pathology, a proposal that has been supported by the retrospective accounts of some former patients (Granek, 2007).

The adolescent peer group in hospital. Adolescent girls have a natural inclination to form peer groups, or cliques (Wiseman, 2009). Features of the inpatient AN experience may foster this innate tendency. These include living closely together, away from families and friends, being collectively identified by others as the ‘AN patients’, interacting only with one another for long periods, and sharing activities, resources, and space (Colton & Pistrang, 2004; Duncan & Kennedy, 1992). Potentially binding components include a shared worldview (Ison & Kent, 2010), constituting an elite within an anti-fat, pro-thinness, adolescent culture (Ahern, Bennett, & Hetherington, 2011; Ahern & Hetherington, 2006; Pine, 2001), collectively disputing and rejecting a sickness label (Broughtwood & Halse, 2010), feeling coerced, pressured, or forced unwillingly and unjustly into treatment and hospital (Couturier & Lock, 2006; Guarda et al., 2007), feeling controlled by authoritative others (Broughtwood & Halse, 2010), and having a valued identity under threat (Giles, 2006; Skarderud, 2007).

Inpatient accounts. AN inpatients have described how relationships in hospital can both help and hinder their recovery (Colton & Pistrang, 2004; Granek, 2007; Tierney, 2008). Positively, being with similar others provides a sense of belonging, connection, empathy and acceptance, bolsters self-esteem, reduces feelings of vulnerability, and provides support toward wellness (Crabtree, Haslam, Postmes, & Haslam, 2010; Giles, 2006; Ison & Kent, 2010). However, relational dynamics among AN sufferers in hospital can also have powerful negative effects that work against recovery for some individuals (Granek, 2007). There may be within-group competition in relation to the eating disorder (Colton & Pistrang, 2004; Murray, 2002; Offord, Turner, & Cooper, 2006; Tierney, 2008). Additionally, there may be body-focused comments, intimidation, covert bullying (Svahn & Evaldsson, 2011), and

pressure to conform to a culture that normalises AN, treats it as a philosophy or way-of-life rather than as a mental illness, shares information about ways to lose weight, opposes treatment, discredits those who advocate it, and has a negative attitude to life outside of the eating disorder (Broughtwood & Halse, 2010; Colton & Pistrang, 2004; Duesund & Skarderud, 2003; Ferraro, 2009; Reynolds & Repetti, 2006; Van Laar, Derks, Ellemers, & Bleeker, 2010).

The current study. The current study used thematic analysis to explore the relational experiences of female adolescents receiving inpatient AN treatment together in a specialist unit. A ‘contextualist’ approach was employed, a stance described by Braun and Clarke (2006) as located between an essentialist approach (reports participants’ experiences, meanings and realities) and a constructionist approach (examines how events, realities, experiences and meanings are the effects of a range of discourses). Thus the aim was to both reflect the reality of the young women’s experiences and come to some understanding of what lay beneath the surface of those experiences. The analysis was not directed toward theory development (Holloway & Todres, 2003). Hence it did not aim to identify an objective, empirically valid truth that exists for all young women who have AN. Furthermore, the sampling process was not driven by the need to achieve data saturation. Rather, sampling was purposive and driven by the need to understand the relational dynamics of a specific group of young women who were experiencing a unique set of circumstances at the same time and together. Nor did the study set out to prove or disprove hypotheses or to test pre-existing theory. Nevertheless, during interpretation a deductive, analyst-driven approach was adopted (Hayes, 1997), rather than simply a descriptive approach (Boyatzis, 1998). While the current study is presented as the final of four studies in this thesis, in conceptual terms it ran parallel to them rather than following directly from them. Nevertheless, it was anticipated

that the trustworthiness of the qualitative findings would be demonstrated by the degree to which they converged with and enriched the quantitative findings.

In the self-schema perfectionism model, investigated quantitatively in Chapters 3 and 4 as a model for understanding AN, the locus of explanation was seen to reside within the person. However, critics of such theories have questioned their scientific status, whether the person can be the cause of their own behaviour, and whether conscious cognitions are in reality post-hoc descriptions, interpretations, or inferences (Kimble, 1989; Lee, 1992; Maze, 1973; Sloman, 2005; Wegner & Wheatley, 1999). A view adopted in this qualitative study was that the link between private events and behaviour is contextualised (Hayes & Wilson, 1995), and that the locus of explanation lies not inside the person, but in the relationships between the person and their environment, including other people. Those relationships are seen as meaningful, and help explain behaviour.

Study Site

The current study was carried out in a specialist unit dedicated to the inpatient treatment of adolescent AN. At any time there may be up to 12 adolescents, usually girls between the ages of 15 and 18, who have been admitted in a medically compromised state. From 2000 to 2013, 89.2% of admissions were girls, with an average age of 16 years and an average BMI of 15. Treatment in the unit emphasises weight restoration and the biological indicators of improved physical health, with weight status taken as a primary indicator of treatment progress and readiness for discharge. Focusing in the first instance on weight is consistent with a consensus that weight restoration lies at the heart of the treatment of AN (Guarda, 2008). Moreover, the unit's goal of having all inpatients achieve a minimum healthy BMI of 20, which must be maintained by following a healthy eating plan before being discharged, is in line with several studies which suggest that full weight restoration in hospital confers a better long term prognosis than partial weight restoration (Baran, Weltzin,

& Kaye, 1995; Lund et al., 2009). To that end, the unit employs a range of treatment strategies to ensure that, by international standards, the rate of weight restoration is rapid (Marzola, Nasser, Hashim, Shih, & Kaye, 2013) and consistent throughout admission. All of the young people follow the same structured programme of three meals and three snacks a day, all to be eaten within set time frames, sitting together at a table and under the supervision of a nurse. In addition, nutritional and liquid food supplements are usually prescribed. These are sometimes administered through a nasogastric tube which is put into place for all patients at admission. Reliance on the tube and supplements is decreased over time, as normal eating is established. All of the patients are weighed three times a week, upon rising, and subsequently receive feedback about progress, about rewards (e.g. time away from hospital), and about ongoing weight and other goals. Some of these treatment strategies have been described as coercive and restrictive, or alternatively, as compassionate (Matusek & O'Dougherty Wright, 2010). However, their systematic application, along with continuous medical monitoring, ensures an average rate of weight gain of 2-4 kgs/week, which enables all of the young people to return home as quickly as possible.

Method

Participants. Seven adolescent girls participated in the study, based on having spent at least four weeks together while receiving inpatient treatment for AN. Thus, they were likely to have developed a degree of familiarity with each other. Another 2 young women were also being treated for AN in the unit, but were not invited to participate in the study due to both of them having spent less than two weeks in hospital when the study was conducted. The average age of the participants was 16 years and 8 months, and duration of illness varied from 1 to 4 years. Four of the participants were in their first admission to hospital for AN, two were in their second, and one was in her fourth. All of the participants were born and educated in Australia, and continued to attend school within the unit. None declined to take

part once information was given. Approval for the study was obtained from the Western Sydney Area Health Service Ethics Committee (see Appendix F).

Qualitative interviews. All participants, having read and signed information-consent forms, were interviewed for between 60 and 90 minutes. The interviews took place in a quiet, private room within the unit, and consisted of relaxed, in-depth, discussion. The interviewer was a clinical psychologist who had a consultant role in the unit. She was not therapist to any of the participants, was not responsible for their treatment, and during the study her role in the unit was limited to attendance at a weekly meeting of the treating team. During those meetings no aspect of the study was discussed or disclosed. Four open-ended, semi-structured format questions, intended to initiate and guide discussion, were used flexibly, being omitted, adapted or elaborated according to the demands of the individual context. While the interviewer paid careful attention to limiting her own role and allowing the participants to lead (Pidgeon & Henwood, 1996; Powell & Single, 1996), she did adopt a stance of ‘talking back’ (Griffin, 1990) to the interviewee, asking further questions to clarify and develop ideas. In this way, key questions were used to promote a two-way dialogue in which each participant discussed how she experienced her weight and shape in the context of her relationships with her inpatient peers. The key questions were:

1. How have you felt about your body, especially your weight and shape, since being in hospital?
2. How have you experienced being with the other patients while you've been in hospital?
3. What is the best kind of experience in hospital?
4. What is the worst kind of experience in hospital?

The interviews took place in a quiet, private room within the unit, and consisted of relaxed, in-depth, and open exploration. Each interview lasted approximately 30-40 minutes and was recorded and transcribed verbatim for analysis (see Appendix G). All identifying information was removed.

Analysis. First, each audiotaped interview was listened to in entirety before being transcribed verbatim for analysis (see Appendix G). Analysis followed Braun and Clarke's (2006) guidelines. These are shown in Table 17. Each transcript was read carefully, both as a whole and line by line, with notes being made in the margin to identify conceptually important words and phrases, which could subsequently be clustered together on the basis of repeated patterns (themes), and coded. This was an iterative process whereby as new themes were identified earlier transcripts were re-examined using newly defined codes. In this way all of the data extracts were coded, and then collated together within the identified codes. Once all extracts of data had been coded in relation to candidate themes, these were then refined and defined in detail, with the data then being analysed with supporting (and refuting) statements, and the analysis modified according to the evidence. Each theme was considered in itself, in relation to the other themes, and in relation to the overall research purpose. As per guidelines set down by Braun and Clarke (2006), 'keyness' of themes was not dependent entirely on their prevalence across the data set, but also on whether together they captured an important element of the way in which the young women's relationships with each other were expressed through the language of AN. Throughout the analysis there was reference to relevant literature, and during the process of arriving at and naming final themes, attempts were made to minimise the impact of the researcher through consultation with colleagues, regular reviews by a researcher working on a non-related project, and by periodically checking back with the participants about the analysis and interpretation. In addition, three adolescent girls who were inpatients in the specialist unit at a later date were

invited to discuss and provide feedback, as a group, on the proposed themes. They were not involved in the study, and the chance of them recognising the participants was eliminated due to identifiers being removed prior to analysis and by talking to them long after the study participants had returned home. All of the young women said that although the study was specific to the relationships between seven participant inpatients at specific point in time, they nevertheless felt that the findings were an accurate reflection of their own experience. One of the young women commented that the participants had been “very eloquent and open”, and the group suggested that this was a benefit of one-one interviewing.

Results

Overall, one superordinate theme was identified in the data: ‘Uncertainty about self’. Three subordinate themes were identified: ‘Within-group comparison and competition’, ‘Standing out’, and ‘Supporting and opposing’.

Superordinate Theme: Uncertainty about Self

For each participant, the three themes encompassed relational meanings that were significant in attempting to resolve uncertainty about self, and whether they were someone of worth in their own and others’ eyes, as opposed to being no-one. These are described below and illustrated with excerpts from the interviews.

Subordinate theme 1: Within-group comparison and competition.

For all of the participants their position within the group on shared aspects their eating disorder was a major concern. They described making both upward and downward comparisons, which they experienced as aversive, intrusive, and unavoidable:

P2: Thinking about how I am since I’ve been in hospital, bigger than everyone else, makes me miserable. I think about it all the time. I’m bigger than all the other girls. I can’t

Table 17

Guidelines for Using Thematic Analysis (Adapted from Braun & Clarke, 2006)

Phase	Description of the process
1. Familiarising oneself with the data	Transcribing the data, reading and rereading the data, noting down initial ideas
2. Generating initial codes	Coding interesting features of the data in a systematic fashion across the entire dataset, collating data relevant to each code.
3. Searching for themes	Collating codes into potential themes, gathering all data relevant to each potential theme.
4. Reviewing themes	Checking if the themes work in relation to the coded extracts, and the entire dataset, generating a thematic ‘map’ of the analysis.
5. Defining and naming themes	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells; generating clear definitions and names of each theme.
6. Producing the report	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a report of the analysis.

bear thinking about it, but I can't help it. I compare myself with everyone else constantly.

Comparison information was more meaningful than objective and authoritative information from health professionals:

P5: (Name) is tall but she doesn't have to weigh as much as me. I weigh over 52 kg now.

Dr (Name) said my BMI has to be higher to go home. I can't accept that at all. I'm

already fat but I'm being forced to gain more weight. I used to be the thinnest but now

I'm the fattest.

The participants competed with one another on AN behaviours:

P3: We all try to eat the least, or not be the first one to finish. I feel angry if someone lasts longer than me. I always make sure I finish last.... I'm relieved if (nurse) tells someone to speed up. That helps me out. As long as you keep moving you're okay. But if you stop, then you're in trouble. That's a trick I've learnt but I don't let anyone else know.

Intragroup competitiveness was normalised by the participants as female friendship, especially in relation to appearance, rather being seen by them as symptomatic of their eating disorder:

P1: Girls always compete over how they look; especially friends. Me and my friends tell each other everything. We're really close. But we also compete with each other over who looks best, over who has the best body. But we still stay friends. Out of hospital you can just move away if you don't like it. Here, everyone wants to be the skinniest and you can't escape. There's no escape.

The inpatient standard of thinness was always equivalent to the weight of whoever was thinnest. Each participant saw being the thinnest inpatient as a desired position to strive for:

P6: Weighing less and being thinner than everyone else would classify as the best experience when you're in hospital. Everyone wants to be the thinnest.

One participant equated being the thinnest in hospital to being at the top of an elite hierarchy:

P7: It's like you're in a race. Before you come in to hospital you're just in training. But when you come in to hospital it's like you've reached the finals. Sort of like you're in the Olympics. Everyone wants to win and you put everything in to it.

AN positional concerns were linked to identity and personal worth:

P1: I couldn't stand to be like everyone else, to be average I see being average as quite negative. Well, it is definitely negative. You're just average. You're nothing.

P6: Physically, I've always been just ordinary. You don't have anything special if you're ordinary. If you're ordinary, you're nothing.

Subordinate theme 2: Standing out

This theme focused on standing out and being visible to others. Thus their bodies functioned for the participants as non-verbal communication. Within this theme, weight was private and instrumental to shape, especially thinness, which was prioritised because of its external and public nature:

P7: I've only taken notice of my weight since I came into hospital. So I have to say my shape (is more important than weight). ... People notice your shape. You see that but you don't see weight.

Extreme thinness was seen by the participants as a way of standing out, and thereby of rectifying a chronic state of not being seen by others:

P5: I'm never the one who gets noticed. It's not like I'm left out or awful things happen. It's just like, as if I'm not really there. Especially since I've been gaining weight. Then you just blend in.

In hospital, gaining weight while being among exceedingly slim young women meant returning to social non-significance:

P6: Other people get noticed more than me. I don't know why... I think they don't need to do anything to be noticed, but I do... The other day we went out and no one even noticed me. Everyone stared at the other girls because they were so skinny.

For one participant, a thin female body was likened to a valued possession or achievement. As such, it was seen by her as a source of social recognition, status, and self-esteem that could only be attained through recognition by others:

P4: A woman wanting a particular kind of body is the same as a man wanting a particular kind of car. ... It's like you have particular kind of possession or achievement that other people don't have. It tells other people what kind of person you are. Then you feel good about yourself, about who you are.

The participants attributed their body-focused concerns to the attitudes held by other people, in which appearance and social significance were linked. Thus, they could not envisage change:

P5: If people didn't made judgements, especially about the way people look, then I'd just relax. I just wish that people didn't judge other people about their appearance. If everyone was blind, then everyone would be the same. No one would be noticed or not noticed, and no one would be better than anyone else. Being noticed wouldn't mean anything. It wouldn't even happen.

Subordinate theme 3: Supporting and opposing

This theme illustrated the ambivalence experienced by the participants in their relationships with each other. In hospital they provided each other with support, empathy and understanding, but they also related to each other as competitors and opponents. They were aware of the duality in their relationships with each other:

P6: (being with the other patients) that's the best thing about being here, but it's also the worst. ... You want to be the best but you feel like everyone is your friend. You like it when someone else gains weight and you don't, and you know they feel really awful. You

pretend you're upset when someone else is upset about how much weight they've gained, but secretly you're pleased; especially if you've lost weight. That makes you feel good, but you also feel bad.

P4: You pretend you're upset when someone else is upset about how much weight they've gained, but secretly you're pleased; especially if you've lost weight.

Duplicity led to doubts about personal morality:

P4: You want to be a good person but you know that you're not. That's happened to me a few times recently. You start doubting that you're a good person... I'm secretly pleased when someone else has a negative experience. It could mean I'm not really a nice person.

Discussion

The young women in this study provided intelligent and rich accounts of how they experienced their weight and shape in the context of being together in hospital. They described how despite having limited ability in hospital to influence their nutrition they competed to be the thinnest, and how treatment-induced changes in body weight and shape were experienced by them as changes in their position on an elite inpatient AN hierarchy. Competitiveness and social ranking concerns have been described elsewhere among AN inpatients (Colton & Pistrang, 2004; Connan, et al., 2007; Murray, 2002; Offord, et al., 2006; Troop & Baker, 2008). In this instance, depending on her position on the inpatient hierarchy and not on her objective weight, each participant then judged whether she was thin (defined as occupying the top position) or fat' (defined as occupying any other position), and hence whether she was 'someone' or 'nothing' (Bogaerts & Pandelaere, 2013; Huguet et al., 2009). Body image disturbance (e.g., experiencing oneself as obese despite being exceedingly thin) is a central diagnostic criterion of AN, and is generally conceptualised as a relatively stable and trait-like characteristic of the AN patient. However, the current findings indicate that

body images may fluctuate in different situations and contexts (Espeset, Gulliksen, Nordbo, Skarderud, & Holte, 2012; Marsh & Stanley, 1995). Similarly, dichotomous and extreme evaluations with conditional implications for the self, as described by these young women, are frequently observed in individuals with AN, have been implicated in maintenance, and are generally attributed to relatively enduring internal factors, such as self-esteem deficits (Fairburn, et al., 2003; Lethbridge, et al., 2011; Shafran, et al., 2002). However, the current findings were consistent with conceptualising the self as relational, and with knowledge about the self being linked to knowledge about significant others (Andersen & Chen, 2002). Accordingly, despite the participants receiving regular, individualised, objective feedback about their body weight and health, only comparison information was meaningful to them in terms of their self-worth (Broemer & Diehl, 2004; Brown, et al., 1992).

Whereas within-group comparison and competition encompassed broad behavioural aspects of AN, standing out emphasised thinness that was extreme given the context and situation, and thus impossible-to-ignore by others (Nordbo, Espeset, Gulliksen, Skarderud, & Holte, 2006; Schmidt & Treasure, 2006). Rather than acquire an illness/patient identity in which their bodies were medicalised (Broughtwood & Halse, 2010; Schmidt & Treasure, 2006), the participants interpreted standing out as an everyday appearance-related dynamic of female friendship (Wiseman, 2009), within which the thin female body was used as a possession to denote social rank, to engender envy among young women, and to convey a message to others of a self that is worthy of their admiration and respect (Nordbo, et al., 2006). It has been suggested that excessive concern in AN patients about how one is seen and related to by others stems from feelings of inferiority and private doubts about one's own worth and value (Bruch, 1978; Sternheim, Konstantellou, Startup, & Schmidt, 2011). In the current study, the participants feared blending in and not being seen at all, which for them meant not existing in the eyes of others, and thus being nothing. In hospital, blending in came

from not being the thinnest AN inpatient. Out of hospital, blending in came from being healthy. The participants experienced their body-focused ‘fight for existence’ as essential but stressful. However, given that judgements based on physical appearance are ubiquitous in the wider culture (Naumann, Vazire, Rentfrow, & Gosling, 2009), they saw the cause of their difficulties as external to themselves and, hence, as unchangeable.

In hospital, the theme of supporting and opposing encompassed the duality of the participants’ relationships with each other and the ambivalence they experienced. Common among AN patients in hospital, they openly gave each other empathy and support (Colton & Pistrang, 2004; Vandereycken, 2011), but at the same time they were competitors and rivals who privately derived pleasure from the one another’s misfortune and distress, especially when it enhanced their own relative standing. This conflicted stance was irresolvable, and may reflect more broadly how ambivalent adolescent girls are in their every-day interactions with one another and how these interactions profoundly influence their well-being and sense of self (Wiseman, 2009). On one hand, the participants embraced a 21st century individualism in which the public display of an unnaturally thin body demonstrates personal uniqueness, independence, and a commitment to the unceasing work of self (Jones, 2008; Stromberg & Boehnke, 2001). On the other hand, they judged their behaviour and selves against an ethic of care, in which interdependence, affiliation, reciprocity, mutual support and selflessness are the prerequisites of personal morality (Gilligan, 1982; Stromberg & Boehnke, 2001). Against this ethic, and being aware of the disjuncture between their public behaviour and private experience, they found themselves wanting.

Conclusion

This study highlighted the diversity of experiences, meanings and discourses being lived by these young women, and how neither their AN nor their identities existed in a vacuum. In the context of a hospital ward their self-starvation was seen by health

professionals as a biological phenomenon, “known” through the systematised, quantifying language of 21st century medicine. For the professionals a patient’s body weight was one biological marker of health. The young women both embraced and subverted this medical understanding of their bodies. Like the doctors, they saw their weight and bodies as malleable, changing, and evidence of an unseen inner state. However, they also experienced those bodies as contested property, and being fed through a nasogastric tube in order to maintain a rapid rate of weight gain was evidence to them of their loss of autonomy and subjugation. The ethics of nasogastric feeding and rapid weight gain, which in this unit was very high compared to the majority inpatient settings, and associated issues of power, consent, physical restriction, and autonomy in the treatment of AN are discussed at length in the literature (Charland, 2013; Hay et al., 2014; Hepworth, 1999). The young women in this study did not experience AN as illness, aberrant, or as dangerous. Rather, the biological information that quantified their symptoms and confirmed their patient status was for each of them evidence of her and others’ positions within the inpatient network of relationships, and was integral to how each young woman saw herself. In that context, a personal body weight that was objectively and visibly lower than that of others resolved doubts about thinness, personal worth, and even personhood. In the absence of such information each participant felt uncertain. Feelings of uncertainty, for example, in relation to imperfection and how one is evaluated by others, are described in the AN literature (Sternheim et al., 2011). Avoiding uncertainty may be one reason why individuals with AN often say that they benefit from and even need their symptoms. The unique nature of the study setting may have impacted on the generalizability of the current findings. However, to the extent that they may be generalised, those findings point to one likely explanation for the extreme degree to which individuals with AN typically value and defend their highly visible undernourished state (Vitousek, Watson, & Wilson, 1998), may insist on its benefits to their well-being (Schmidt & Treasure,

2006), and are often resistant to treatment (Kaplan & Garfinkel, 1999). However, saying that AN appeared to serve a function for these participants does not imply that it was chosen or controlled by them. Nor does it imply that they were not motivated or could not recover. Indeed, AN patients may often seem highly resistant to change but simultaneously wish to recover (Nordbo et al., 2006; Serpell et al., 1999; Vitousek et al., 1998). These young women indicated that they felt unable to avoid or resist comparing and competing, even when they would have preferred to do otherwise. However, the participants' explanations for their behaviour do not imply aetiological significance. Rather, they imply that their behaviour in that context was personally meaningful.

The meanings of AN may be as diverse as the contexts in which it occurs. Indeed, in some contexts AN exists without fear of fatness or drive for thinness (Simpson, 2002). Ignoring the meanings of AN by understanding it simply as over-concern with weight and shape, by conceptualising AN solely in terms of processes taking place 'inside' the individual, and by failing to address the importance of the contexts in which it arose and persists, may prevent understanding the functions and meanings of self-starvation in an individual's own life.

The findings of this study must be considered in the light of a number of methodological issues. The study was based on a small number of participants in a single specialist inpatient unit. However, this made it possible to focus intensely on relationships that were well established at time of interview. To varying degrees, all specialist units have both unique and shared features. Although the current participants reported experiences similar to those reported by AN inpatients elsewhere, a strong reliance on nasogastric feeding was a unique feature of the unit/study site that may have impacted on the generalizability of the study findings. Furthermore, since there was no follow-up, it cannot be assumed that factors that appeared to impact on AN in this context are the same factors that impact on AN

elsewhere and predict long-term outcome. Another issue concerns the quality and validity of the participants' accounts. The interviewer may have been known to some of the participants, and this may have impacted on their ability to be totally open and honest. However, there was considerable effort to minimise the presence of the interviewer through extensive consultation, and by obtaining confirmation of the veracity of the findings from three adolescent female inpatients, who were not part of the study, at a later date. Moreover, the current findings were consistent with, and complemented, the findings from the quantitative study presented in Chapter 4 of this thesis. In that study, physical appearance comparison was found to be a highly significant predictor of dietary restraint in women with AN. The current qualitative findings enrich those quantitative findings in that they indicate that the comparisons between individuals with AN in hospital are overwhelmingly vertical (i.e., AN patients compare themselves with the thinnest among them) and associated with an inpatient competitiveness that is anti-therapeutic. Whether this varies among different kinds of inpatient treatment settings (e.g., specialist or generalist), modes of delivery (e.g., group or individual), patient and/or program characteristics, techniques and practices remains to be determined. Finding answers to these important questions will require establishing quantitatively the kinds of inpatient conditions and treatments that are likely to be beneficial (objective data denoting greater or lesser degrees of treatment response and wellness), as well as *how* inpatient AN treatments may/may not be beneficial (AN patients' personal accounts of their inpatient experiences). In this way a holistic, recovery-oriented (Hay et al., 2014), effective model for the inpatient treatment of AN may be found.

Chapter 6

General Discussion

The overall aim of the work presented in this thesis was to develop and investigate the utility of a self-schema perfectionism model in understanding AN. The research was instigated by a current need to identify maintaining mechanisms in AN, which is essential to developing effective treatments. Self-schema perfectionism was informed by the clinical perfectionism model, which is cognitive behavioural and was developed specifically to explain how psychopathology such as AN may often be maintained. The name *self-schema perfectionism* was selected in order to make the investigated model distinct from both clinical perfectionism and trait perfectionism, while at the same time allowing it to retain the theoretical orientation of clinical perfectionism. In Chapter 2 of this thesis a review of experimental, correlational, and intervention studies in which the clinical perfectionism model was investigated was presented. It was identified that no study met the review inclusion criteria in which the relationship between clinical perfectionism and AN was investigated. The self-schema perfectionism model was described in Chapter 3. In Chapters 3 and 4 three quantitative studies were presented in which hypotheses derived from the model were investigated in two large samples of women. One of the study samples consisted women with AN ($n = 105$), the other consisted of nonclinical female university students ($n = 297$). In Chapter 5, a qualitative study was presented in which the relationships between adolescent AN inpatients were the unit of investigation. Findings, especially in relation to weight and shape, served as a check on the credibility and validity of the findings from the quantitative studies, and were relevant to current issues in the inpatient treatment of AN. This chapter presents an overview of the major research findings from the four studies. It begins by outlining the reason for undertaking the work, and provides the rationale for model selection. This is followed by a discussion of results from each stage of model evaluation, and

concludes with an outline of the strengths and limitations of the research, and a discussion of its clinical implications.

Summary of Research Findings

As described in Chapter 1, the research presented in this thesis was conducted in stages (see Figure)

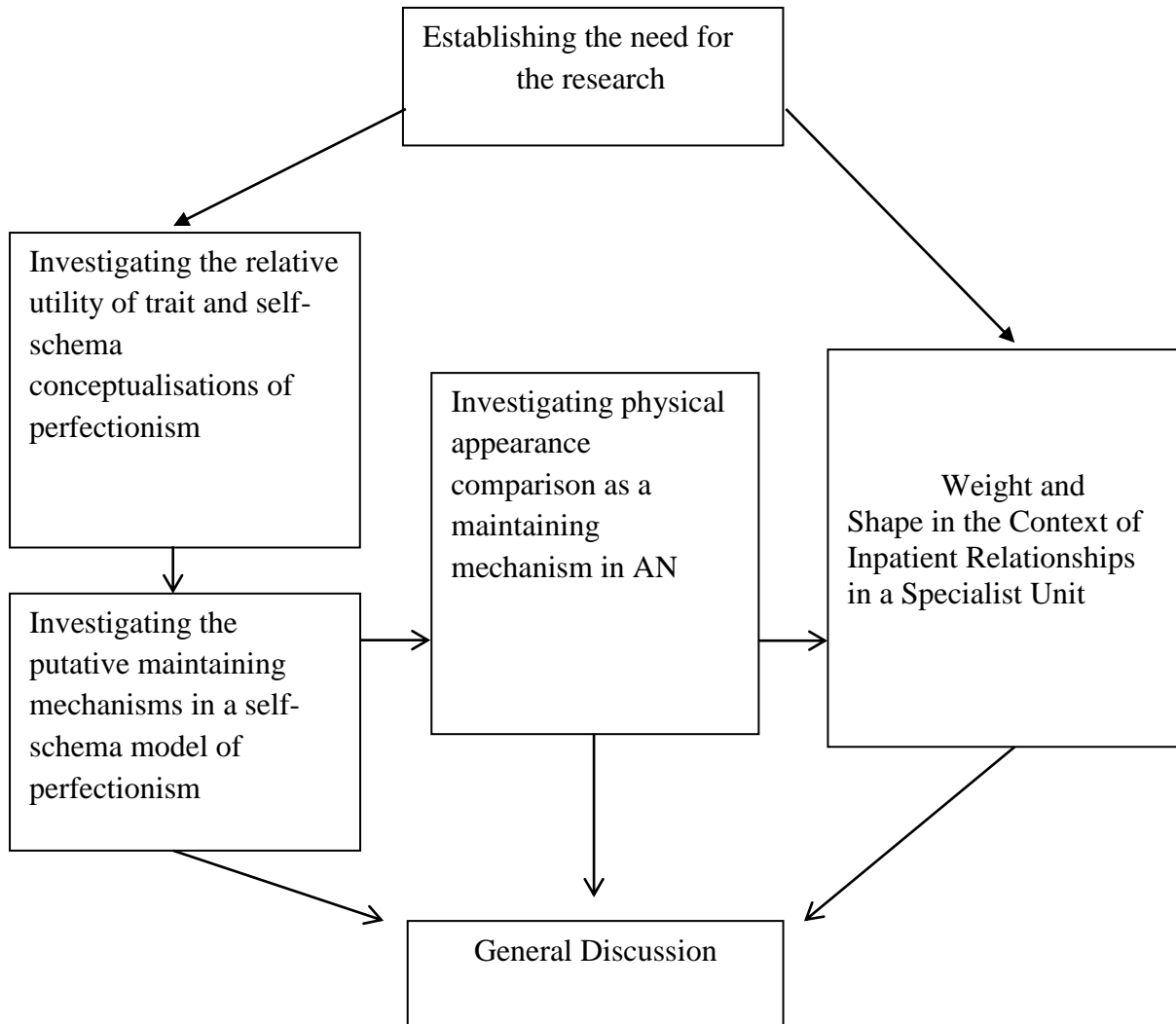


Figure 7. Outline of the research conducted in this thesis

Establishing the need for the research. The rationale for this work is outlined in Chapter 1. As discussed in that chapter, this thesis focused on one patient group (i.e., individuals with AN). The chapter described AN as a severe, life-threatening, mental illness, characterised by physical emaciation from dietary restriction, associated with severe psychosocial consequences, and sometimes resulting in premature death. Also discussed in Chapter 1, while psychological treatment is currently recommended as part of a multifaceted, integrated treatment of AN, outcomes are disappointing across a range of psychological approaches, and no specific psychological approach can be recommended over any other. Therefore, the research in this thesis was instigated by the urgent need to identify maintaining mechanisms of AN as a necessary first step to developing effective psychological treatments. The development of the self-schema perfectionism model, investigated in this thesis, was informed by the clinical perfectionism cognitive behavioural model of maintenance. The clinical perfectionism model was selected because it emphasises mechanisms of maintenance, potentially has direct relevance to AN, can be used to generate testable hypotheses, and has implications for treatment (Shafran, et al., 2002). However, on the basis of the literature review presented in Chapter 2, the evidence for the clinical perfectionism model was inconclusive, and it was not possible to evaluate the relationship between clinical perfectionism and AN. This was largely due to a dearth of studies in which clinical perfectionism was investigated in large clinical samples, and no studies in which clinical perfectionism was investigated in AN.

Investigating the relative utility of trait and self-schema conceptualisations of perfectionism. Described in Chapter 3, the domain-specific construct of self-schema perfectionism (i.e., over-evaluation of weight/shape striving) emphasises exerting effort, pushing oneself, and working hard in a personally salient domain. The model was described

in chapter 3, followed by the presentation of two quantitative studies in which self-schema perfectionism was investigated in large AN and nonclinical female samples.

One aim of the first study presented in Chapter 3 was to investigate the relationship between self-schema perfectionism and AN. A second aim was to address a debate in the literature concerning the relative clinical relevance of self-schema versus a trait understanding of perfectionism. It was found that, compared to the nonclinical women, the women with AN had high scores on a measure of self-schema perfectionism. This was taken as initial support for the relevance of self-schema perfectionism to AN. Moreover, out of self-schema perfectionism and the trait measures of perfectionism (i.e., self-oriented perfectionism and socially prescribed perfectionism), self-schema perfectionism was the only unique predictor of dietary restraint in AN. This indicated that dietary restraint in AN may usefully be understood in terms of self-concept rather than disposition. However, self-schema perfectionism accounted for larger proportion dietary restraint in the nonclinical women, and the overall model accounted for a larger proportion of variance in their dietary restraint (39.9% versus 11%). It was concluded that in terms of explaining dietary restraint, self-schema perfectionism had greater relevance to the nonclinical women than to the women with AN, and that yet-to-be-identified mechanisms explain dietary restraint in AN. However, socially prescribed perfectionism was a modest but significant unique predictor of comorbid depressive pathology in AN. This supported the relevance of a domain-specific self-schema perfectionism construct in understanding eating disorder pathology in AN, while at the same time indicating that eating disorder and comorbid depressive pathologies in AN may be maintained by distinct mechanisms.

Investigating the putative maintaining mechanisms in a self-schema model of perfectionism. The aim of the second study presented in Chapter 3 was to extend on the first study by investigating hypotheses concerning proposed maintaining mechanisms:

experienced striving, performance evaluation, and striving intention. In addition, since investigating theoretical constructs in isolation may misrepresent their function in the model, the predictive utility of the model was investigated. As expected, it was found that the women with AN pursued weight/shape standards that were more personally demanding than the weight/shape standards pursued by the non-eating disordered women. This was the first study to make a distinction between standards that were demanding and standards that were deemed high by objective criteria. An unexpected finding was that the women with AN evaluated their past striving more favourably than did the non-eating disordered women. This finding was not consistent with negatively biased information processing in AN, and did not support negatively biased self-schema processing in the disorder. Following their favourable performance evaluation, the women with AN indicated that they intended to increase their effort in the pursuit of their weight/shape standards to a greater degree than the non-eating disordered women. This was initial support for the aspect of maintenance that explained their extreme weight loss and physical emaciation.

Next, the predictive utility of the model was tested. For the AN group, a non-significant 0.7% of striving intention scores was predicted by the model. In contrast, for the nonclinical group, 28.5% of striving intention scores was predicted by the model, with each theoretical construct being a significant predictor. However, when striving intention was entered into the model as an independent variable, for both groups experienced striving was the most important, highly significant, predictor of dietary restraint; and the self-schema perfectionism construct remained a highly significant predictor of dietary restraint for the nonclinical women, and a modest but still significant predictor of dietary restraint for the women with AN. Importantly, neither performance evaluation nor striving intention, which in AN was an index of standards being reset upwards, contributed significantly to dietary restraint. Thus a critical aspect of maintenance was not supported. It was proposed that much

may potentially be gained by drawing more broadly from the perfectionism literature. Hence, it was proposed that self-efficacy, self-discrepancy and goal orientation should be investigated as explanatory concepts in perfectionism and AN.

In conclusion, while findings from the two studies presented in Chapter 3 supported a domain-specific self-concept understanding of dietary restraint in women over a trait, once performance evaluation and striving intention were entered into the model, self-schema perfectionism had limited explanatory utility in women's dietary restraint, and could not be recommended as a model to guide its psychological treatment in AN.

Investigating physical appearance comparison as a maintaining mechanism in AN. Social comparison was emphasised in the revised clinical perfectionism model as a maintaining mechanism (Shafran, et al., 2010). Therefore, the objective of the study presented in Chapter 4 was to determine whether, along with experienced striving, physical appearance comparison added to the prediction of dietary restraint in AN beyond the core construct of self-schema perfectionism. Based on the non-significant findings for performance evaluation and striving intention as predictors of dietary restraint in the model that was tested in Chapter 3, and also on considerations of parsimony, those constructs were not included in the model tested in Chapter 4, and a ‘situated cognition’ (Smith & Semin, 2004) approach was adopted. Such an approach saw interactions between the person and their environment as the locus of explanation. Findings were that experienced striving was the most important, highly significant, predictor of dietary restraint in both groups of women. Given that experienced striving was a measure of past striving behaviour, this finding was consistent with findings in health behaviour research concerning the predictive utility of past behaviour (Ouellette & Wood, 1998), especially if that past behaviour is repeated, habitual, or important to self-concept. Physical appearance comparison was also a significant predictor of dietary restraint in the women with AN, for who the self-schema construct lost its

predictive utility. In contrast, the self-schema construct was a highly significant predictor of dietary restraint in the nonclinical women, for whom physical appearance comparison did not have predictive utility. These findings indicated that weight/shape striving is an important concept in understanding dietary restraint in women. However, for nonclinical women, weight/shape striving and dietary restraint may be self-reflective and relate closely to self-concept. In contrast, for women with AN, weight/shape striving and dietary restraint may be tied to social concerns, in which one's physical appearance in comparison to others is important. Finally, the findings provided support for concluding that the self-schema perfectionism model has limited utility in AN, and cannot be considered a model on which to base treatment.

Investigating weight and shape in the context of inpatient relationships in a specialist unit. A qualitative study was carried out in Chapter 5 in order to explore how AN inpatients experienced their weight and shape in the context of their relationships with one another during treatment. The adolescent female participants were all familiar with one another due to having lived together in hospital for a period of time, which meant that the group could be viewed as the unit of investigation. One superordinate theme, 'Uncertainty about self' was identified, along with three interrelated subordinate themes: 'Within-group comparison and competition', 'Standing out', and 'Supporting and opposing'. Together, the three themes encompassed attempting to resolve uncertainty about self, and being a person of worth in the eyes of others and one's self.

'Within-group comparison and competition' described how despite having minimal control over nutrition and weight in hospital, the participants compared and competed to attain the superior position on an inpatient AN hierarchy. They defined 'fat' and 'thin' according to their position on the hierarchy, not according to their objective weight, and they made contingent and extreme judgements about themselves. It was noteworthy that all of the

young women said that they found the competitiveness in hospital aversive, but felt that it was impossible not to participate in it. They interpreted their competitiveness as a normal dynamic between female friends, rather than as symptomatic of their illness.

‘Standing out’ related to extreme thinness in relation to a surrounding norm, and thus being seen by others. Thus, shape was more important than weight, because whereas weight is private, shape is external and visible. It has been suggested that individuals with AN are excessively concerned with how they are seen by others (Bruch, 1978). However, the participants were concerned with whether they were seen at all, given that for them, not being seen meant not existing. They normalised their need to be seen by interpreting the body in terms of conspicuous ownership, and located it within a broader cultural milieu that judges individuals according to their external appearance.

Supporting and opposing encapsulated ambivalence in the participants relationships with one another. Outwardly they provided empathy, comfort and support to one another, while privately they took pleasure in the pain felt by the other when she gained weight. That pleasure was particularly intense when one’s own position on the inpatient hierarchy became comparatively elevated. However, the participants were aware of their own duplicity, and of the irreconcilable conflict that existed between competing and caring. They judged themselves against an ethic of care, in which reciprocity, affiliation, and selflessness are prerequisites of personal morality (Gilligan, 1982). Against this, they found themselves wanting.

It was concluded from the fourth study that AN has diverse meanings depending on context. Ignoring those meanings by understanding AN simply as over-concern with weight and shape, by conceptualising AN solely in terms of processes taking place ‘inside’ the individual, and by failing to address the importance of the context in which AN arose may

prevent understanding of the function and meaning of self-starvation in a patient's own life. To the extent that the findings from the study could be generalised, they indicate that while the participants felt that many aspects of their behaviour were involuntary, they nevertheless felt that they needed them. Their need was desperate, intense, and directly opposed to the aims of their inpatient treatment.

Strengths and Limitations of the Research

There were methodological strengths and limitations in the research presented in this thesis. These must be considered in interpreting the findings.

First, it is important to acknowledge that both the quantitative and qualitative studies relied on self-report, which has the potential for bias. In the questionnaires, potential bias included over- or under-estimation by participants when responding to items that assessed past attitudes and behaviour, and the possibility of variation among them regarding their understanding or interpretation of questions (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). An attempt to address this was to have the single items designed for the study closely reflect single items from the EDE-Q (Fairburn & Beglin, 1994), and to provide clear definitions of the constructs/behaviours that were being assessed, thereby promoting a shared understanding among participants. This was consistent with earlier research that has used single EDE-Q items (Steele, et al., 2011). With respect to the interviews, fear of self-disclosure is a recognised source of bias among AN patients during interviews (Burket & Hodgkin, 1993; Vandereycken, 2006). Furthermore, the small sample size and highly specific nature of the study site in which the qualitative study was carried out meant that the degree to which its findings could be generalised was extremely limited. Nevertheless, the reliability of findings from the present qualitative study was confirmed in that they were consistent with findings from the third quantitative study, in which data collection was largely via standardised questionnaire (Thompson et al., 1991).

Another related factor needing to be considered when interpreting the current findings is that it was not possible to use validated measures for the self-schema perfectionism model. Nevertheless, use of purpose-developed items made it possible to obtain a large amount of naturalistic data in order to test hypotheses about theoretical constructs and mechanisms. It is acknowledged that use of brief, single-item measures for key constructs/behaviours is unusual in empirical research, and that longer, multi-item tests are generally recommended. This is based mainly on the domain-sampling model of measurement error, which assumes that any given test is composed of a random sample of items from a hypothetical domain that contains all items that measure the construct of interest (Nunnally, 1978). However, Hinkin (1995) maintained that self-report measures are not actually constructed from a random sample of items from any domain. Instead, researchers tend to create items based directly on their explication of the construct under study. Hence, one “good” item is better than many “bad” items when evaluated on criteria of reliability and validity. Furthermore, conclusions from empirical research, including meta-analysis (Wanous et al., 1997), have been that when single-item and multi-item measures of constructs are evaluated in terms of convergent and discriminant validity and common method bias, based on these comparisons, neither type of scale comes out as clearly better than the other (Gardner et al., 1998; Wanous et al., 1997). However, in terms of time to complete, participant fatigue, boredom and response bias, Gardner et al. (1998) suggested that single- or few-item measures are superior. The brief measures used in the current research discriminated between the two study groups, demonstrated the expected patterns of correlations with theory-relevant validated measures, and yielded theoretically relevant findings. These findings did not support hypotheses from self-schema and AN theories concerning the role of biased information processing in maintenance (Shafran, et al., 2002; Williamson, Perrin, Bloudin, & Barbin, 2000). However,

given the above considerations, they need to be viewed with caution, and as preliminary and meriting further investigation.

A strength in the quantitative studies reported in this thesis was the use of large sample sizes. This was particularly the case for the AN sample, given that AN research is predominantly based on small samples, a problem which has often led to broadening diagnostic criteria for AN in research (Deliava, Thornton, Lichtenstein, Pedersen, & Bulik, 2011). Current study inclusion criteria were strictly applied in all cases, and were both clinical, based on assessment by an experienced health professional, and objective, based on biological indicators. Nevertheless, while beyond the scope of the current work, the strength of the research and the interpretability of its findings, especially in relation to AN, would have been strengthened by the inclusion of additional psychiatric and eating disorder samples, including a sample of AN sufferers living in the community.

Researchers have criticised the use of student samples in research as unrepresentative of the general population (Heinrich, Heine, & Norenzayan, 2010). The current use of young adults did result in higher levels of educational achievement, literary, and socio-economic status among those participants than could be expected if individuals had been recruited from community and other settings. The lack of socio-demographic variability should be taken into account when interpreting these findings.

An important strength of the research presented in this thesis is that it was guided by a single, theoretical framework. Thus, an assumed causal chain of events could be described, variables operationalized and measured, and hypotheses tested. It was noteworthy that high scores on constructs of interest, in isolation, did not indicate how those constructs functioned within the model. More broadly, this finding points to a need for caution in eating disorders research when interpreting the typically high scores in AN patients on many measures,

including perfectionism. Furthermore, the inclusion in this research of a measure derived from the TPB (Ajzen, 1991) to assess striving intention as an index for a change in standards made it possible to evaluate, in the context of AN, assumptions that are made explicit in the TPB model. Those assumptions, that behaviour is intentional and under the control of the individual, have direct relevance to the kinds of therapy that may best be delivered.

Clinical Implications

An important finding in the current research, particularly in relation to AN, was the non-significance of striving intention in predicting dietary restraint, and the importance of past striving behaviour. Currently, cognitive behavioural models of treatment (e.g., Fairburn et al., 2003) have a theoretical perspective that views individuals with AN as intentional, forward-looking, and able to choose from among a set of behavioural alternatives. Failure to recover is often attributed to factors within the person, such as inadequate knowledge, low levels of motivation, and body dissatisfaction. However, the current findings indicate the strong influence of factors in the environment, in relation to which the participants with AN felt they had no control. Hence, social influence variables along with intentional variables need to be considered both proximally, in the delivery of treatments for AN in hospital, and more broadly in families, schools, and communities.

Conclusion

Ultimately, the self-schema perfectionism model investigated here was not supported in having explanatory value for dietary restraint in AN, and cannot be recommended as a model on which to base treatment. However, although the development of self-schema perfectionism was informed by the clinical perfectionism cognitive behavioural model of maintenance, self-schema perfectionism should not be taken as directly reflective of clinical perfectionism; nor should the current findings be taken as evidence that the clinical perfectionism model does not warrant further investigation and development. In particular,

broadening the concept of clinical perfectionism to include concepts such as self-efficacy and self-discrepancy may prove fruitful. Nevertheless, on the basis of the current findings, it would appear that clinicians and researchers alike should be cautious in accepting any model if that acceptance is based solely on the model's apparent logic and face validity.

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Appendices

Appendix A
Search Criteria

exp Perfectionism/

clinical perfectionism.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]

1 and 4

1 and 3

2 or 5

Limit 7 to updatrange="psyc8(20130904141428-20130911131915]"

exp AN/

7 and 9

Standards.mp

7 and 11

Striving.mp

7 and 13

Bias.mp

7 and 15

Dichotomous.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]

7 and 17

Selective attention.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]

9 and 19

Self-evaluation.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]

7 and 21

Self-criticism.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]

7 and 23

personally demanding.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]

7 and 25

Self-schema.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]

Appendix B

Screening Criteria

1. Title: Is 'clinical perfectionism' contained within the title?
2. Abstract: Is 'clinical perfectionism' contained within the abstract?
3. Does the study provide information about or investigate the clinical perfectionism model?
4. Is the study described as a clinical perfectionism intervention?
5. Does the study investigate assumptions about a theory-relevant aspect of the clinical perfectionism model?
6. Full text: Is 'clinical perfectionism' contained within the text?
7. Assessment: Is assessment clinical perfectionism theory-consistent?
8. Inclusion: Based on the criteria, should the study be included? Yes/No/Maybe

Appendix C

Mean Scores and Standard Deviations for the Clinical Perfectionism Questionnaire, and Correlations with Theory-Relevant Measures

Study	Clinical <i>M(SD)</i>	Nonclinical <i>M(SD)</i>	<i>r</i>
Chang & Sanna (2012)		26.40 (4.76)	SOP (.49**) SPP (.51**) BDI (.43**) BAI (.41**) PSS (.52**) NA (.48**)
Dickie, Surgenor et al. (2012)		Time 1: 25.10 (4.94) Time 2: 25.67 (5.18)	First factor & PSP (.611***) First factor & ECP (.471***) Second factor & PSP (.298***) Second factor & ECP (.695***)
Dickie, Wilson, et al. (2012)		Time 1: 24.1(5.0) Time 2: 25.6 (5.0)	DT (.25*) ECP (.25*)
Egan, Dick, et al. (2012)		25.25(4.63)	Total MPSF (.581**) CM (.532**) PS (.658**)
Glover et al. (2007)	Pre: 33.67 (4.21) Post: 28 (5.7) FU: 27.12 (4.39)		
Hoiles et al. (2012)		24.98(4.7)	Rest (.42***) EC (.46***) SC (.47***) WC (.51***) EDE-Q (.53***)

Study	Clinical <i>M(SD)</i>	Nonclinical <i>M(SD)</i>	<i>r</i>
Riley et al. (2007)	35.52 (5.36)		
Shafran et al. (2006)		High standards condition 25.0 (4.6) Low standards condition 23.5 (3.6)	MPSH subscales (.42-.66**)
Steele, O'Shea et al. (2011)	Item score: 2.53 (0.55)		ECP (.76***) PSP (.73***) Self-criticism (.70***) DASSD (.65***) OEWS (.63***)
Steele, Waite, et al. (2012)	Item scores: Baseline: 2.38 (0.09) Pre-psychoed: 2.23 (0.1) Pre: 2.28 (0.1) Post: 1.85 (0.06) 3 month FU: 1.76 (0.06)		

Note: BAI = Beck Anxiety Inventory; BDI = Beck Depression Inventory; CM = Concern over mistakes subscale of MPSF; DASSD = Depression subscale of the Depression Anxiety Stress Scale; DT = Drive for thinness; EC = Eating concern; ECP = Evaluative Concerns Perfectionism; EDE-Q = Global score on the Eating Disorder Examination Questionnaire; MPSH = Multidimensional Perfectionism Scale (Hewitt & Flett, 1991); NA = Negative affectivity; PSP = Personal Standards Perfectionism; PSS = Perceived Stress Scale; MPSF = Multidimensional Perfectionism Scale (MPSF; Frost et al., 1990); MPSH = Multidimensional Perfectionism Scale (Hewitt & Flett, 1991); OEWS = Over-evaluation of weight and shape; PS = Personal standards subscale of MPSF; Rest = Restraint; SC = Shape concern; SOP = Self-oriented perfectionism; SPP = Socially prescribed perfectionism; WC = Weight concern; FU = Follow up; Post = Post-treatment; Pre = Pre-treatment; Pre-psychoed = Pre-psycho-education

***Correlation is significant at the 0.001 level (2-tailed)

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed)

Appendix D

Items of the Clinical Perfectionism Questionnaire

Over the past month:

Items

- CPQ 1. Have you pushed yourself really hard to meet your goals?
- CPQ 2. Have you tended to focus on what you have achieved, rather than on what you have not achieved?
- CPQ 3. Had you been told that your standards are too high?
- CPQ 4. Have you felt a failure is a person because you have not succeeded in meeting your goals?
- CPQ 5. Have you been afraid that you might not reach your standards?
- CPQ 6. Have you raised your standards because you thought they were too easy?
- CPQ 7. Have you judged yourself on the basis of your ability to achieve high standards?
- CPQ 8. Have you done enough to just get by?
- CPQ 9. Have you repeatedly checked how well you are doing at meeting the standards (for example, by comparing your performance with that of others)?
- CPQ 10. Do you think that other people would have thought of you as a "perfectionist"?
- CPQ 11. Have you kept trying to meet your standards, even if this has meant that you missed out on things?
- CPQ 12. Have you avoided any tests of your performance (at meeting your goals) in case you failed?

Appendix E

Clinical Perfectionism-Visual Analogue Scales (CP-VAS)

1. How hard have you pushed yourself to meet your goals? (striving)
2. How afraid have you been if you might not reach your standards? (fear of failure)
3. To what extent have you judged yourself on the basis of your ability to achieve high standards? (over-evaluation of performance)
4. How often have you checked how well you are doing at meeting your standards or avoided tests of your performance? (checking/avoidance)
5. How much have you missed out on things because of trying to meet your standards? (narrow interests)
6. How much as your thinking being black and white (all-or-nothing)? (all-or-nothing thinking)
7. How often have you been noticing things you do well? (selective attention)

Participants respond by placing a cross on a 10-centimetre horizontal scale ranging from 'not at all' to 'totally' for each item.

Appendix F
Ethics Approvals



The University of Sydney

NSW 2006 Australia

Human Research Ethics Committee

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13 February 2006

Dr E Rieger
School of Psychology
Mungo MacCallum Building – A17
The University of Sydney

Dear Dr Rieger

Thank you for your correspondence received on 7 February 2006 addressing comments made to you by the Committee. After considering the additional information, the Executive Committee approved your protocol entitled **‘Investigating intrapersonal and interpersonal processes in perfectionism in anorexia nervosa’**

Details of the approval are as follows:

Ref No.: 02-2006/2/8794
Approval Period: February 2006 – February 2007
Completion Date of Project: 31 March 2007
Authorised Personnel: Dr E Rieger
Ms C Wearne
Professor S Touyz

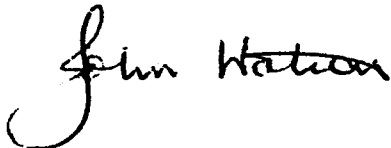
To comply with the *National Statement on Ethical Conduct in Research Involving Humans*, and in line with the Human Research Ethics Committee (HREC) requirements this approval is for a 12-month period. At the end of the approval period, the HREC will approve extensions for a further 12-month, subject to a satisfactory annual report. The HREC will forward to you an Annual Progress Report form, at the end of each 12-month period. **Your report will be due on 28 February 2007.**

Conditions of Approval Applicable to all Projects

- (1) Modifications to the protocol cannot proceed until such approval is obtained in writing. (Refer to the website www.usyd.edu.au/ethics/human under ‘Forms and Guides’ for a Modification Form).
- (2) The confidentiality and anonymity of all research subjects is maintained at all times, except as required by law.

- (3) All research subjects are provided with a Participant Information Sheet and Consent Form, unless otherwise agreed by the Committee.
- (4) The Participant Information Sheet and Consent Form are to be on University of Sydney letterhead and include the full title of the research project and telephone contacts for the researchers, unless otherwise agreed by the Committee.
- (5) The following statement must appear on the bottom of the Participant Information Sheet. ***Any person with concerns or complaints about the conduct of a research study can contact the Manager, Ethics Administration, University of Sydney, on (02) 9351 4811.***
- (6) The standard University policy concerning storage of data and tapes should be followed. While temporary storage of data or tapes at the researcher's home or an off-campus site is acceptable during the active transcription phase of the project, permanent storage should be at a secure, University controlled site for a minimum of seven years.
- (7) A report and a copy of any published material should be provided at the completion of the Project.

Yours sincerely

A handwritten signature in black ink that reads "John Watson". The signature is written in a cursive style with a large, looping initial "J".

**Associate Professor J D Watson
Chairman
Human Research Ethics Committee**

cc Ms Christine Wearne, Clinical Psychologist, Department of Medical Psychology, Westmead Hospital – C 24

Encl.
Participant Information Statement



The University of Sydney

NSW 2006 Australia

Human Research Ethics Committee

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2 April 2008

Dr E Rieger
School of Psychology
Mungo MacCallum Building – A17
The University of Sydney

Dear Dr Rieger

Title: *Investigating intrapersonal and interpersonal processes in perfectionism in anorexia nervosa*
Ref No.: 8794

The Executive Committee considered your request dated **20 February 2008** (see attached) to modify the above protocol. The Executive Committee found that there were no ethical objections to the modification/s and therefore recommends approval to proceed.

Chief Investigator / Supervisor's responsibilities to ensure that:

- (1) All serious and unexpected adverse events should be reported to the HREC as soon as possible.
- (2) All unforeseen events that might affect continued ethical acceptability of the project should be reported to the HREC as soon as possible.
- (3) The HREC must be notified as soon as possible of any changes to the protocol. All changes must be approved by the HREC before continuation of the research project. These include:-
 - If any of the investigators change or leave the University.
 - Any changes to the Participant Information Statement and/or Consent Form.

- (4) All research participants are to be provided with a Participant Information Statement and Consent Form, unless otherwise agreed by the Committee. The Participant Information Statement and Consent Form are to be on University of Sydney letterhead and include the full title of the research project and telephone contacts for the researchers, unless otherwise agreed by the Committee and the following statement must appear on the bottom of the Participant Information Statement. *Any person with concerns or complaints about the conduct of a research study can contact the Senior Ethics Officer, University of Sydney, on (02) 9351 4811 (Telephone); (02) 9351 6706 (Facsimile) or gbriody@usyd.edu.au (Email).*
- (5) Copies of all signed Consent Forms must be retained and made available to the HREC on request.
- (6) It is your responsibility to provide a copy of this letter to any internal/external granting agencies if requested.
- (7) A report and a copy of any published material should be provided at the completion of the Project.

Yours sincerely



Professor D I Cook
Chairman
Human Research Ethics Committee

cc: Ms Christine Wearne, Clinical Psychologist, Department of Medical Psychology,
Westmead Hospital – C24

Encl.

Modification request dated 20 February 08
Participant Information Statement
Participant Information Statement – Student
Participant Consent Form
Questionnaire – PHQ-9

Ms Kala Retnam
Ethics Office
University of Sydney
18 March 2008

APPROVED

DK 20.3.08

Dear Ms Retnam,

Re: Investigating intrapersonal and interpersonal processes in perfectionism in anorexia nervosa (8794).

Thank you for your email dated 18 March 2008 in which you request clarification of what will be done if any students are found with depression that may require clinical assessment.

I am the co-researcher on this study. I am also a clinical psychologist working at Westmead Hospital in the assessment and treatment of individuals with serious mental illness. For this study, I will contact via email and arrange to meet individually at the university with any student screened as potentially experiencing depressive symptomatology. Prior to discussing any aspects of the study with such students, the following procedures will occur:

As per my ethical and professional responsibility, my first priority will be to carry out a thorough risk assessment. If I judge that there is a risk of danger to self and/or others, I will inform the student of my concerns and of my responsibility to accompany the student to the Accident and Emergency Department at the nearby Royal Prince Alfred Hospital. If the student is unwilling for this to occur, I will consider that the need to prevent harm overrides the right to privacy and will access the student's residential and contact details via Departmental records. I will then phone the Community Mental Health Centre nearest to the student's place of residence and inform them of the relevant details and of my concern.

If I judge that there is no risk of danger, I will carry out a clinical interview and offer the student a referral to the Psychology Clinic where appropriate. I will also provide all students screened as experiencing depressive symptomatology with the 24 hour phone number of Lifeline (phone: 131114).

Thank you for raising and considering this point of clarification.

Yours sincerely,

Christine Wearne
Clinical Psychologist and co-researcher,
Department of Medical Psychology,
Westmead Hospital

SWAHS Research Governance Office
Room 2020, Clinical Sciences Corridor
Westmead Hospital
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Westmead NSW 2145

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16 October 2009

Prof Stephen Touyz / Ms Christine Wearne
Department of Medical Psychology
Westmead Hospital

Dear Prof Touyz / Ms Wearne

HREC reference number: HREC/08/WMEAD/300
SSA reference number: SSA/09/WMEAD/201
Project title: Perfectionism in Anorexia Nervosa (PAN): Investigating the role of interpersonal processes
Protocol number: Version 1 dated 10 November 2008

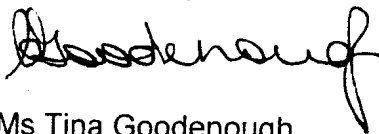
Thank you for submitting an application for authorisation of this project. I am pleased to inform you that authorisation has been granted for this study to take place at the following site:

- Westmead Hospital

The following conditions apply to this research project. These are additional to those conditions imposed by the Human Research Ethics Committee that granted ethical approval:

1. Proposed amendments to the research protocol or conduct of the research which may affect the ethical acceptability of the project, and which are submitted to the lead HREC for review, are copied to the research governance officer;
2. Proposed amendments to the research protocol or conduct of the research which may affect the ongoing site acceptability of the project, are to be submitted to the research governance officer.

Yours faithfully



Ms Tina Goodenough
SWAHS Acting Research Governance Officer

Appendix G

Interview Transcripts

Participant 1

So it looks as if weight has been more important for you over the past few weeks. And you say that you haven't really cared about your shape. Could you explain that?

No. Well, for me skinny is what matters. Shape's just not as important. I'm really affected when someone else is thinner than me.

Any idea why?

Um, probably because, um, I don't know. If I didn't have it, then I'd feel like I had nothing. Skinny is the only one thing that's really, really important to you, more important than anything else. It's the thing you want more than anything else but someone says you can't have it. Then you want it more ... especially when you're in hospital.

You're surrounded by people who are very thin when you're in hospital. Do you want to stand out even when you're in hospital?

Especially when I'm in hospital. It's sort of like a secret language. Weight and skinny is the most important thing here.

Do you have any idea why that would be?

Girls always compete. Especially friends.

Could you say a bit more about that?

Girls always compete over how they look; especially friends. Me and my friends tell each other everything. We're really close. But we also compete with each other over who looks best, over who has the best body. But we still stay friends. Out of hospital you can just move away if you don't like it. Here, everyone wants to be the skinniest, and you can't escape. There's no escape.

Like a pressure cooker effect?

Yes, exactly.

Being the thinnest in a place where everyone is exceptionally thin would be very difficult to achieve or maintain, especially when weight gain is one of the main goals of treatment in hospital. Wouldn't it be possible, or even more realistic, for you to stand out in other ways?

Yes. I do stand out in other ways. But I don't stand out so obviously. Well, I do probably but, like, its skinny that's really important to me and if I lost it I'd feel like I was nothing.

Did you stand out before you lost so much weight, before this problem started?

I was always the skinniest in my class. I wasn't, like, really thin. But I was the slimmest. But no one ever commented or anything.

Is it important to have somebody notice, somebody comment?

Yes. But before I didn't value being skinnier so I didn't care about it, about what someone said. When you don't care about it, it doesn't matter if anybody notices or not. Now, I really value being skinny and I really care. I'm can't be happy if I'm not skinny, if I'm fat. I'm fat now and I feel really, really....just yuck.

So are you saying that getting skinny and standing out so that you are noticed for it wasn't the reason you lost weight in the first place? It was actually after you started losing weight that being skinny enough to be noticed became important?

Yes. I never felt skinny. I only knew I was skinny when someone said something. Like, people notice you. It's something that made me feel different. Now I'm still not sure that I'm skinny, and you sort of want people to say something, like, to tell you that you're skinny.

For somebody that is in that head space, it must be extremely difficult to suddenly be in hospital and surrounded by people who are all very like you. They're all skinny and you're not standing out to the same extent any more.

Yes. Since I've been in hospital I've constantly had to think about how much I want to get out of here. I really want to get back to school and I have to really work to keep that in my mind because I can't stop worrying about how much weight I'm going to gain if I eat this,

or if I eat that. It's stupid really because you don't have any choice when you're in here....but you know....you just can't help it.

I guess that puts you in a position of wanting two things that are more or less an opposition with each other. You want to be the thinnest person here, in hospital, but you also want to go home, which means that you must gain weight. Do you mean that thinking about going home from hospital has helped you to cope with the inevitable weight gain that happens in hospital?

Yes. It's a constant battle. Someone who doesn't like school or have something to look forward to, to work towards, would find it really difficult to cope in hospital. It depends on how much strength you have to get out, otherwise you'd just sink.

You were able to put a lot of focus on getting out.

Yes. It also depends on how close you are to your friends outside of hospital.

How will you feel about your weight when you're back at school? You may not stand out the way you did before coming to hospital.

Well. I've been allowed to go home even though I'm still not at my goal weight. I'd have been in hospital forever if I'd had to gain that much weight.

How do you mean?

If I had to get back to my old weight before I could go home I'd be in hospital forever. At least at the weight I'm at now I'll still be the skinniest in my class. But I won't be super-thin like I was before.

Will you be ok with that, with being the skinniest in your class even though you're not super-thin?

Yes. I'm determined to stay at my new weight and not go back to like I was before. As long as a new person doesn't come who's heaps skinny; skinnier than me.

Does that mean dieting?

Not really dieting. Just being really, really careful. Watching what I eat. I don't want to come back to hospital.

So if a new person comes and they're much skinnier than you, that person might be noticed. If that happens, will you be able to keep on track.

I'm not sure. Maybe. Oh, I don't know.

You've already indicated that you're going to put a fair bit of effort into controlling your eating and your weight when you leave hospital, into staying where you're at now. You'll be needing to carry out quite a difficult balancing act. It will mean eating more than you were eating before you came into hospital so that you don't lose weight. But, if you intend not to continue gaining weight, it also means not eating as much as the doctors say you should.

Yes. I have to maintain where I am.

Why?

I couldn't stand to be like everyone else, to be average.

What do you mean by an average?

I guess it depends on how people perceive average to be. I see being average as quite negative. Well, it is definitely negative. You're just average. You're nothing.

It could mean not being the worst. In fact, it could mean being very far from worst.

Um. It depends how you look at life really. If you're average you're not unique, you're not special, you're nothing.

Are we still talking only about your weight and being skinny? You may not feel that you're unique in that particular single area of your life. But does that mean that you're nothing?

Well, average weight these days is a lot fatter than I ever was. If I was average I'd be fat. Like, I'd have to gain kilos. If I was average in that way, I'd just feel like I'm not special at anything.

Yes. But this is only one thing; it's only one aspect of your life.

Yes. But it's different if it's only one thing that's really, really important to you; more important than anything else. If I didn't have it, then I'd feel like I had nothing.

Any idea what made it so important to you?

I honestly don't know. It wasn't really that important when I started losing weight. I got sick after I started losing weight. I was never, like, oh I want to get really, really thin.

So do you think that the way you now see your weight, the way you value it so highly is part of being sick?

Yes.

In what way is it part of being sick?

I'm afraid of putting it back on. Even though I know I should.

What made you start worrying about putting it back on?

Well, in the beginning, after I lost three kilos I was back to where I was before I gained weight from eating junk food. I hated myself for eating rubbish and for gaining weight. We're always being told these days you shouldn't eat unhealthy food, and I felt a lot better when I'd fixed my eating and lost the weight.

Did you feel better because you'd improved the way you eat or because you lost weight?

Both. I started by wanting to improve my eating, to get healthy, but when I lost weight that became important too.

And that made you feel really good?

Yes. I thought, like, I'm back from where I started. I don't want to get back up there again. I was afraid that if I eat something bad, then I'd go heaps high again. Maybe even fatter. I began to think that I might not stop gaining.

Did people notice the initial weight loss?

Not the first three kilos. But after a while they could see that I was sick. It wasn't like, deliberate or anything. And then, they definitely noticed when I got to like 42 kilos. I had an eating plan to make sure that I'd get to 40 kilos and stay there. I'd have 600 calories on weekdays, and then on the weekends - to keep my weight up - I'd have 1800 calories on Saturday and 1500 on Sunday. So that meant I'd have something to maintain at 40 kilos.

Were you weighing yourself?

Yes. I weighed myself every single day. Sometimes heaps of times a day. No one needs to be fat. I was determined to lose all the weight. It all depends on your attitude and determination. You can be whatever you want.

Physically or in other ways?

In lots of ways, but definitely physically.

That's not eating very much. Your weight went a long way below 40 kilos.

I know. But if I didn't have that food I would have lost even more weight. I was eating a lot on the weekend. I didn't really find it all that difficult to eat then, when I was home. But I did at school, especially in front of all my friends. I couldn't eat at school. I couldn't eat at school at all. I found that really, really difficult.

You couldn't eat because you were at school? Or you couldn't eat because it was in front of your friends?

I couldn't eat in front of my friends. It wouldn't have mattered if I was at school or not. It's just in front of my friends.

Why? What would have happened?

It's sort of a shame thing. You just feel like you're eating more than they are, or they're watching you, or whatever. They're happy when they see you eat, and that makes you miserable. Like you're doing something wrong, something really bad. Now, they are going to be watching me. They're going to expect me to be really, really good with eating now, and I won't be. I might be better than before, but I won't be like they expect; they expect me to be like eating really good meals all the time and always good and never having bad days.

I'm interested in your choice of the word 'shame' when people see you eat. Could you expand on that?

Well. Before I just wanted to get healthy. To eat really, really healthy food. Salads and things like that. Then it came like that's all I could eat. Now, I feel guilty if people see me eat at all. But especially if it's not healthy food. Then I feel like they'll think I've failed. Like they're judging me. They used notice before how healthy I was. Now it's like I've

sort of given in. But I have to eat lots of really bad food now. That's just not me. But that's what they expect me to do. Some of my friends out of hospital eat healthy food. Now I won't be able to eat with them. Not at all. I'll be eating the most, and I'll be forced to eat unhealthy.

So that's going to be one of the difficult things to get through when you leave hospital.

Yes.

How successful do you think you'll be at that?

I don't know.

Participant 2

....Could you tell me about your experience since you've been in hospital? I'm particularly interested in your relationships and experiences with other people in hospital.

Thinking about how I am now since I've been in hospital, bigger than everyone else, makes me miserable. I think about it all the time. I'm bigger than all the other girls. I can't bear thinking about it, but I can't help it. I compare myself with everyone else constantly.

What does that mean to you?

It's like I shouldn't be here and I feel as if everybody is looking at me and saying that. When I first came here it was sort of good being told how sick I was – everyone was worried. Now no one thinks about me – not like they think about (name of a hospitalised peer). I know that's good, but it also makes me miserable. I know that's bad, but it's true. I want to go home, but that means I've gained heaps of weight. I'm the fattest. I just want to be like I was before.

Could you explain what you mean by being the fattest, and what do you mean by how you were before?

I'm much bigger than all the other girls. Every time I go into the meeting I'm told how much weight gained and how good that is. But it just means that I'm just getting bigger and bigger compared with everyone else. You know. Before, even though I never felt like I was slim, everyone used to say I was. Now that never happens and I feel terrible. I just want to be like that again but I know that means I'm not getting anywhere....I mean, I'm

just like I always was before I came into hospital. I want to be back there again. I mean, you know, I want to be super thin again

It seems that you spend quite a bit of time comparing yourself with everyone else in terms of your weight. Do you compare yourself in other ways?

Yes I do. But I worry more about whether I'm fatter or thinner than everyone else. That just matters to me the most. I can't help it. I know that's really bad, really shallow. But I can't be happy if I'm fat.

Is there any other aspect of your life that matters to you irrespective of your weight or what size you are?

I just can't be happy if I gain weight. I can't enjoy other things when I'm fat. It's like it's the most important thing for me. Nothing else matters as much as this. I know it's not really, but it feels like my most important thing...um... it's what I'm good at, the thing I've done the best. I can do this but I can't do other things. Well, I can do other things, but it's like they don't really count. Not so much anyway. I know that's shallow.

Irrespective of what happens in the rest of your life?

Yes. I've gained three kilos over the past two weeks. I look disgusting and I feel disgusting. I'm fat now. I don't want to live like this. I tell you right now, I'm not going to stay this way. I just can't be happy if I gain weight. I can't enjoy other things when I'm fat.

Before you used the word 'fat' to describe yourself in comparison to everyone else. Does bigger necessarily mean fat?

People tell me that I'm still thin. But they're saying that to make me feel better. I feel huge. Look at this (grabbing at stomach). I wasn't like that before I came to hospital. Besides, I know I've got fatter because people don't worry about me anymore. Not like they used to. They think they have to tell me I look better now. I hate it when they do that.

Why is that so bad?

Before they always talked about how underweight I was. Now they never do. They hardly ever talk like that anymore. If they don't mention my weight I feel like I must be really

fat. The other day we went out and no one even noticed me. I think they thought I was one of the nurses. Everyone stared at the other girls because they were so skinny.

So, what really affects you at your current weight is thinking that you are significantly bigger than all of the other girls, and nobody seems to be paying you any attention or even noticing you. Either that or they don't pay so much attention to your weight now.

Yes. I get really confused about what to think. Maybe they're thinking "My god, she's fat". But they're just too nice to say so. Or maybe I'm just seeing things the wrong way; I'm still skinny. I just see things wrong.

You say that you find yourself looking at that in two different ways, which causes a lot of uncertainty. One is that you'd think "I am the fattest, but they're too nice to say anything about how fat I am" or "I've got it wrong, I really am skinny. I just think that I'm fat" So you're in a dilemma about which way to go. How important is it for you to resolve that dilemma?

Mostly I feel that I am the fattest and that they're not saying anything.

However, before you said you were upset because you weren't noticed or because you thought you might be mistaken for one of the nurses, or at least not one of the patients.

They might be noticing me but not saying.

Is that a way of resolving the dilemma?

I don't think of it in that way. But I suppose it is.

I notice again that you immediately use the word 'fat', when being either heavier or bigger than someone else doesn't necessarily mean that you're fat.

It does to me.

So you're either thin or you're fat. There's nothing in between.

I'm fat now. I can only be happy when I'm thin. They make you gain weight really fast in here. I'd already gained some weight before I came into hospital. I was already fat then but I hadn't gained enough weight for them.

So you're either thin or fat?

Uh...I don't know....probably. I know that doesn't really make sense but it's the way I feel. I never felt like I should be in hospital. Now I definitely shouldn't be here.

So did you doubt being underweight even when you were admitted to hospital and you were told by doctors that you have AN?

I did doubt it then. I never really thought I was skinny and that I should be in hospital. Now, I definitely don't think I'm skinny. And then I ask why they would do this to me when I'm not skinny, and I just feel confused.

How do you mean?

Well, I don't see myself the way other people do. They tell me I'm skinny, but I don't think that. I don't really believe them.

What do you define as skinny? Maybe your definition differs from what other people call skinny.

So that people turn around skinny.

That sounds as if skinny depends more on what other people do than on some sort of objective criterion.

How do you mean?

Well, you know you're skinny if someone stares at you, not according to what you actually weigh or whether you're healthy.

I do consider those things. But I still felt healthy when I was skinny. I never felt sick or anything. And I never got sick. I feel worse now really. And I look much worse.

Do you think you would recognize or understand what people actually see or think? Especially given that people don't tend to say their thoughts out loud very often.

I used to feel good when people commented about how skinny I was, when they told me I need to gain weight. I want to be noticeable skinny, so people tell me that I'm skinny...I used to be that skinny and I just want to be like that again. I'd probably still have some doubt. But at the least I'd be more confident than I am now....People tell me that I'm still thin. But I think they're saying that to make me feel better. I feel huge. Besides, I know

I've got fatter because people don't worry about me anymore. Not like they used to. They think they have to tell me I look better now, how good I'm looking. I hate it when they do that because I think they mean I'm fat; that they really think that but they're just not saying it.

Do you think that you choose who or what you do or don't believe?

No. Not really. Well, it doesn't feel like it, anyway.

What is the most negative experience you could possibly imagine?

I only eat healthy food when I'm not here. I feel bad if I don't.....ah, I don't know.....just guilty. There's an obesity epidemic and we're always being told that that's what you should do. They force you to eat really unhealthy food here. You can't believe it's a hospital.....While I'm in hospital, having to eat more than everyone else would be the most negative experience I could possibly imagine. I have to eat less than everyone else.

Because?

I don't know. I just have to.

Participant 3

....How important is your weight?

I guess when I think about it being skinny matters to me more than anything else. My weight just shows that. I'm not really so good at anything else.....sport or anything. Nothing that really matters anyway. This is something that I stand out for and if some else was like, you know, I'm the one that has something that makes me slightly different.

Aren't you different anyway, because you are a different person to them, to everyone else?

I don't think I'm different. I don't feel like I'm very much really. Definitely not now. I want to be back to like I was before. I miss that and I want it again....um....like, a lot.

What do you mean when you say you say like you don't feel that you're very much?

Oh. Sort of like I don't count. Once I was home for a whole weekend and my parents thought that I was staying with a friend.

How did you know they thought that?

Because I heard my mother on the phone.

Saying that you were at a friend's place for the weekend?

Yes.

Maybe she just didn't think you should come to the phone at that time.

Maybe. But I don't think so.

When you got thin, did that make a difference to whether your mother noticed you?

That happened just before I came in to hospital. But I wasn't noticed in other places as well.... Then I was good at something. I felt like I stood out for something I was good at. Before, I felt like I was nothing...not really nothing. Just (inaudible).

What is the worst situation or social experience you could possibly imagine in hospital?

If someone saw me pigging out. I'd feel disgusting if someone saw me pigging out - eating heaps more than anyone else. I'd feel mega guilty. I'd feel like they were thinking "No wonder she's so fat compared with them. I'd hate my body and I'd really be disgusted with myself. I'd hate myself. I'd stop eating immediately. I'd have to lose weight.

So, the worst situation you can imagine is someone seeing you eating more than the others. That would make you feel worse about your body and worse about yourself, and you would immediately work a lot harder at eating less and losing weight. What is so terrible about that situation?

I don't know. I'd just feel disgusting and really guilty. I have to eat less than everyone else. If someone saw me eat more I'd be terrified in case they said something about it. If they really rubbed it in.

How do you mean rub it in?

Oh you know. Saying things about what a good appetite I've got. That's happened to me before but it never used to worry me so much. Now people look really happy when I eat, and that makes me want to stop. It's sort of like they're saying they were right and I was wrong. Like they've won. I didn't think like that before.

What if you knew they were wrong? If you could see that you had eaten less than everyone else and you knew that you weighed less than them. Would you doubt your own judgement?

Yes, probably. I'd feel that I had to do something just in case I was wrong and they were right.

What if you had objective evidence that they were wrong?

How do you mean?

Well, for example, if you knew everyone's weight, including your own, and you knew that you did not weigh more than anybody else? And it's easy to see what and how much is on your plate at meal time, and what is on everybody else's plates. So it's not difficult to know if you're eating more or less than other people.

I'd still have doubt. Why would they say something if it wasn't right? I'd still feel like I need to make sure. I have to eat less than everyone else and I have to be the thinnest. My weight only shows that.

So is it that you have changed - what you care about is different from before, or other people have changed in their attitude towards you?

Both. I always had a good appetite but it never worried me. It was only when I started worrying about my weight that I cared about eating. My mother used to make jokes about my appetite and how fat I would get. Now, she wants me to eat more and she's really pleased when she thinks that I have. But I can't eat when everyone watches me.

What do you think stops you from eating if someone's watching?

I just feel so angry with them. Then I can't eat.

Why would it be so terrible to be seen to have a good appetite?

It's like you're doing something bad. Like you shouldn't want too much food. If you eat more than anyone else, then you feel as if you're the greediest person in the world. You only feel ok if you eat the least.

So that you have the smallest appetite, which means you're not greedy?

Yes

In hospital you have very little control over how much you eat. All of you are given meals that the dietician plans.

But we all still try to eat the least, or at least not be the first one to be finished. I feel angry if someone lasts longer than me. I always make sure I finish last. We're friends but not really. I'm relieved if (the nurse) tells someone to speed up. That helps me out. As long as you keep moving you're ok. But if you stop, then you're in trouble. That's a trick I've learned but I don't let anyone else know.

What if you're just really hungry?

That's how I was. But I started getting flabby and I needed to improve.

Do you think that worrying about your body preceded the way you feel now about food and eating?

Definitely. For me, anyway, that's the way it was. Now I worry about my weight and how slim I am, and not getting fat, all the time whereas before I didn't worry about it all.

Do you worry about other things that much?

I do worry about other things, definitely. But worrying about my weight, whether I've gained weight, is with me all the time whereas worrying about other things changes. It's always at the back of my mind. I don't think that will ever go away now. And I compare myself with everyone else constantly.

Does that include when you're in hospital

We all know how much each other weighs. We compare ourselves all the time. You can't help it. But we still like each other. That's the best thing about being here, but.....That's

the worst thing about being here. Don't get me wrong. I like the other girls. We all get on really well. We support each other. But we also ... we all want to be the thinnest.

Do you discuss that with each other?

Don't need to. We all know. But we still like each other. That's the best thing about being here, but it's also the worst.

Could you explain that?

We all really get on with each other. We've swapped numbers so we can keep in touch later. But you still feel relieved when someone gains more than you. So we're friends, but not really. If you were a real friend you wouldn't feel so happy when something bad happens to your friend. I know deep down that I'm not very nice.

You've been told how much weight you need to gain before you can go home. How do you think you'll cope when you go home?

I'm hoping they'll let me out before I get to my goal. I've never weighed more than 50 kilos in my life. If I'm allowed to go at 48 I think I would cope- I know I would – but at 50 I won't cope at all. Do you think they'll let me go at 48?

I'm not in a position to say. But I doubt it. Everyone gets told a goal weight that's considered right for them.

I could stay at 48, but not at 50. Do you think that if I could show them that, then they'd let me go?

I'm not the person who can make that decision. You would need to discuss it with Dr...

Participant 4

(difficulty with sound)

Just so that I understand, you don't think that feelings about yourself are central to wanting to change or control your body. You have always felt fine about yourself as a person. The central concern is how you want your body to be, which is different from you as a person.

Yes. I have to have an ideal body, and I work towards that. I am more self-conscious when I'm not how I'd like to be.

How you'd like to be in appearance?

Yes. Knowing what I want, how I want my body to be, motivates me.

So you separate your body and your appearance from who you actually are.

Yes. But I know that they are also linked.

Could you expand on that? How do you think they're linked?

A woman wanting a particular kind of body is similar to a man wanting a particular kind of car. They both say something about what kind of person you are. It's like you have a particular kind of possession or achievement that other people don't have. It tells other people what kind of person you are. Then you feel good about yourself, about who you are.

You talk about your body, how looks saying something about what kind of person you are. Who is it saying that something to?

To yourself. It makes you feel good about yourself. And also to other people. It tells other people something about what kind of person you are.

Is anything else important, or as important, in terms of how you feel about yourself and how you are seen by other people?

Being academically successful is important to me, but it's not so obvious. It doesn't change how people see you. And I'd be self-conscious, which is a problem for me.

Self-conscious if you didn't look how you want to look?

I guess looking a certain way, having a certain body, does matter a lot. I work hard to achieve a certain look. If I didn't have it, then I'd feel like I had nothing. I want to go to university but I don't think I could be happy, satisfied, no matter how successful I was academically or any other way if I was overweight.

You want to look a certain way for your own sake, and also to appear a certain way to others?

Yes. Both. But it doesn't change the way you feel about yourself; it changes the way you feel about what either have or don't have. You're happy when you have it, and not happy when you don't have it. At the moment I don't have it and I want it back.

Does that have anything to do with being here? With being in hospital?

It has everything to do with being here. I used to have it and I miss it. I want it back.

So, you experience your body as a particular kind of object or possession that is linked to you, but which is not you. You work to get it.

Yes. But it doesn't change how you feel about yourself as a person. It just changes how you feel about your situation.

Could you explain what you mean by situation?

I'm not sure. Not as if you feel different about yourself as a person. I'm fine with who I am, with my personality. More like you have particular possession or achievement that other people don't have.

Just so that I understand; it's not about you a person, which you say is essentially your personality. It's about you getting something you want – something that makes you different from other people. From what you said before, if I understand you correctly, you see that almost as feminine version of a man working to buy an expensive car? Sort of as a status symbol?

Yes. Exactly.

Would you like to comment about how that works in hospital?

You still want to have what other people don't have. But now it's just girls.

How do you mean? Could you give me an example?

I think the most important experience for me is when you think you're doing, when you're the best in the room, and if someone comments negatively on someone else, you sort of feel a sense of satisfaction. That could make me feel bad about myself, but I'd still feel good.

What do you mean by best? And what would qualify as a negative comment about someone else?

Weighing less or being thinner than everyone else would classify as being the best when you're in hospital. We all know how much each other weighs. We compare ourselves all the time. You pretend you're upset when someone else is upset about how much weight they've gained, but secretly you're pleased. Especially if you've lost weight.

How could that, in particular, affect how you feel about yourself?

You want to be a good person but you know that you're not. That's happened to me a few times recently. You start doubting you're a good person, like you used to think you were, because I'm secretly pleased when someone else has a negative experience. It could mean I'm not really a nice person.

Is it important to be a nice person?

Yes. It is important. It is to me, anyway.

It's quite difficult to lose weight when you're in hospital, or at least when you're in hospital for an eating disorder. So you wouldn't have that experience terribly often.

Not lately. I do want to get better, and I wish I didn't feel the way I do. I want to go home so I've been really trying to eat and not worry about how much I weigh. My family are going overseas next month and I'm scared I'll still be in hospital and I won't be able to go. I try to ignore how much I weigh but I can't. It's become a part of my personality so thinking about weight, worrying whether I've gained, how much my appearance has changed, is always on my mind.

Do you think you could eventually be happy with yourself, with how you look, as you are now?

No. I can't imagine that happening. Either you have what you want and you're happy, or you don't and you're unhappy. Especially if you've had it and now it's gone. Then you want it back.

Do you think that wanting it back will change?

No

Does that affect the way you think about the future?

Yes. It does a bit. Ah...a lot actually. When you leave here you have to come and see them all the time. So you can't lose weight. I'm worried that I won't be able to stop eating.

Stop eating because you're not allowed to stop, or stop eating because you can't?

Well, some people get bulimia when they've had anorexia. I'm scared that's going to be me. Last weekend I ate a huge amount at home. I really couldn't stop. Now I want to go home but I'm too scared.

In case you can't stop eating?

Yes. I'm scared that's going to keep on happening. I'll get enormous and there'll be nothing I can do.

Have you ever had that fear before?

Never. I couldn't understand how someone could have that happening, but now I do.

Participant 5

Can you think of any situation since you've been in hospital that has been really critical for you in terms of how you feel and what you do?

Here I worry most about whether I'm fatter or thinner than everyone else. That just matters to me the most. I can't help it. I know that's really bad, really shallow. I used to weigh the least by far but now I don't. This is like my worst nightmare has come true. I can't be happy if I'm fat. I only feel skinny when I weigh the least.

So if you don't weigh the least that means you're fat?

Um. Yeah. I ...not really.....I'm not sure.

Have any experiences or events in hospital been particularly important for you?

When someone comments about my weight and someone else is complimented. That really gets to me. I know it's awful, but it makes me feel like I don't count. Like even when I've done my best at something, it never seems to be good enough.

What kind of comment about your weight?

Anything. I like people telling me how thin I am. Sort of like being reassured. But mostly, since I've been in hospital, people keep telling me how good I am looking. That upsets me because I think they mean I'm fat; that they really think that but they're just not saying it.

What would you classify as a compliment about someone else?

Anything really. Just how good they look. Their clothes, their body, anything.

Do you mean that someone else is getting something that you want or should be getting?

Yes. That kind of situation really gets to me.

Have you often had that kind of experience?

All the time.

Could you give me an example?

I'm never the one who gets noticed. It's not like I'm left out or awful things happen. It's just like, as if I'm not really there. Especially since I've been gaining weight. Then you just blend in.

Where does that happen? In hospital, or elsewhere?

At school mostly. I'm not left out or anything; I'm just like not popular.

You've recently experienced being in hospital. What has been the worst social experience you've had in hospital?

The worst social experience in hospital is when a new person comes in and she's really, really thin and a nurse or someone comments on her weight. When I first came here I was the thinnest - I didn't think that I was but now I do. Now I'm by far the fattest but they

keep telling me that I still have to gain more weight. But I'm already eating as much as I can - much more than anybody else.

You are quite tall. Do you think that makes a difference to how much you should weigh?

(Name) is tall but she doesn't have to weigh as much as me. I weigh over 52 kilos now. Dr (name) said my BMI has to be higher to go home. I can't accept that at all. I'm already fat but I'm being forced to gain more weight. I used to be the thinnest but now I'm the fattest.

52 kilos isn't much for your height.

Maybe not for other people but it's too heavy for me.

(Name) and you seem to get on quite well, even though you worry about being heavier than her.

Yes. We do. She's really pretty but she's still nice. I never expected someone so pretty to be nice as well. It's sort of like I hate her but I like her as well. Then I hate myself.

Why?

For feeling like about someone who's really nice.

If you were to walk out of here tomorrow, can you think of anything that would need to happen, or anything that would need to change, for you to completely stop having the difficulties you're having now?

I can't imagine being different from how I am now. I wasn't like this before. It's like being super thin is the most important thing in the world and being super fat is the worst thing that can possibly happen. Other people say that they don't think like that, but deep down I think that they really do. Everyone is being told nowadays that they should lose weight, and we have an obesity epidemic. Maybe I just worry more than other people, but your size is the first thing that people see.

If you could change anything at all, if you could change something about you, or something about the world, what would it be that could give you permission to go and forget this?

If people just didn't have strong opinions about anything.

Other people? Or everyone, including you?

Mostly other people. If people didn't made judgements, then I'd just relax.

Judgements about everything, or about some things in particular?

Oh, about everything. But especially about the way people look. I just wish that people didn't judge other people about their appearance. If everyone was blind.....

That seems to be a bit of a contradiction. You say that it causes you distress that you are never noticed, as if you were not there, but you also perceive that things would be better if everyone were blind.

If people didn't made judgements, especially about the way people look, then I'd just relax. I just wish that people didn't judge other people about their appearance. If everyone was blind, then everyone would be the same. No one would be noticed or not noticed, and no one would be better than anyone else. Being noticed wouldn't mean anything. It wouldn't even happen.

Oh. I see. Can you envisage any realistic situation or experience, now or in the future, that could help you to accept yourself at a healthy weight; that would make you stop wanting to lose weight?

You'd probably think that something could make you stop working. I could say lots of things would make the stop. But when the time comes you'd find a way around it.

Could you explain why?

You'd never feel confident. You'd want to make sure. You always try to get a bit of extra just in case something goes wrong.

What could go wrong?

Oh. I sort of worry all the time that maybe I'll eat and gain weight. Like one day I'll give in. I dream about that and sometimes and I wake up and I think it really has happened, like I've lost control. Or maybe I'll have to eat, and then I'll gain some weight but it won't be so bad.

Have you actually had an experience like that, of losing control?

No. But I worry it might happen.

Do you think you make a choice not to eat, or eat, or is it something that seems beyond your control.

In here you don't have any choice. In some ways that makes it easier. But before I came in I use to plan a treat, like an ice cream. But when the time came I'd always say I'd do it next time. I'd talk myself into saying I didn't need it just then. But deep down I'd wonder if I'd ever be able to eat an ice cream again.

Sounds almost like loss of control in reverse.

Yeah. I guess that what it is really.

Participant 6

(First section and some later parts of tape unclear and difficult to transcribe)

You say that you hate aspects of your body, and that you would feel a lot happier if you could change them. Could you explain that to me?

I feel self-conscious about my hips and thighs.

What is about them that makes you self-conscious?

They look out of proportion.

Do you think that other people notice that?

Probably not. But I feel as if they do. I worry about going out and people noticing them.

Now that I've been in hospital they're really huge and everyone will see them.

Has anyone ever said anything to you about them?

No. Never. But you don't know what people think. I notice other people and I judge what they look like, so they're probably the same.

People come in all shapes and sizes. How do you think other people cope with knowing that their body has faults and flaws, that they are far from perfect or ideal? They're just normal.

I want to be better than normal.

In what way do you want to be better than normal?

Physically. I've always been just ordinary. You don't have anything special if you're ordinary. If you're ordinary you're nothing.

So normal and ordinary are the same?

Physically they are.

You don't think you could be unique in other ways?

No. I'm good at losing weight. Other people aren't.

But there's nobody else like you. You're unique. Is that not enough?

It doesn't seem like enough. I don't get any attention.

What sort of attention would you like that you're not getting now? What would you like to have?

I'm not sure. But I don't feel that I'm anything special; not enough to be noticed anyway.

Are other people more noticed than you?

Yes.

What do they do that you don't do to get noticed?

I'm not sure. I think they don't need to do anything to be noticed, but I do.

What sort of notice are you talking about? How do you know when other people are being noticed?

Oh, other people always seem to be automatically more popular than me.

Has your weight loss resulted in increased popularity?

No.

Has it resulted in you getting attention?

Um, not really. Not in a way I want to be anyway.

But that doesn't help your recovery from anorexia?

I feel better about myself. I can feel proud of myself when I've lost weight.

Even though you're still the same person?

I like thin me better than fat me.

Could you explain that a bit?

I don't feel that I'm anything special, not enough to be noticed anyway. Other people get noticed more than me. I don't know why. I'm not sure. I think they don't need to do anything to be noticed, but I do. Other people always seem to be automatically more popular than me. The other day we went out and no one even noticed me. Everyone stared at the other girls because they were so skinny.

Were you fat before?

No. But I felt like I was. If you're fat you're no-one.

So it's being no-one versus being someone.

Um, yeah. For me anyway.

So does being someone mean that life is better – even though you still don't get the sort of attention you wanted?

Life was better. It can't be better like this. I don't want to gain more weight and I think it's wrong that we're forced to gain weight. I wasn't sick or anything. I never get sick. I want to get back to like I was before I came into hospital.

So the fact that you're being forced to gain weight, is that the worst aspect about being here?
What are the best and worst aspects of being here?

For me the worst is definitely if people talk about your weight. You just want them to stop. Especially if you've had a big gain. You know that's good. But you feel ashamed of yourself. As if; it's like you've done something wrong.

What about the best aspect, or aspects.

Weighing less or being thinner than everyone else would classify as being the best social experience when you're in hospital.

Could you talk a bit more about that experience?

Being with the others is a good thing about coming here. I really like that aspect, that's the best thing about being here, but it's also the worst. Sort of like it has two sides. You want to be the best but you feel like everyone's your friend. You like it when someone else gains weight and you don't, and you know that they feel really awful. You pretend you're upset when someone else is upset about how much weight they've gained, but secretly you're pleased; especially if you've lost weight. That makes you feel good, but you also feel bad.

Is that a common experience?

Well. We don't discuss it or anything. But it probably is.

You've highlighted some positive and negative aspects about having AN. Some of them are in hospital, but some of them aren't. Certainly feeling better about yourself is a positive. But it sounds as if some really negative things have come along as well. Being in hospital is definitely one of those. Would you like to say anything more about the positives or negatives?

(unclear) if I'm being honest my life is really hard now and I wish I could go back to where I didn't worry. I used to be able to eat anything – like so much – and it never worried me.

Have you tried to eat, maybe not 'so much' like you did before, but at least with a more relaxed attitude and enjoyment?

I can't even eat anything at all anymore. I tell myself I'll eat but when I do I just worry about how much weight I'll put on. People don't believe that I really want to eat, but it's like I don't have a choice any more. I always tell myself I'll do it next time and I promise my mother I will, but I never do. My mother thinks I'm lying. But I can't help it. Last weekend we had a huge fight and she brought me back (to hospital) early.

That must have been very distressing for you. I appreciate your honesty.

I just want to help someone else. I don't want anyone else to go through what I'm going through.

Participant 7

Sound unclear.

If you had to choose, which do you think is most important to you? Your shape or your weight?

I've only taken notice of my weight since I came into hospital. So I have to say my shape. Being thin makes me a bit different from everyone else. People notice your shape. You see that but you don't see weight.

Is it important to be noticed?

I suppose it is. That's probably why I work so hard. Otherwise I might be overlooked. It's a contradiction because I'm self-conscious but I still work to be different.

So being different is important. Is that an aspect of your eating disorder?

Probably. I'm very competitive – in everything. So this is probably the same.

You have demonstrated your competitiveness in other ways. You run every day, and you ran in the City to Surf just before coming in to hospital. It must be quite hard to suddenly be so inactive in comparison to before.

It was at first. But I'm getting used to it and I'm worried that I'll find it difficult to run so well after I leave. I'm starting to feel too heavy to run as fast as I was running before I came here.

Although you are actually a long way from actually being heavy.

Since I came here I've gained 5kgs and I haven't been allowed to exercise at all. I feel heavy. I'm huge. And I feel lazy, which I don't like at all. That's just not me. I'd never stop exercising by myself.

It sounds as if there is an element of relief in being made to stop running.

Yes. But now I feel as if I'm in another sort of race. Just changing the situation.

How do you mean?

It's like you're in a race. Before you come in to hospital you're just in training. But when you come in to hospital it's like you've reached the finals. Sort of like you're in the Olympics. Everyone wants to win and you put everything in to it. There's no way of avoiding it.

That's an interesting way of describing it. I've never heard being in hospital describe in that way before.

Finishing the City to Surf in my best time ever was by far easier than winning here. Winning here is like you're on the top of the mountain, like, Mount Everest or something...I think that's the highest mountain in the world.

Yes, I think it is. I'm not sure. I hope you're not thinking of taking up mountain climbing.

(Laugh). No. But I don't think I'm like everyone else here. I do eat. Sure, I'm really careful about what I eat. But I eat sort of weird. But I eat a lot and I really enjoy it. But I'm not like them. I'd hate to be like them. I never weighed myself or anything.

Is there any way in particular that you're not like them – apart from your running?

Look. I just eat weird. I know that. But I've never sort of been out of control like them. But I do understand how they feel. I'm just not the same. I'd never let myself be like that.

Like what?

Well. To be honest, I've never identified with AN. But I know that I don't eat the same as other people, that I eat weird.

I think that eating weird is an apt description.

But I do eat. I have been trying to change what I eat. I even started including bread in my lunch.

Do you think that will be sufficient change to make a difference?

No. Of course not, but it takes time. I want to work it up gradually.

Why not attempt to follow an eating plan from a dietician? There are dieticians around who you could see, who specialise in sport nutrition.

I tried that but I couldn't do it all at once. I'm the sort of person who just needs the guidelines. Then I'll work out a plan.

So why did you not do that?

They should have given me the chance to do it myself before deciding to put me in hospital. I tried but I couldn't do it fast enough for them. I was working on it but I couldn't do it fast enough. I did try, and I wanted to, but I just couldn't do it as fast as they wanted. But I think I'd be able to do it now if they gave me the chance. I think they should have given me the chance to do it myself before deciding to put me in hospital. Here all they care about is making us gain weight. But being fed like this doesn't help you to eat. I could eat if I was given the chance. When I leave here I'm going to work out a plan and I'm going to stick to it so that I won't have to come back. How much weight do you think I could lose without being put back in hospital?

That sounds pretty risky to me.

I'm going lose enough to be happy, but not enough to make me come back into hospital.