

**Taking a Closer Look at Adolescent Girls with Anorexia Nervosa: How different are
They to Non-Clinical Adolescent Girls in Terms of
Self-concept and Body Image?**

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Anorexia nervosa is a serious problem that affects a significant proportion of the world's adolescent population yet research in this area has predominantly focused on adult women. As such, the disorder remains poorly understood in this younger population. A plethora of research has been conducted in an attempt to identify the causes and risk factors of anorexia nervosa. This literature generally suggests that anorexia nervosa is associated with a low self-concept and distorted body image. However, much of this literature has taken an unidimensional approach to the study self-concept rather than a more in-depth and descriptive multi-dimensional model of the self-concept. This paper presents a proposal for a study that will firstly attempt to test the generalisability of the multidimensional model of the self-concept in an eating disordered population, and to investigate the various relationships between the specific dimensions of the self-concept and eating disorder symptomology. Second, the proposed study will attempt to investigate the actual and ideal body images of adolescent girls with and without a clinical diagnosis of anorexia nervosa.

Anorexia nervosa is a significant health problem that affects approximately 21 per 100,000 of the world's population per year (Fairburn & Harrison, 2003). With approximately 90 percent of sufferers being female (Chan & Ma, 2002; Gilbert, Shaw & Notar, 2000), the highest incidence of this eating disorder is in adolescents and young adults.

Anorexia Nervosa is classified as a psychiatric disorder (Casper, 1998). According to the Diagnostic and Statistical Manual of Mental Disorders IV (DSM-IV; American Psychiatric Association, 1994) the diagnostic criteria for anorexia nervosa includes an individual's inability and refusal to maintain a normal weight for their height and age, and has a body weight of less than eighty five percent of what is expected for them.

Characteristically, individuals with anorexia nervosa have an intense fear of gaining weight and being overweight despite the fact that they are underweight, and have significant body image distortion. Most often patients who are diagnosed with anorexia nervosa have a lack of insight into the disorder and the seriousness of their condition and in most cases are in denial of the condition (American Psychiatric Association, 1994). Amenorrhea usually caused by massive and rapid weight loss for girls that are pubertal is also a criterion for the diagnosis of anorexia nervosa.

There are two subtypes of anorexia nervosa. The first is classified as the restricting subtype, which includes the development of the eating disorder through dieting, fasting and excessive exercising, but does not include those individuals who have lost the weight primarily through bingeing and purging. The second type is the binge eating/purging subtype in which sufferers lose their weight primarily through excessive use of laxatives and/or diuretics or self-induced vomiting after binge eating.

Despite the specific criteria for the diagnosis of anorexia nervosa, there is still little consensus about the nature of the underlying psychopathology (Casper, 1998; Heesacker & Neimeyer, 1990).

Incidence, Prevalence and Outcome

Although many reports have indicated that anorexia nervosa exists mainly in western cultures, affecting mostly the white Caucasian population (Gilbert, 2000), recent figures have shown that there is an increase in the incidence of eating disorders in non-western cultures affecting people of various socio-economic and ethnic backgrounds (Robin et al, 1998). Jacobsen (1995) reported that although 0.5-1 percent of female adolescents are affected by the disorder, an additional five percent of adolescents also exhibit signs of the disorder. Prevalence estimates have increased over the last few decades with many estimates for anorexia nervosa in women falling between 0.5 and 3.7 percent (Deshmukh & Franco, 2003). The most common age of onset for anorexia nervosa is between 12 and 30 years of age (Gilbert, 2000).

Prognosis for individual's diagnosed with anorexia nervosa is very poor, with mortality rates reported to exceed any other psychiatric disorder (Gowers et al, 2000; Herzog et al, 1997). It was estimated that approximately fifty percent of younger patients are expected to make a full recovery (Gowers et al, 2000). Furthermore, follow up studies have shown that approximately 10 percent of anorexic patients still meet the diagnostic criteria for anorexia nervosa, or other eating disorders even after 21 years (Lowe et al, 2001).

Risk Factors

Researchers in fields such as medicine, psychology, public health, mental health, family therapy and feminist studies have attempted to identify many risk factors and causes of anorexia nervosa (Chan & Ma, 2002). Researchers have identified associations between eating disorders and poor body image, self-concept and self-esteem (Grogan, 1999; Lunner et al, 2000; Paxton, 1996; Polivy and Herman, 2002; Schwartz et al, 1999; Thompson et al, 1999). Though many studies have identified that these risk factors are associated with anorexia nervosa and other eating disorders, some authors (Karwautz et al, 2001) have suggested that anorexia nervosa is such a complex disorder, that the cause is a complex interplay between these intrinsic and extrinsic factors such as family and culture. The significance of these relationships, however, has not been extensively studied within the adolescent population in Australia; and thus, this research attempts to explore these risk factors and the complex interplay of relationships between eating disorder symptomology and these identified factors within a sample of Australian adolescent girls with anorexia nervosa.

The Self-Concept

Self-concept research is highly relevant to many important individual and societal problems. Branden (1994) attests to the significance of the self-concept/self-esteem construct and outcomes that are mediated by it, stating that:

“I cannot think of a single psychological problem from anxiety to depression, underachievement at school or work, to fear of intimacy, happiness or success, to alcohol or drug abuse, to spouse battering or child molestation, to co-dependency and sexual disorders, to passivity and chronic aimlessness, to suicide and crimes of violence- that is not traceable, at least in part, to the problem of deficient self-esteem” (p. xv).

Despite the physical manifestations of Anorexia Nervosa it is classified as a psychiatric problem, and as such, the construct of self-concept and research on the self-concept is essential to furthering our knowledge of this particular eating disorder.

Self-concept can be defined as cognitive evaluations that one has about themselves, their thoughts, beliefs and attitudes (Hattie, 1992) in relation to the world and the social interactions in which they are involved. Thus the self-concept is a system of either positive or negative self-evaluations and identifications that is thought to motivate and structure behaviour and aspirations.

In self-concept research there is an ongoing debate about the relative usefulness of unidimensional perspectives that emphasize a single, global domain of the self-concept (sometimes referred to as self-esteem, global self-concept and global self-worth) and multidimensional perspectives based on multiple, relatively distinct components of the self-concept. Researchers have demonstrated the importance of considering the multidimensional nature of the self-concept in educational settings (Marsh, 1990b, 1993a; Marsh & Craven, 1997). Traditionally, research, particularly in the mental health sector, has adopted this unidimensional view of the self-concept, typically referring to the self-concept as a single score using terms like self-esteem, global self-worth, overall and total self-concept (Marsh & Parada, under review) raising questions about the usefulness and relative descriptiveness of these research findings.

Self-concept research has been a major focus in eating disorders research, with researchers suggesting that low self-esteem is associated with the onset of eating disorders, and anorexia nervosa (Button et al, 1996; George, 1996; Hughes and Barry, 1999; Nelson, Hughes, Katz & Searight, 1999; Polivy and Herman, 2002; White, 2000). However, much of the research has adopted a unidimensional approach to the self-concept and has neglected to identify the self-concept as a predictive factor. The benefits of adopting a multidimensional approach to the self-concept particularly in eating disorders research are obvious. As Marsh and Craven (1997) state

“if the role of self-concept research is to better understand the complexity of self in different contexts, to predict a wide variety of behaviours, to provide outcome measures for diverse interventions, and to relate self-concept to other constructs, then the specific domains of the self-concept are more useful than a general domain” (p. 191).

More specifically, if in fact a low self-concept is a central characteristic of the development of anorexia nervosa, it may be more beneficial for treatment and recovery for clinicians to be able to identify which domains the deficits in self-concept lie rather than assessing the overall self-concept where the deficits in a particular dimension of the self-concept may be masked by high self-concepts in other areas.

Thus, it is proposed that adopting a multidimensional model of the self-concept that has been well established and accepted in other major disciplines of psychology, we may be able to better understand the relationship between eating disorders and self-concept and the impact of self-concept on eating disorders. By investigating the specific scales and the specific relationships, we may be able to determine where distortions or deficits within the self-concept of girls with anorexia nervosa lie, and be able to apply this knowledge to assist recovery. Conversely, we may be able to identify areas of strength within the self-concept of girls with anorexia nervosa, and thus use this knowledge to enhance treatment methods.

Body Image

There is an increasing trend in contemporary society to place emphasis on physical attractiveness, with many believing that success can be attributed to slimness and attractiveness (Ha, 2002; Thompson et al., 1999). Adolescents, in particular, place considerable emphasis on their physical appearance and attractiveness (Wolf, 1994). In the last three decades, the shape of the ideal body that has been portrayed to society has become progressively thinner, whereas the average person today is larger than that of three decades ago (Stevens & Tiggemann, 1998). A longstanding argument in eating disorder research is that body image disturbance is primarily due to the increased emphasis that the media and society place on physical attractiveness and slenderness as a key feature of femininity (Haworth-Hoepfner, 2000). Bruch (1962) was one of the first authors to suggest that body image disturbance was a core component of anorexia nervosa. Since then, many empirical investigations into the relationship between body image and eating disorders have been conducted (Haworth-Hoepfner, 2000; Thompson et al, 1999).

Despite much research citing body image distortion as a diagnostic criterion and a core component of eating disorders and anorexia nervosa (White, 2000; Polivy and Herman, 2002), there is little consensus in empirical results as to whether anorexic patients actually have a distorted view of their bodies compared to similar populations without anorexia nervosa (Beaumont, Russell and Touz, 1995) or whether they have unrealistic expectations as to what they should look like and what is actually attractive.

In support of the assertion that eating disordered individuals have a distorted body image, studies by Jansen (2001) and Bemporad et al, 1992 found that in comparison to normal controls, eating disordered women rated their bodies as much less attractive despite being of similar and comparative weight. Other researchers have also supported this, suggesting that body dissatisfaction is the best predictor of dieting behaviour and disordered eating patterns which could lead to the development of an eating disorder (Lunner et al, 2000; Thompson et al, 1999).

Probst et al (1998) however, contradicted this and showed that the majority of restricting anorexic patients did not have a distorted perception of their bodies. They seemed to know what they looked like, but did not want to change the way that they look, despite being underweight and emaciated. Ten percent of their anorexic participants even underestimated the size and shape of their bodies, thinking that they were thinner than they were.

This begs the question: what then is body dissatisfaction and when does dissatisfaction become synonymous with body image disturbance? One possible explanation is that body dissatisfaction can be defined as the discrepancy between an individual's actual and ideal body image. Is it then possible that individuals diagnosed with eating disorders have distorted perceptions about their actual body image and also have unrealistic ideal body images? Is the discrepancy between the actual and ideal body image larger for adolescents with anorexia nervosa as compared to those without an eating disorder?

Consistent with a multidimensional model of the self-concept, some researchers have suggested that the self-image is not only influenced by an individual's actual self-image (what they are) but also their ideal self-image (what they want to be) (see Marsh & Roche, 1996). It is thought that it is this discrepancy between these two constructs that influences body dissatisfaction. Based on the notion that all individual's self-concepts are constructed by appraising the self-perceived strengths and weaknesses, the cognitive discrepancy models of

the self-concept suggest that global self-esteem is a function of both actual accomplishments and ideal accomplishments (the standards that one sets for oneself). Although support for this model is not generally strong, Marsh (1999) provided empirical support for a similar theoretical model based on self-perceptions of actual body image and ideal body image in an adolescent population. Results showed that within this population, although actual body image had a positive effect on the self-concept, ideal body image had a negative effect, and that the ideal body image contributes to self-esteem above and beyond the actual self-image.

Adopting this theoretical model has obvious benefits for the understanding of the relationship between body image and eating disorders. More specifically, a model such as this one may allow us to investigate the relationship between the ideal and actual body images of girls with anorexia nervosa and how these constructs may impact on self-concept and eating disorder symptomology. This research would inevitably affect and direct future research and treatment programs for adolescent girls with anorexia nervosa.

Despite the significant incidence of anorexia nervosa in the general population, the disorder remains poorly understood amongst young adolescent girls. Despite the plethora of research, a conclusive view on the relationships between self-concept, body image and the severity of eating disorder symptomology still remains a conundrum. The proposed study thus aims to address this issue by attempting to identify relationships between two significant, identified risk factors, specifically self-concept and body image, and the severity of eating disorder symptomology in an Australian adolescent population with a clinical diagnosis of anorexia nervosa. A parallel investigation will be conducted with a non-clinical adolescent population to identify categorically the extent to which particular relationships are characteristic of the clinical population.

Research Aims and Hypotheses

Study One

The first of this series of studies will investigate the multidimensional model of the self-concept within both a clinical sample of adolescent girls with anorexia nervosa and a non-clinical sample of adolescent schoolgirls. It is proposed that by examining the different dimensions of the self-concept of girls with anorexia nervosa, diagnosis and treatment can be improved and be more individualized, focusing on the deficits in particular areas of the self-concept rather than the general self-concept.

As mental health research has taken a less descriptive unidimensional approach in investigating the self-concept, it has been difficult to determine whether there are in fact deficits in various dimensions of the self-concept, and if there are, where in fact these deficits exist. And thus, it is hypothesized that the multidimensional model of the self-concept can be applied to a clinical sample. To test this hypothesis, a factor analysis on the responses on the self-concept instrument: the Self Description Questionnaire-2 short (Marsh, 1992) will be performed, and the factors that are determined from the clinical sample will be compared to the factors obtained from a non-clinical adolescent sample. It is predicted that the multidimensional model of the self-concept can be applied to a clinical sample, and thus the factors obtained will be similar. It is hypothesized that there will be differences between clinical and non-clinical adolescent samples in the multiple dimensions of the self-concept. Following this, it is proposed that if there are differences in the self-concept between the two adolescent samples, and that these differences will exist above and beyond the effects of the general self-concept.

With specific reference to the sample of adolescents diagnosed with anorexia nervosa, this study will also aim to determine how the multiple dimensions of the self-concept are related to the severity of eating disorder symptomology (as measured by Body mass index [BMI] and various scales from the Eating Disorders Inventory 2 [a screening tool, which is described later in the paper]). Subsequently, do these relationships also exist in the non-clinical adolescent sample? Finally, this research will attempt to determine what similarities and differences exist in the relationship patterns of the specific dimensions of self-concept and the severity of eating disorder symptomology between the two adolescent samples.

Study Two

Previous research by Marsh (1999) differentiated between actual and ideal body images, and found that although actual body image had a positive effect on the self-concept, ideal body image had a negative impact on the self-concept. It was also found that ideal body image contributed to the general self-concept above and beyond the effects of the actual body image of participants; and thus the second of these studies will test the generalisability of this self-discrepancy model of the self-concept within a clinical sample of adolescent girls with anorexia nervosa. If indeed this model can be generalized and applied to this particular clinical sample, one in which body image distortion is central to the disorder with which they have been diagnosed, the results may have very important implications as to whether treatment should address both actual and ideal body images rather than patients' perceptions of their actual body image alone.

Much literature suggests that girls with anorexia do indeed have a distorted body image, and thus it is thought that the clinical anorexic sample will have greater actual body image distortion in comparison to a non-clinical adolescent sample. Little research has however investigated whether the distortions of body image actually extend to the ideal body image, and hence would the anorexic population also have distorted perceptions of what they would like look like, in comparison to a non-clinical high school sample?

It is predicted that anorexic girls will have a thinner ideal body image than the non-clinical sample, and that the ideal body image will affect global self-concept for both groups of girls. If indeed it is found that ideal body image is related to global self-concept for both adolescent samples, will it be the case that the effect of the ideal body image has on the global self-concept will be larger within the clinical sample of adolescent girls?

Based on the initial research conducted by Marsh (1999), it is hypothesized that the actual-ideal discrepancy will also affect self-concept above and beyond actual body image alone. And finally, this research will attempt to establish whether the actual and ideal discrepancy will be greater for girls with anorexia nervosa.

Study Three

This study will investigate the predictive value of the initial self-concept (both global and specific dimensions of the self-concept) on outcome (as measured by change in body mass) over a 12-month period, and will also attempt to determine whether therapy (type and quantity) has a moderating effect on outcome.

More specifically, we will attempt to establish whether family therapy, individual therapy, inpatient and outpatient care, the time elapsed since first diagnosis, and tube feeding has any interaction effect between self-concept and outcome.

Proposed Methodology

Adolescent girls with anorexia nervosa will be asked to complete a battery of questionnaires at one or more of their clinical assessment visits regardless of the duration of their illness.

A school sample will also be recruited for this study to allow us to establish whether there are any differences between a non-clinical adolescent population and a clinically diagnosed anorexic population in terms of self-concept.

Participants

The proposed sample population will comprise approximately 75 adolescent girls aged between 12 and 18 years, who provide informed consent and receive a medical diagnosis of anorexia nervosa, and their parents. The control group will consist of adolescent students from a private all girls' school in Sydney.

Procedure

All eligible anorexic girls, who will be given an information package containing an information sheet describing the study and its aims, a consent form, and will be invited to participate in the study. Once informed consent is obtained, girls will be asked to complete a questionnaire battery including a demographics questionnaire, the Self Description Questionnaire-2 short (SDQ-2 short) (Marsh, 1992), the Eating Disorder Inventory-2 (EDI-2) (Garner, 1991), and a silhouette-matching task (Marsh, 1999).

Testing sessions will be arranged with schools for girls in the control group. These girls will be asked to complete a test battery including the Eating Disorders Inventory, the Self-description questionnaire, and the silhouette-matching task.

Data Collection

Anorexic participants' medical records will be accessed to obtain measures of weight and height and the change in height and weight over time. This data will be used in conjunction with data from the Eating Disorder Inventory to provide a measure of eating disorder symptomology and severity. The changes in this data will be used to indicate outcome, that is, improvement will be indicated by positive change (a movement towards a healthy body mass index: weight/height squared and healthy eating attitudes); no change would be non-improvement, and poor outcome will be indicated by a negative shift in these measures. Girls from the control group will also be asked to provide details of their height and weight (so that body mass indexes can be calculated) as an outcome measure.

Treatment details for the clinical sample will also be obtained from medical records to allow us to investigate the impact of treatment on the relationship between self-concept and outcome. This will include the details such as whether girls are receiving family or individual family, whether they are inpatients or outpatients, and whether they have had prior admissions into hospital or other treatment programs.

Eating Disorder Inventory-2

All consenting participants will be invited to complete the questionnaire Eating Disorder Inventory-2 (Garner, 1991). Data from this questionnaire will be used to indicate severity and symptomology. This scale is a self-report questionnaire that assesses the presence and the severity of eating disorder symptoms. It is one of the most commonly used questionnaires in eating disorder research, being a comprehensive and concise diagnostic and screening tool. It

consists of 91 items, with scales including drive for thinness, bulimia, body dissatisfaction, ineffectiveness, perfectionism and interpersonal distrust.

Use of this tool will allow us to distinguish different sample populations within both the clinical and the control groups. For example, girls that are at risk of eating disorders in the control group and girls that are not at risk, and also levels of severity within the clinical sample.

Self-Description Questionnaire (Short)-2

The SDQ 2 (Short) (Marsh, 1992) is a self-concept measure that is specifically designed to measure the multiple dimensions of the self-concept for adolescents in grades 7 through to 12. It measures 7 non academic dimensions of the self concept including physical ability, physical appearance, same sex peer relations, opposite sex peer relations, parent relationships, emotional stability and honesty/trustworthiness, 3 academic dimensions including reading mathematics and general school ability, and a scale for the global self-concept. The short version of the self-description questionnaire has 51 items and employs a 6-point Likert scale. Respondents are asked to indicate false, mostly false, more false than true, more true than false, mostly true or true in response to various statements. The psychometric properties for both versions of the Self-description questionnaire are strong (Byrne, 1996).

All consenting participants will be invited to complete this questionnaire. Self-concept data will be used first to test the generalisability of the multidimensional self-concept to a clinical population; second, to compare the clinical and non-clinical sample groups in terms of differences in specific dimensions of the self-concept, and third to investigate the change in the relationship between self-concept and eating disorder symptomology over time.

Silhouette Matching Task (Marsh & Roche, 1996)

All consenting adolescent participants will also be invited to complete this questionnaire. This questionnaire explores perceptions about the girl's body shape using a set of 12 silhouette figures that range from very thin to very obese. Participants respond to certain questions using the numbered silhouette figures. Ratings for actual silhouette matching has been found to be well correlated with objective measures of body composition, with correlations ranging from 0.57-0.65.

Data from this questionnaire will be used to test the self-concept discrepancy model. Data from the control group will also be compared to those obtained from the clinical sample, to establish whether in fact the clinical sample do have distorted body images as compared to 'normal' girls that are their age, height and weight.

Data Analysis

Varying statistical analyses will be employed in this project depending on the hypotheses being tested. When comparing differences between normal controls and the clinical samples, ANOVAs will be performed. To test the generalisability of the multidimensional model of the self-concept and the self-discrepancy model of the self-concept, factor analysis techniques will be employed to determine whether the control sample and the clinical samples generate similar factors. Patterns of relationships will be investigated through correlational methods.

Findings and Significance of the Study

Anorexia nervosa is the fastest growing chronic illness amongst adolescent girls across a range of ethnic and socio-economic groups (King, 1989; Dolan et al., 1990; Martin et al., 1999). As the incidence of anorexia continues to escalate, health care professionals differ in their perceptions of how to address this problem (Fallon, 1994). In Australia, efforts to develop strategic and effective prevention and treatment programs have been limited by the reliance on data obtained from other countries (See Robinson, 2000). This project attempts to redress previous research limitations by analysing the complex relationships between anorexia nervosa, body image and multiple dimensions of the self-concept. Results will be used to inform clinical diagnosis, treatment and quality assurance, and will inevitably affect clinical assessment and treatment for adolescent girls with anorexia nervosa, by providing new and more descriptive information about the self-concepts and body images of adolescent girls with anorexia nervosa and how they compare to non-clinical schoolgirls.

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