

SELF-EFFICACY AND SELF-ESTEEM IN A GROUP OF ADOLESCENTS WITH ANOREXIA NERVOSA

by

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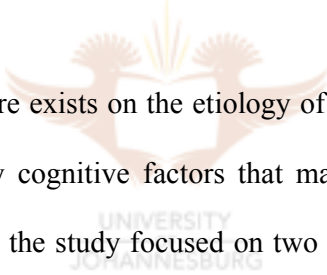
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SUMMARY

Anorexia nervosa is an eating disorder characterised by an intense fear of gaining weight, a refusal to maintain a minimally normal body weight and a significant disturbance in the perception of the shape or size of his or her body (American Psychiatric Association, 2000). Anorexia nervosa typically begins in mid-to-late adolescence (age 14-18 years). Follow-up studies show that only 10% of those with anorexia nervosa fully recover. While almost half may show partial recovery, many continue to be seriously impaired by depression, social phobias or recurrent symptoms (Herzog et al., 1993). Early onset (before 16) may be associated with a less negative prognosis, although a far from favourable one (Theander, 1996).



Considerable clinical literature exists on the etiology of anorexia nervosa, but for the purpose of the current study cognitive factors that may relate to anorexia nervosa were examined. Specifically, the study focused on two self-evaluations: self-efficacy and self-esteem. Generalized self-efficacy can be defined as a global confidence in one's coping ability across a wide range of demanding or novel situations (Schwarzer, 1993). Self-esteem is defined as the evaluation that the individual makes and customarily maintains with regard to himself/ herself (Rosenberg, 1965).

To ascertain levels of self-efficacy and self-esteem, the Generalized Self-Efficacy Scale (GSE) (Schwarzer & Jerusalem, 1993) and Rosenberg Self-Esteem Scale (RSE) (Rosenberg, 1965) were administered in an experimental group of white adolescent girls diagnosed with anorexia nervosa (n=24) as well as a control group (n=24). An ex-post-facto experimental control group correlational design was implemented, and

two-tailed t-tests conducted to determine the significance of differences regarding levels of self-efficacy and self-esteem between the two groups.

The results indicated that there was no significant difference between the experimental group and control group with regard to their levels of self-efficacy. However, the experimental group exhibited lower levels of self-esteem in comparison to the control group.

These results indicate that generalized self-efficacy, as a cognitive self-evaluation on its own, does not distinguish between adolescent girls with anorexia nervosa and a control group, and that domain-specific self-efficacy should also be considered in future research. The results further confirmed that girls diagnosed with anorexia nervosa exhibit lower levels of self-esteem as suggested in previous research (e.g. Wilksch & Wade, 2004).



With regard to future research, larger groups are needed to elaborate on the current findings. Furthermore, additional research investigating the role of other aspects of self-esteem such as outer self-esteem and inner or trait self-esteem, as well as other aspects of self-efficacy such as domain specific self-efficacy, could contribute to the current findings.

OPSOMMING

Anoreksia nervosa is 'n eetversteuring wat gekenmerk word deur 'n oorweldigende vrees vir gewigstoename, die weiering om 'n normale liggaamsgewig te handhaaf en versteurings in die persepsie van liggaamsvorm en grootte (American Psychiatric Association, 2000). Anoreksia nervosa neem tipies aanvang in middel tot laat adolesensie (14-18 jaar). Opvolg studies wys daarop dat slegs 10 persent van persone met anoreksia ten volle herstel. Alhoewel meer as die helfte van gevalle gedeeltelike herstel toon, word talle steeds geteister deur depressie, sosiale fobie en terugkerende simptome (Herzog, et al., 1993). Vroë ontwikkeling (voor die ouderdom van 16) van Anoreksia, kan geassosieër word met 'n minder negatiewe prognose, alhoewel dit nie idiaal is nie (Theander, 1996).



'n Aansienlike hoeveelheid kliniese literatuur, met betrekking tot die etiologie van anoreksia bestaan, maar vir die doel van hierdie studie is 'n fokus op kognitiewe aspekte geplaas. Hierdie studie het spesifiek gefokus op twee self-evaluasies, naamlik self-doeltreffendheid en selfbeeld. Veralgemeende self-doeltreffendheid kan beskryf word as die globale selfvertroue in die individu se hanteringsvermoë tydens 'n verskeidenheid veeleisende en normale situasies (Schwarzer, 1993). Selfbeeld word gedefinieer as die evaluasie van die individu, wat dan verband hou met die beeld wat hy/sy van hulself het (Rosenberg, 1965).

Om die vlakke van self-doeltreffendheid en selfbeeld te bepaal, is daar gebruik gemaak van die Generalized Self-Efficacy Scale (GSE) (Schwarzer & Jerusalem, 1993) en die Rosenberg Self-Esteem Scale (RSE) (Rosenberg, 1965), wat

geadministreer is binne 'n eksperimentele groep blanke adolessente meisies wat gediagnoseer is met anoreksia nervosa (n=24), sowel as binne 'n kontrole groep (n=24). 'n Ex-post-facto eksperimentele kontrole groep korrelasie ontwerp is gebruik, en twee meetinstrumente is toegepas om sodoende te bepaal of daar 'n merkbare verskil in die vlakke van self-doeltreffendheid en selfbeeld tussen die twee groepe is.

Die resultate van die studie het getoon dat daar geen betekenisvolle verskille in self-doeltreffendheid tussen die groepe bestaan nie. Daar was egter 'n verskil in die vlakke van selfbeeld binne die eksperimentele groep gevind in vergelyking met die van die kontrole groep.

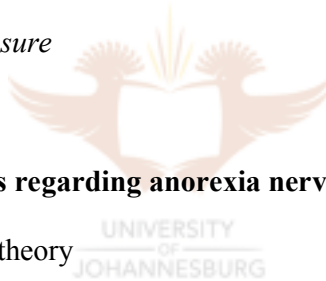
Die resultate toon dat veralgemeende self-doeltreffendheid, as 'n kognitiewe self-evaluasie nie onderskei tussen adolessente meisies wat anoreksia nervosa het, en die kontrole groep nie. Moontlik sou domein spesifieke self-doeltreffendheid oorweeg kon word in toekomstige navorsing. Die resultate wys verder ook dat adolessente meisies laer vlakke van selfbeeld toon, soos aangedui deur vorige navorsing (bv. Wilksch & Wade, 2004).

Vir die doel van verdere navorsing, sal dit nodig wees om groter groepe te gebruik, om sodoende die huidige bevindinge uit te brei. Verder, adisionele navorsing wat alternatiewe aspekte van selfbeeld aanspreek, soos innerlike en uiterlike selfbeeld of kenmerk-selfbeeld, sowel as domein spesifieke self-doeltreffendheid, kan ook 'n bydrae lewer tot hierdie bevindinge.

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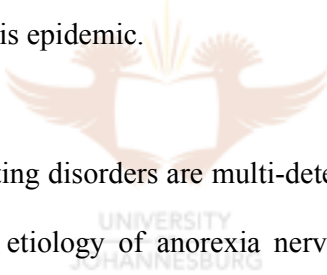
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CHAPTER 1 INTRODUCTION, PROBLEM STATEMENT AND AIMS

1.1. Introduction and problem statement

There has been a significant increase in the incidence of eating disorders in the past twenty years. Nattiv and Lynch (1994) estimated that 1-3% of the general Western female population meet formal criteria for disordered eating, with higher prevalence among adolescent and young adult women. The prevalence of anorexia nervosa, in particular, has been reported at 1-4% and bulimia at 18-20% of school aged females (Anstine & Grinenko, 2000). The substantial increase in the incidence of eating disorders requires more attention and a greater understanding of the etiology and maintaining factors behind this epidemic.



It has been suggested that eating disorders are multi-determined (Johnson, Connors & Tobin, 1987). Although the etiology of anorexia nervosa is vast and complicated, various researchers have attempted to grasp an understanding of the disorder. Recent research evidence pertaining to eating disorders attempts to explore the role of particular putative causal factors linking socio-cultural factors (e.g. media and peer influence), family factors (e.g. enmeshment and criticism), negative affect, low self-esteem and body dissatisfaction. Also reviewed were cognitive (e.g. catastrophizing and personalising) and biological aspects of eating disorders (Polivy & Herman, 2002). For the purpose of this research, the cognitive factors that may contribute to anorexia nervosa is of primary interest.

From the literature investigated, it seems that cognitive factors, such as obsessive thoughts, inaccurate judgements, over-generalising and rigid thinking patterns, may contribute to eating disorders (Polivy & Herman, 2002). For example, previous studies have attempted to explain anorexia nervosa, as far as cognitive factors are concerned, more in the context of negative cognitions (Vitousek & Hollon, 1990). In light of the above, it is possible that an anorexic patient's cognitive self-evaluation may be influenced by, for example, inaccurate judgements. In this study, two specific self-evaluations – i.e. self-efficacy and self-esteem – will be explored in more detail.

The concept of perceived self-efficacy was first described by Bandura (1977). Perceived self-efficacy corresponds to the individual's conviction of being able to master specific activities, situations or aspects of his or her own psychological and social functioning (Bandura, 1997a). Later, Schwarzer (1992) developed the concept of generalized self-efficacy, which is a more global concept of self-efficacy and reflects an optimistic self-belief. Schwarzer (1992) regards generalized self-efficacy as one of the personal resource factors that counterbalance taxing environmental demands in the stress appraisal process. It is therefore possible that a lack of generalized self-efficacy could contribute to anorexia nervosa. Little scientific knowledge exists regarding the levels of generalized self-efficacy in anorexic patients although domain-specific self-efficacy has been examined in other studies (Lugli-Rivero & Vivas, 2001; Strong & Huon, 1998).

In addition, it appears that many anorexic patients exhibit a low level of self-esteem, lack self-assurance and feel inadequate despite a high level of intelligence and a history of academic success (Frude, 1998). Self-esteem is defined as the evaluation

that the individual makes and customarily maintains with regard to herself; it expresses an attitude of approval or disapproval, and indicates the extent to which the individual believes herself to be capable, significant, successful, and worthy (Coopersmith, 1981). Previous findings confirm that dieting disordered patients do have low self-esteem (Griffiths et al., 1999). Research has also indicated that patients with anorexia nervosa exhibit lower self-esteem or a more negative self-concept than healthy control groups (Jacobi, Paul, Zwaan, Nutzinger & Dahme, 2002). In addition, Wilksch and Wade (2004) reported that women with anorexia nervosa had significantly higher shape and weight concerns and lower self-esteem than restrained eaters. Bas, Asci, Karabudak and Kiziltan (2004) confirmed that participants who had disturbed eating attitudes had lower self-esteem than those who had normal eating attitudes. Finally, a recent study by Granillo, Jones- Rodriguez and Carvajal (2005), found that low self-esteem is correlated with eating disorder symptoms in American Latino adolescents. Although various studies elsewhere have explored the nature of self-esteem of patients with anorexia nervosa, no study has been replicated with a South-African adolescent population.

Since limited literature exists regarding the relationship between anorexia nervosa and self-efficacy, and since self-esteem has not been investigated in a South-African female adolescent population diagnosed with anorexia nervosa, the current study will attempt to contribute to scientific knowledge in this regard, by exploring these two cognitive factors.

As anorexia nervosa usually develops in adolescence, the current study will attempt to explore the relationship between these cognitive factors and anorexia nervosa in this

specific development period. Knowledge regarding self-efficacy and self-esteem among South-African female adolescents with anorexia nervosa could contribute to therapeutic interventions aimed at treating this disorder.

1.2. Aims

In view of the aforementioned, the aims of this study are:

1. To explore and explicate relevant literature on anorexia nervosa, namely: the definition, developmental course, prevalence, associated characteristics, etiology and psychological theories.
2. To explore and explicate two cognitive self-evaluations, namely: self-efficacy and self-esteem.
3. To evaluate the extent of self-efficacy and self-esteem in a group of adolescence with anorexia nervosa.



1.3. Basic hypothesis

The basic hypothesis of this study is that female adolescents who have been diagnosed with anorexia nervosa exhibit lower levels of self-efficacy and lower levels of self-esteem in comparison to a control group.

1.4. Overview and scope of the current study

It has been argued that anorexia nervosa is a complex disorder with a multi-determined etiology. The current study focuses on cognitive factors related to anorexia nervosa - specifically, self-efficacy and self-esteem, which have not been investigated in a South- African adolescent population. The aim and hypothesis of the study have been presented and its possible scientific contribution has been indicated. In Chapter 2, anorexia nervosa, self-efficacy and self-esteem will be explored and explicated in detail. In Chapter 3, the empirical study will be outlined. In Chapter 4, the data will be presented and interpreted. Final conclusions will be given in Chapter 5, against the background of existing literature.



CHAPTER 2 ANOREXIA NERVOSA, SELF-EFFICACY AND SELF-ESTEEM

2.1. ANOREXIA NERVOSA

2.1.1. Introduction

In South Africa, as elsewhere in the world, many young girls are being affected by eating disorders. Statistics indicate that the illness affects at least one woman aged 13-25 in every thousand, reaching a peak incidence of one in 200 among adolescent girls aged 14-18 (Abraham & Llewellyn-Jones, 2001). Researchers have attempted to understand anorexia nervosa by focusing on aspects such as biological factors (Fedoroff, Stoner, Andersen, Doty & Rolls, 1995; Herzog & Beresin, 1991; Pinel, Assanand & Lehman, 2000), intrapersonal factors (Cash & Pruzinsky, 2004; Casper, Hedeker & McClough, 1992; Cash & Szymanski, 1995; Foreyt & Mikhail, 1997; Hsu & Crisp, 1980; Muth & Cash, 1997; Scott & Baroffio, 1986; Strober, 1980; Sunday, Halmi & Einhorn, 1995; Swarr & Richards, 1996; Vitousek & Hollon, 1990) and interpersonal factors (Garfinkel & Garner, 1982; Levine, Smolak & Hayden, 1994; Minuchin et al., 1975; Strober & Humphrey, 1987; Thompson & Rey, 1995). Thus, it is clear that eating disorders are an area of concern that warrants investigation. The current study will explore the role of two cognitive self-evaluation factors - i.e. that of self-efficacy and self-esteem in anorexia nervosa.

The first chapter aims at providing an overview of anorexia nervosa. This will be achieved by defining anorexia nervosa, then exploring the developmental course of

the disorder as well as prevalence and associated characteristics. Although the etiology of anorexia nervosa is vast and complicated, the researcher will give a brief explication of the biological, intrapersonal and interpersonal perspectives on anorexia nervosa. This chapter will conclude with the psychological theories related to anorexia nervosa. The psychodynamic theory and family-systems theory will be discussed briefly whereas the cognitive-behavioural theory will be discussed in more detail.

2.1.2. Definition of anorexia nervosa

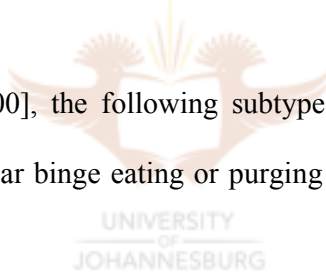
In terms of the *DSM-IV-TR* [APA, 2000], very strict criteria need to be met for eating attitudes and behaviour to be classified as 'disordered'. Two broad categories of eating disorders can be distinguished: bulimia nervosa and anorexia nervosa. Bulimia nervosa is characterised by repeated episodes of binge eating followed by inappropriate compensatory behaviours such as self-induced vomiting; misuse of laxatives, diuretics, or other medications; fasting; or excessive exercise. This eating disorder will not be explored in the current study.

The essential features of anorexia nervosa are that the individual refuses to maintain a minimally normal body weight, is intensely afraid of gaining weight, and exhibits a significant disturbance in the perception of the shape or size of his or her body [APA, 2000].

The diagnostic criteria for anorexia nervosa, according to the [APA, 2000], are as follows:

1. Refusal to maintain body weight over a minimal normal weight for age and height, e.g., weight loss leading to maintenance of body weight less than 85% of that expected; or failure to make expected weight gain during period of growth, leading to body weight less than 85% of that expected.
2. Intense fear of gaining weight or becoming fat, even though underweight.
3. Disturbance in the way in which one's body weight, size or shape is experienced, undue influence of body weight or shape on self-evaluation, or denial of the seriousness of the current low body weight.
4. In post-menarcheal females, amenorrhea - i.e. the absence of at least three consecutive menstrual cycles. (A woman is considered to have amenorrhea if her periods occur only following hormone, e.g., estrogen, administration.)

According to the APA [2000], the following subtypes can be used to specify the presence or absence of regular binge eating or purging during the current episode of anorexia nervosa:



Restricting Type: This subtype describes presentations in which weight loss is accomplished primarily through dieting, fasting, or excessive exercise.

Binge-Eating/Purging Type: This subtype is used when the individual has regularly engaged in binge eating or purging (or both) during the current episode. Most individuals with anorexia nervosa who binge eat also purge through self-induced vomiting or the misuse of laxatives, diuretics or enemas. Some individuals included in this subtype do not binge eat but do regularly purge after the consumption of small amounts of food.

2.1.3. Developmental course

Anorexia nervosa typically begins in mid-to-late adolescence (age 14-18 years). The onset of this disorder rarely occurs in females over age 40 years. The onset of illness may be associated with a stressful life event, but both course and onset of anorexia nervosa are highly variable [APA, 2000].

Adolescence is a turbulent time, marked by intense physical and psychological changes, and it appears that females may experience particular stressors that are less often experienced by males. For example, during adolescence females are more likely than males to experience depression (Kandel & Davies, 1982), perhaps because self-esteem is more related to weight and body shape for females than it is for males (Tobin-Richards, Boxer & Petersen, 1983).

In addition, dieting during adolescence has been shown to be a major risk factor for the development of an eating disorder (Bergstrom, Stenlund & Svedjehall, 2000). Previous studies of anorexic adolescents have demonstrated that the perceptual distortion seems greater in adolescence than in young adulthood, indicating that the ability to report body image accurately involves perceptual maturational development (Bergstrom et al., 2000). Therefore, it is during adolescence that eating disorders, phenomena occurring almost exclusively among females, often first become apparent (Attie, Brooks-Gunn & Peterson, 1990; Hsu, 1989).

Follow-up studies indicate that only 10% of those with anorexia nervosa fully recover. While almost half may show partial recovery, many continue to be seriously

impaired by depression, social phobias or recurrent symptoms. Even in treated populations, avoidance of sexual activity remains in over half of the sample and social problems also tend to persist (Herzog et al., 1993). In adulthood, women with anorexia nervosa are less likely to be married or heterosexually involved than others. Early onset (before 16 years of age) may be associated with a less negative prognosis, although a far from favourable one (Theander, 1996).

2.1.4. Prevalence

Estimating the prevalence of anorexia nervosa is problematic, and attempts to do so have been hindered by several factors. Firstly, it is rare, which means that gathering large samples is difficult; secondly, its illness course is variable, which means identifying who has the problem and for how long can be difficult; and thirdly, sufferers are often reluctant to take part in population studies (Ogden, 2003).



However, a Swedish study by Szmuckler & Patton (1995) managed to overcome many of these problems and used growth charts recorded by school nurses together with interview assessment. They concluded that 0.7% of girls up to the age of 16 fulfilled criteria for anorexia nervosa. This is generally considered an accurate estimate of prevalence in a Western population (Szmuckler & Patton, 1995).

Research has indicated that anorexia nervosa occurs approximately 10 times more often in females than in males. A recent review of epidemiological studies reported an average prevalence rate of 0.3. % for young females and an incidence of 8 cases per 100,000 population per year. The distribution of anorexia nervosa is predominantly

found in industrial Western societies, with approximately 90% of the cases occurring in adolescent and young adult females (Williamson, Martin & Stewart, 2004). This skewed gender distribution has been interpreted as supportive of the hypothesis that societal ideals and standards play a significant role in the promotion of extremely thin body sizes and shapes. In turn, this is thought to contribute to the origins of eating disorders and explain why anorexia nervosa and bulimia nervosa are diagnosed much more frequently in females than in males (Williamson et al., 2004).

2.1.5. Associated characteristics of anorexia nervosa

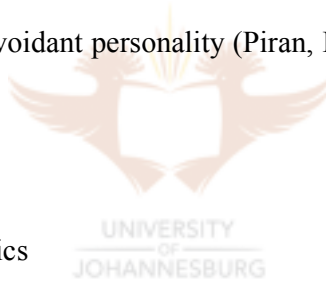
2.1.5.1. Psychological characteristics

When seriously underweight, many individuals with anorexia nervosa manifest depressive symptoms such as depressed mood, social withdrawal, irritability, insomnia and diminished interest in sex. Such individuals may have symptomatic presentations that meet criteria for Major Depressive Disorder [APA, 2000]. Depression is often present in adolescents with anorexia nervosa, with one study reporting a comorbidity rate of 73% (Herzog, Keller, Sacks, Yeh & Lavori, 1992).

Secondly, obsessive-compulsive features, both related and unrelated to food, are often prominent. Most individuals with anorexia nervosa are preoccupied with thoughts of food. Observations of behaviours associated with other forms of starvation suggest that obsessions and compulsions related to food may be caused or exacerbated by under nutrition. When individuals with anorexia nervosa exhibit obsessions and compulsions that are not related to food, body shape or weight, an additional

diagnosis of Obsessive-Compulsive Disorder may be warranted [APA, 2000]. Some longitudinal research suggests that obsessive traits predate the development of anorexic symptoms (e.g. Rastam, 1992).

Other features sometimes associated with anorexia nervosa include concerns about eating in public, feelings of ineffectiveness, a strong need to control one's environment, inflexible thinking, limited social spontaneity, perfectionism, overly restrained initiative and emotional expression. A substantial number of individuals with anorexia nervosa have a personality disturbance that meets criteria for at least one Personality Disorder [APA, 2000]. Research suggests that personality disorders co-occur in as many as 74% of those with anorexia nervosa (Skodol et al., 1993) particularly borderline and avoidant personality (Piran, Lerner, Garfinkel, Kennedy & Brouillette, 1988).



2.1.5.2. Physical characteristics

Many of the physical signs and symptoms of anorexia nervosa are attributable to starvation. In addition to amenorrhea, there may be complaints of constipation, abdominal pain, cold intolerance, lethargy and excess energy; the most obvious finding on physical examination is emaciation. There may also be significant hypertension, hypothermia and dryness of skin. Some individuals develop lanugo, a fine downy body hair, on their trunks. Most individuals with anorexia nervosa exhibit bradycardia (slow heartbeat). Some develop peripheral edema, especially during weight restoration or on cessation of laxative and diuretic abuse [APA, 2000].

Semi-starvation can affect most major organ systems, resulting in anaemia, renal system impairments, and cardiovascular problems; imbalances in the electrolyte system crucial to heart functioning, which can lead to sudden death; and osteoporosis and an irreversible shortness of stature (Wilson, Heffernan & Black, 1996). Anorexia nervosa is one of the few psychopathologies that can lead to death. Studies have reported a fatality rate of as high as 10% due to suicide or medical complications secondary to the disorder (Wenar & Kerig, 2000).

2.1.6. Etiology of anorexia nervosa

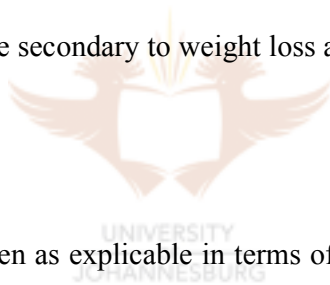
It has been suggested that eating disorders are multi-determined (Johnson et al., 1987). A number of empirical studies have attempted to isolate risk factors in the development of eating disorders (e.g. Casper et al., 1992; Herzog & Beresin, 1991; Hsu, 1989; Nagel & Jones, 1992). These risk factors, as well as possible etiology, are discussed below.

2.1.6.1. Biological perspective: genetic predisposition

Owing to the fact that eating disorders so prominently involve appetite, there is an understandable tendency to look for biological causes of this disorder. Researchers in this area have, for the most part, exhibited commendable reluctance to promote biological correlates of eating disorders into candidate causes. This is probably because of repeated warnings that anorexia nervosa has the potential to disrupt appetite and broader neuroendocrine systems, so that biological anomalies may be just as likely to be effects as causes. Indeed, many of the anomalies are well known effects

of starvation or stress, undermining their causal candidacies (Polivy & Herman, 2002). However, biological causes do play a role in the etiology of anorexia nervosa.

Genetic twins and family studies provide evidence for genetic underpinnings of eating disorders. There is increased risk of anorexia nervosa among first-degree biological relatives of individuals with the disorder [APA, 2000]. Furthermore, there is evidence of a genetic component in anorexia nervosa: the concordance for dizygotic twins is 5%, while for monozygotic twins it is 56%. It has been speculated that deficits impairing the release of particular hormones (gonadotropins) from the pituitary gland, or imbalances in certain neurotransmitters such as dopamine or norepinephrine, could be involved (Herzog & Beresin, 1991). However, many of the biological correlates of anorexia nervosa appear to be secondary to weight loss and are reversible with weight gain.



Eating disorders are often seen as explicable in terms of neuroendocrine dysfunction, which may or may not, itself, be genetic in origin. Such dysfunction might be primary (i.e. a hormonal aberration triggers the disorder) or mediational (i.e. stress or some other environmental factor disrupts hormonal functioning, which in turn affects eating). Since appetite is commonly regarded as responsive to hormonal controls, a neuroendocrine explanation for eating disorders is attractive (Polivy & Herman, 2002).


Biological factors can act to perpetuate a disorder that may not initially have been biological in origin. For instance, very-low-weight anorexic patients show olfactory impairment; such impairment is in all probability a consequence of starvation, but

may act to demit the appeal of food (Fedoroff et al., 1995). Similarly, food may not appeal to anorexics because it loses its 'incentive-value'; this decline in incentive value may be a consequence of ironic aversive taste conditioning in food deprived individuals (Pinel et al., 2000).

It can be concluded that biological and genetic factors do play a role in the etiology of anorexia nervosa as evident in results from genetic twins, family studies and neuroendocrine dysfunctions.

2.1.6.2. Intrapersonal perspective

2.1.6.2.1. *Body image*



Body image may be conceptualised as a multidimensional construct that represents how individuals "think, feel and behave with regard to their own physical attributes" (Muth & Cash, 1997, p.1438). Researchers have identified two conceptually distinct components of body image. The first, body-image evaluation denotes individuals' evaluative thoughts and beliefs about their physical appearance. The second, body-image investment refers to the behaviours that individuals perform to manage or enhance the way they look (Cash & Szymanski, 1995).

Along with menarche and breast development, females undergo a 'fat spurt' during puberty, an accumulation of large quantities of subcutaneous fat that adds on average 12 kilograms of weight. The physical changes associated with puberty force the adolescent to make a fundamental reorganization of her body image, which, coupled

with her increased capacity for self- reflection, may result in a preoccupation with her body and with the responses of others to it (Wenar & Kerig, 2000). It has been suggested that these puberty changes are linked to preoccupation with weight and dieting in normative populations (Chandy, Harris, Blum & Resnick, 2005). In addition, early maturing girls are more likely to develop eating disorders than those who begin to physically develop later (Swarr & Richards, 1996).

Studies of individuals with anorexia nervosa have suggested a developmental sequence in which body dissatisfaction leads to typical dieting attempts, which give way to preoccupation with food and weight and the use of increasing maladaptive methods of weight control. Therefore, ordinary dieting, in the context of other psychological risk factors, may be the first step in a trajectory toward psychopathology (Wenar & Kerig, 2000). Thus, there is indirect evidence to support the view that the prevalence of eating disorders is in direct proportion to the prevalence of dieting behaviour in a given population (Nagel & Jones, 1992; Hsu, 1989).

Dissatisfaction with one's body image is often seen as a correlate of eating disorders (Furnham, Badmin & Sneade, 2002; Vitousek and Hollon, 1990) and is confirmed in research that explains the relationship between eating disorder symptomology and distortions in body image (Foreyt & Mikhail, 1997). The determining factor is whether or not the individual seizes upon weight and shape as the answer to the problems of identity and control as suggested by Vitousek and Hollon (1990). Some young women become invested in achieving a 'perfect' body as an existential project (i.e. as a way of giving their lives meaning, coherence, and emotional fulfilment that

are otherwise lacking). Some become invested in achieving complete control over their eating, weight and shape, believing that control in these domains is possible even though such control is not possible elsewhere in their lives. For many with eating disorders, these two goals overlap.

Media influences have been associated with eating disorders by making women feel dissatisfied with their appearance. Family and peer pressure, teasing and more individual psychological influences such as general anxiety converge on the final common pathway of body dissatisfaction (Paxton, Schutz, Wertheim & Muir, 1999).

2.1.6.2.2. Personality characteristics

Personality characteristics have been contended as contributing to the development of an eating disorder. For instance, Scott and Baroffio (1986) noted vulnerable predisposing personality factors such as anxiety, identity confusion, reality distortion and introversion that appear to be associated with eating disorders. Strober and Humphrey (1987) explain that it seems likely that certain personality characteristics predispose the individual to greater sensitivity and vulnerability to powerful familial and social experiences that impinge on self-esteem. Therefore, there appears to be a relationship between personality and eating disorders.

Millon (1981, p.8) defined personality as:

A complex pattern of deeply embedded psychological characteristics that are largely unconscious, cannot be eradicated easily, and express themselves automatically in almost every facet of functioning. Intrinsic and pervasive, these traits emerge from a complicated matrix of biological dispositions and experiential learning and now comprise the individual's distinctive pattern of perceiving, feeling, thinking and coping.

Research has supported the role of personality characteristics in anorexia nervosa. For example, Strober (1980) found that females with anorexia nervosa were more self-regulating and less demonstrative of their emotional behaviour, more socially conscientious and conforming, and more inhibited interpersonally when compared with the other groups of females.

Furthermore, Casper et al. (1992), in a study of fifty women hospitalized for anorexia nervosa, found that restricters were higher in self-control, inhibition of emotionality and conscientiousness. By contrast, binge-purgers were more impulsive, and while they shared the restricters' belief in moral family values, they were emotionally more adventurous and had more characterological problems.

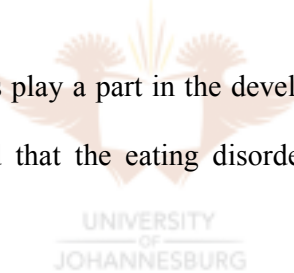
In another study (Hsu & Crisp, 1980), the issue of weight and control was entangled with wider personal dilemmas and conflicts that may be associated with neurotic suffering. "...Recovery in terms of body weight and menstrual function in patients with anorexia nervosa is accompanied by an improvement in the overall psychoneurotic status" (Hsu & Crisp, 1980, p.569). Similarly, Clarke and Palmer

(1983) found a clear association between self-reports of abnormal eating attitudes and self-reports of psychoneurotic symptoms.

Finally, in Strober's (1980) study of young, acute anorexia nervosa patients, several characteristics emerged as more or less distinctive of these patients. He concluded that:

The prototype of the young female anorexic is one who is markedly obsessionist in character makeup; introverted and socially insecure; self-denying, prone to self-abasement with limited spontaneity and self-directed autonomy; and overly formalistic and stereotyped in thinking despite being industrious, planful and intellectually efficient (p. 358).

While personality clearly does play a part in the development of anorexia nervosa, it is important to keep in mind that the eating disorder itself can affect personality (Davison & Neale, 2001).



2.1.6.2.3. Cognition

Eating disorders feature several cognitive aberrations, including obsessive thoughts, inaccurate judgements and rigid thinking patterns. The prominence of these has suggested that cognitive pathology may contribute to eating disorders (Vitousek & Hollon, 1990).

One of the cognitive distortions prominent in anorexia nervosa is the obsession with becoming thin. Judging one's own body to be larger than it really is may justify a relentless pursuit of thinness (Polivy & Herman, 2002). Individuals with anorexia

nervosa also tend to spend an inordinate amount of time obsessing about food or eating, weight and related matters (Gleaves, Lowe, Snow, Green & Murphy-Eberenz, 2000).

The role of obsessive thoughts in anorexia nervosa has been examined in some research. One survey found that 74% of eating disordered patients spent more than three hours a day on obsessive thoughts, 42% spent more than eight hours a day. About 20% of the patients, especially restricting anorexics, found the obsessive thoughts comforting and did not wish to be rid of them, while more than half the patients considered the obsessions to be ego-symptomatic (Sunday, Halmi & Einhorn, 1995).

Eating disordered patients also exhibit cognitive bias, whereby they display aberrations in information processing and memory, especially for material related to weight, shape and food (Rieger et al., 1998). Cash & Pruzinsky (2004) proposed a model explicating the cognitive bias of anorexic patients. According to them, people who are most susceptible to cognitive biases related to body image are hypothesised to have characteristics such as fear of fatness, being overly concerned with body size, internalisation of a thin ideal size/shape and perfectionism/obsessionality. The types of cognitive biases that are hypothesised to result from these conditions are attentional bias, selective memory bias, selective interpretation biases, body size overestimation and extreme drive for thinness. The model hypothesises that negative emotion interacts with the self-schema to increase the probability of certain cognitive biases (Cash & Pruzinsky, 2004). These cognitive biases feature in the cognitions of females suffering from anorexia nervosa.

Cognitive factors related to anorexia nervosa will be discussed in more detail in paragraph 2.1.7.3.

2.1.6.2.4. Perfectionism

Perfectionism has been described as "the practice of demanding of oneself or others a higher quality of performance than is required by the situation" (English & English, 1958). This demand is accompanied by tendencies for overly critical evaluation of one's own behaviour (Frost, Marten, Lahart & Rosenblate, 1990). In addition, perfectionistic qualities include setting unrealistic standards and striving to attain those standards, selective attention to and over-generalisation of failure, stringent self evaluations, and a tendency to engage in all-or-nothing-thinking (Hewitt & Flett, 1991).

Empirically, perfectionism has been linked to eating disorders (e.g. Axtell & Newlon, 1993). In addition, self-esteem has been found to moderate perfectionism and feeling overweight (Bardone, Vohs, Abramson, Heatherton & Joiner, 2000, cited in Polivy & Herman, 2002). These findings support the link between perfectionism, eating disorders and lower levels of self-esteem.

Hamachek (1978) described two types of perfectionists. He distinguished 'neurotic/maladaptive perfectionists' as persons whose efforts never seem 'good enough' to them and always feel that 'they-could-and-should-do-better'. In contrast, Hamachek identified 'normal/adaptive perfectionists' as people whose efforts toward goals bring them a sense of accomplishment and pleasure.

Research found that anorexia nervosa is associated with maladaptive perfectionism which links perfectionism to lower levels of self-esteem (Ashby & Rice, 2002). Homey (1950) described maladaptive perfectionists as neurotically attempting to mould themselves to an impossibly idealised image, making low self-esteem inevitable. Similarly, girls suffering from anorexia nervosa strive for the 'idealised image', which results in maladaptive perfectionism and lower self-esteem.

Also, anorexia nervosa patients display elevated scores on paper-and-pencil measure of perfectionism (Bastiani, Rao, Weltzin & Kaye, 1995, cited in Polivy & Herman, 2002). The fact that some indicators of perfectionism remain high even after weight restoration suggests that perfectionism may be a precursor of anorexia nervosa. This view accords with Strober's (1991) view that self-doubting perfectionism is one of a small number of characteristics that predispose one to anorexia nervosa. Bruch (1973) and Casper (1992) also accord perfectionism a causal role in anorexia nervosa. Finally, Hewitt et al., (1995) argues that perfectionism can contribute to eating disorders by making normal shortcomings more traumatic or by making a normal body a sign of imperfection.

2.1.6.2.5. Affective influences

Affective influences pertain to evaluative responses (positive or negative feelings) that typically include some combination of physiological arousal, subjective experience and behavioural or emotional expression (Westen, 1999).

Although a temperamental characteristic such as negative emotionality is unlikely to lead to eating disorders in and of itself, stress and negative mood are commonly reported antecedents for eating disorders (Ball & Lee, 2000, cited in Polivy & Herman, 2002; Leon, Keel, Klump & Fulkerson, 1997). Longitudinal studies reported that although initial depressed mood and self-perceptions predict later eating disorder symptomatology, none of these predictors remain significant if initial disordered eating is ruled out. Thus, affective factors may not be etiologically important for eating disorders, although they may be associated with subclinical eating problems (Wichstrom, 2000). However, a functional relation between negative affect and eating disorder symptoms has been proposed (Steinberg, Tobin & Johnson, 1989). The role of affective influences in the etiology of anorexia nervosa therefore seems to be complex.



2.1.6.2.6. Eating as a coping mechanism

Females often turn to eating as a means of coping with uncomfortable feelings that are related to different aspects of their lives (including, but not limited to, body image). Hooker and Convisser (1983) provide the following reasons for eating as a coping mechanism:

- To stifle feelings or to numb intense feelings (eating large quantities of food as an anesthetizer);
- To avoid difficult issues by escaping from reality (food and the eating experience become reality);
- To calm down and relax or to feel comforted (being fed is associated with nurturance and being cared for);

- To alleviate boredom or to fill an emptiness (eating fills a void);
- To procrastinate and avoid other responsibilities (thinking about or eating food occupies large quantities of time);
- To feel energised (food is used as sustenance to accomplish other tasks);
- To feel punished (I'm an awful person so I'll eat and prove it);
- To feel rewarded (I did a good job so I'll eat and reward myself).

In this sense, 'eating as a coping mechanism' could predispose people to develop disturbed eating attitudes.

Bruch (1973) proposed that the anorexic eats not so much in response to biological demand as to emotive cues because he/she is unable to differentiate between affective and visceral cues. For example, where a woman is the caretaker and nurturer of others' needs her own needs may remain unfulfilled. Under these conditions many women turn to food either to repress their needs or to comfort themselves in some way.

It has been argued that a deficit of coping skills renders bulimic women less able to deal effectively with stress, and bingeing is an expression of an inability to cope (Loro & Orleans, 1981). Researchers have also suggested that women who experience more stress are at greater risk for binge eating (Pyle, Mitchell & Eckert, 1981).

2.1.6.3. Interpersonal perspective

2.1.6.3.1. *Family influences*

Family influences are thought to be predisposing factors in the development of eating disorders. These include family discord, alienation of affection, and restriction of autonomy. The more extreme these problems, the greater the risk to the person of a more chronic course of illness (Strober & Humphrey, 1987). Case reports and studies of family interaction show eating-disordered families to be enmeshed, intrusive, hostile and negating of the patient's emotional needs or overly concerned with parenting (Shoebridge & Gowers, 2000). The role of family influences on anorexia nervosa has been discussed extensively by Minuchin et al. (1975) from the family systems paradigm (see paragraph 2.1.7.2.).

Empirical support has been found for the family model. For example, Fosson, Knibbs, Bryant-Waugh and Lask (1987) reported that the families of girls with anorexia nervosa evidenced over-involvement, failure to resolve conflicts and poor communication. In addition, a family history of depression, especially maternal depression, has been linked to an increased risk of anorexia nervosa (Lyon et al., 1997, cited in Wenar & Kerig, 2000).

Some research has focused on the role of mothers in the development of anorexia nervosa. It has been suggested that mothers of girls with eating disorders may well have an influence on their daughter's pathology, by being of the opinion that their daughters should lose more weight. They further describe their daughters as less

attractive than do comparison mothers or the girls themselves (Hill & Franklin, 1998). Mothers of eating disordered patients are also more dissatisfied with the general functioning of the family system and are themselves more eating-disordered than are mothers of girls who do not have eating disorders (Hill & Franklin, 1998).

Direct maternal comments appear to be more powerful influences than is simple modelling of weight and shape concerns. Ogden & Steward (2000) found that mother's critical comments prospectively contributed to the development of eating disorders. Finally, mothers who themselves have an eating disorder tend to have a negative influence on their children's attitudes and behaviour by feeding them irregularly, using food for non-nutritive purposes, and expressing concern about their daughters' weight as early as the age of 2. Research has shown that by 5 years of age, these children exhibit greater negative affect than do the offspring of mothers without eating disorders and are at serious risk for the later development of an eating disorder (Agras, Hammer & McNicholas, 1999).

Most studies of family functioning are correlational, making it difficult to determine whether family dysfunction contributes to eating disorders, eating disorders contribute to family dysfunction, or some common factor contributes to both. Moreover, the role of the family is often ascertained by retrospective questioning, further undermining the certainty about what caused what. Steiger, Stotland, Trottier and Ghadirian (1996) conclude that families may transmit eating concerns, but such transmission may not be sufficient for the emergence of an eating disorder, which requires some additional vulnerability factors that conduce to the development of eating disorders.

2.1.6.3.2. Peer relations

Peer relations refer to friendship patterns that develop substantially in childhood and adolescence, from largely same-sex experiences involving mutual play and gratification to more intimate interactions in adolescence (Westen, 1999).

Anorexics often report that they were excessively shy, or even friendless, as children. In adolescence, they were also reluctant to form close relationships outside of the family, thereby isolating themselves from the important growth-promoting functions of peer relations in the adolescent period (Wenar & Kerig, 2000). Sexual relations, in particular, are avoided. For example, Leon et al. (1997) found that both restricters and binge-purgers had a markedly negative evaluation of sex and lacked interest in developing sexual relationships. It seems that some anorexic girls really struggled to make friends.



Various studies suggest that peers can influence a person's eating behaviour, desire to diet and interest in weight and shape (e.g. Crandall, 1988; Levine et al., 1994; Wertheim, Paxton, Schutz & Muir, 1997). Research indicates that adolescent girls learn certain attitudes, such as the importance of slimness, and certain behaviours, such as dieting and purging, from their peers (Levine et al., 1994). Adolescent friendship cliques tend to be homogenous with respect to body-image concerns (Paxton, Schutz, Wertheim & Muir, 1999), suggesting direct peer influence on the development of eating disorders.

In addition, Nichter and Vukovic (1994, cited in Gapinski, Brownell & LaFrance, 2003) coined the phrase 'fat talk' to describe the self-disparaging body talk that occurs in peer groups and appears to contain an element of social influence. This type of exchange (e.g. 'I'm so fat' and 'No, you're not') may occur repeatedly throughout a day in a given peer group, and girls in particular become comfortable discoursing in this manner. Fat talk uses weight as a reference point for feelings; that is, saying 'I'm fat' can be like saying 'I feel depressed' or 'I feel out of control'. As such, this type of talk solicits reassurance and encouragement and promotes group affiliation, but it also emphasises the shared distaste of fat and the value of thinness within the group. If others contribute (e.g. 'I'm fat too!'), they reinforce group solidarity. In fact, a person who does not engage in fat talk may be frowned upon, as though she thinks that her body is flawless and superior. Fat talk appears to incorporate aspects of social comparison as well as peer influence and approval, which has an impact on the development of eating disorders (Gapinski et al., 2003).




Criticism from peers and parents about being overweight is another contributing factor in producing a strong drive for thinness and disturbed body image (Thompson & Rey, 1995). Self-reports about having been teased about one's appearance or body shape have been associated with increased eating disorder symptomatology (Lunner et al., 2000). In another study, adolescent girls, aged ten to fifteen, were evaluated twice with a three-year interval between assessments. Obesity at the first assessment was related to being teased by peers and at the second assessment was linked to dissatisfaction with their bodies. Dissatisfaction was in turn related to symptoms of eating disorders (Gapinski et al., 2003). There is further evidence that peer influence

may even contribute to the development of pathological eating behaviours (Gapinski et al., 2003).

Research on anorexia nervosa is complicated by the fact that starvation per se significantly affects behaviour, producing depression, irritability and social isolation and decreased sexual interest. Starvation can also alter relationships with family members and friends, who are helpless to intervene in eating patterns that produce striking emaciation and might eventuate in death (Wenar & Kerig, 2000). However, as described earlier, peer relationships do seem to play a role in the etiology of eating disorders.

2.1.6.3.3. Demographic characteristics



Anorexia nervosa appears to be far more prevalent in industrialised societies, in which there is an abundance of food. In addition, particularly for females, being considered attractive is linked to being thin. The disorder is probably most common in the United States, Canada, Europe, Australia, Japan, New Zealand and South Africa, but little systematic work has examined prevalence in other cultures [APA, 2000].

Both anorexia nervosa and bulimia nervosa occur predominantly among white female adolescents between the ages of 13 and 20 years who are from middle- or upper-class social backgrounds. These women appear to have internalised the prevailing cultural norms that thinness equals beauty, success and control (Johnson et al., 1987).

However, there are indications that certain changes are beginning to occur in the age, social class and ethnic distributions of eating disorders. The disorders are now beginning to occur in the lower social classes, in women over 25 years old, and among blacks, Hispanics and East Indians. Eating disorders among these ethnic groups were almost unheard of before (Garfinkel & Garner, 1982).

2.1.6.3.4. Socio-cultural pressure

The cultural expectation for a thin body shape and the preoccupation with weight has been described as a problem of female socialisation that is reinforced by the media's steady bombardment of 'ideal' female images. Many investigators have argued that media related factors play a role in the development of body dissatisfaction and disordered eating (Levine et al., 1994).

In today's Western society, the ideal of feminine beauty has changed from the curvaceous figure to the lean look. For example, contestants in Miss America pageants have steadily decreased in weight over the past decades. Currently, the average weight is 13% to 19% below normal - the 'ideal' woman. This meets the first criterion for an eating disorder diagnosis (Attie, Brooks-Gunn & Petersen, 1990). Therefore, female body ideals, particularly in Western societies, have become progressively thinner over the last decades, as emphasised by the slender female fashion standards portrayed in the mass media (Grogan, 1999). Moreover, the increasing prevalence of eating disorders in women has paralleled this trend of progressively slimmer female ideals (Stice & Shaw, 1994).

Television, advertising, sitcoms and 'soap operas' portray the heroines as slim, young and beautiful. The cinema, women's magazines, and popular newspapers further encourage the belief that to 'succeed' and to be happy women should be slim. Media influence is thought to precipitate eating disorders by making women feel dissatisfied with their appearance (Polivy & Herman, 2002). According to social theorists, the pressure that is placed on young women to be thin, contributes to the development of eating disorders (Davidson & Neale, 2001).

Research has confirmed the impact of the media on body dissatisfaction. Groesz, Levine & Murnen (2002) conducted a meta-analysis of experimental studies investigating the impact on females of viewing pictures from media depicting female models with stereotypically slim bodies. These authors concluded that females who are dissatisfied with their bodies are particularly susceptible to adverse effects of thin ideal exposure; viewing such pictures resulted in increased body dissatisfaction. Women have also found to report changes in mood and well being, such as elevated level of depression and lowered self-esteem, following exposure to the thin ideal (Irvin, 1990; Stice & Shaw, 1994).

Various researchers have proposed that women engage in a process of social comparison when exposed to thin ideal images (Posavac, Posavac & Posavac 1998; Heinberg & Thompson, 1995). Women dissatisfied with their bodies are thus expected to be especially vulnerable to the negative impact of such comparison due to perceived discrepancy between the thin ideal and their own bodies (Posavac et al., 1998).

In addition to media influences, there are cultural norms that dictate that 'fat' is ugly and what is ugly is bad, while thin is beautiful and what is beautiful is good. The message is more powerful in certain settings: colleges and schools, where beauty and dating are emphasised, and professions such as dancing and modelling, which dictate certain body weights, are breeding grounds for anorexia nervosa. Research confirms this by suggesting that women who participate in weight conscious activities, including ballet, gymnastics and cheerleading, are at greater risk for developing anorexia nervosa. It appears that 6% to 7% of women who attend professional schools for modelling and dance met the criteria for having anorexia nervosa (Garner & Garfinkel, 1980).

In these circumstances, it is not surprising that a preoccupation with body shape and size is widespread among young women (Abraham & Llewellyn-Jones, 2001). The influence of the media and sociocultural factors in the context of eating disorders can be summarised as the idealisation of thinness, which is sometimes regarded as a principle cause of eating disorders on its own. More plausibly, it may channel women's dissatisfactions and distress toward a focus on body shape and size, providing an outlet for individual pathology. Thus, thinness is relentlessly pursued by those who see no better way to solve their problems (Polivy & Herman, 2002).

2.1.6.4. Summary

Anorexia nervosa is characterised by wilful behaviour directed toward losing weight, preoccupation with body weight and disturbance of body image. Several factors contribute to the etiology of anorexia nervosa. The biological, intrapersonal and

interpersonal factors are implicated in the causes of anorexia nervosa. The biological perspective explained the genetic composition (i.e. genetic twins, family studies and the neuroendocrine dysfunction) whereas the intrapersonal perspective described various other elements such as body image, personality, cognition, perfectionism, affective influences and coping mechanisms that have an impact on anorexia nervosa.

Finally, the interpersonal perspective focused on outside influences such as the family, peer relations, demographic characteristics and socio-cultural pressures that could influence anorexia nervosa. It is clear that the etiology of anorexia nervosa is complex and multi-faceted. For the purpose of this study, the importance of cognitive distortions and how cognitions have an impact on the progression of anorexia nervosa will be considered. However, one's global understanding of anorexia nervosa would be incomplete without the description of the psychological theories that provide insight into the disorder. The psychodynamic theory, family-systems theory and cognitive-behavioural theory will be discussed below.

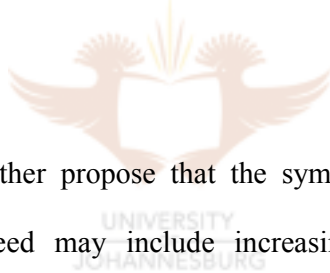
2.1.7. Psychological theories regarding anorexia nervosa

2.1.7.1. The psychodynamic theory

The psychodynamic view proposes that people's actions reflect the way thoughts, feelings and wishes are associated in their minds; that many of these processes are unconscious; and that mental processes can conflict with one another, leading to compromises among competing motives. Thus, people are unlikely to know precisely

the chain of psychological events that leads to their conscious thoughts, intentions, feelings or behaviours (Westen, 1999).

The psychodynamic view further argues that the core cause of eating disorders is to be found in disturbed parent-child relationships and agrees that certain core personality traits, such as low self-esteem and perfectionism, are found among individuals with eating disorders (Davison & Neale, 2001). For example, Bruch (1978) holds that anorexia nervosa is an attempt by children who have been raised to feel ineffectual to gain competence and respect and to ward off feelings of helplessness, ineffectiveness and powerlessness. This sense of ineffectiveness is created by a parenting style in which the parent's wishes are imposed on the child without consideration of the child's needs or wishes.



Psychodynamic theories further propose that the symptoms of an eating disorder fulfill some need. This need may include increasing one's sense of personal effectiveness by being successful in maintaining a strict diet or avoiding growing up sexually by being thin and thus not achieving the usual female shape (Goodsitt, 1997). Finally, psychodynamic theories postulate that individuals with anorexia nervosa find a sense of self and identity in the eating disorder. These theories also postulate that individuals with anorexia nervosa have an extreme fear of maturation, including weight gain, puberty and sexuality and find a sense of security with a disorder that prevents the feared events. Thus, the methods of restrictive eating and compensatory behaviours serve to reduce fear, feelings of loss of control and feelings of ineffectiveness and low self-esteem (Williamson et al., 2004).

2.1.7.2. Family-systems theory

A family-systems approach explains an individual's behaviour in the context of a social group, such as a couple, family or larger group. An individual is seen as part of a system, a group with interdependent parts; what happens in one part of the system influences what happens in other parts (Westen, 1999).

Minuchin and his colleagues (1975) proposed family-systems theory in explaining eating disorders. This theory holds that the symptoms of an eating disorder are best understood by considering both the patient and how the symptoms are embedded in a dysfunctional family structure. In this view, the child is seen as physiologically vulnerable, and the child's family has several characteristics that promote the development of an eating disorder. Also, the child's eating disorder plays an important role in helping the family avoid other conflicts. Thus, the child's symptoms are a substitute for another conflict within the family (Davison & Neale, 2001).

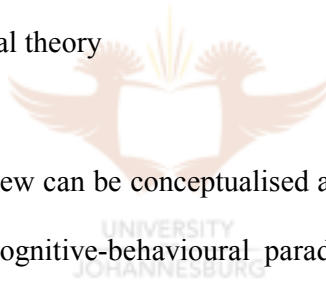
Minuchin et al. (1975) identified four characteristic patterns of interaction in families with anorexic children from a family systems perspective:

The first pattern of interaction is an *enmeshed* family where members are highly involved and responsive to one another but in an intrusive way. Enmeshed families have poorly differentiated perceptions of each other, and roles and lines of authority are diffused. The second pattern of interaction is an *overprotective* family whereby the members are overly concerned about each other's welfare and inhibit the child's autonomy. The third pattern of interaction is a *rigid family* whereby the pathological

families' resists change and avoids problems accompanying change. The fourth pattern of interaction is a family with a *lack of conflict resolution*. Some families deny conflict; others bicker in a diffuse, scattered, ineffectual way, and yet others have a parent who is conflict-avoidant (Wenar & Kerig, 2000).

Minuchin et al. (1975) further describe the family of the future anorexic as overly concerned with diet, appearance and control. The family's intrusiveness undermines the child's autonomy, and both her psychological and bodily functions are continually subjected to scrutiny. Empirical findings regarding the family systems perspective have been discussed in paragraph 2.1.6.3.1.

2.1.7.3. Cognitive-behavioural theory



The cognitive-behavioural view can be conceptualised as a blend of the cognitive and learning paradigms. The cognitive-behavioural paradigm focuses on how people structure their experiences, how they make sense of them, and how they relate their current experiences to past ones that have been stored in memory. This perspective further focuses on private events, thoughts, perceptions, judgements, self-statements and even tacit (unconscious) assumptions and have manipulated these processes in an attempt to understand and modify overt and covert disturbed behaviour (Davison & Neale, 2001). The theoretical perspective of the cognitive-behavioural approach assumes that internal covert processes called 'thinking' or 'cognition' occur and that cognitive events may mediate behaviour change (Dobson, 1988).

The cognitive-behavioural model recognises the importance of cognitions and assumes that maladaptive, or faulty, thinking patterns cause maladaptive behaviour and 'negative emotions'. This approach focuses on changing an individual's thoughts (cognitive patterns) in order to change his or her behaviour and emotional state. For example, cognitive restructuring is a general term for changing a pattern of thought that is presumed to be causing a disturbed emotion or behaviour. This restructuring is implemented in several ways by cognitive behaviour therapists (Davison & Neale, 2001).

At the core of the cognitive-behavioural theory are three fundamental propositions. Firstly, cognitive activity affects behaviour. There is overwhelming evidence that cognitive appraisals of events can affect the response to those events and that there is clinical value in modifying the content of these appraisals (Dobson, 1988). Secondly, cognitive activity may be monitored and altered. Implicit in this proposition is the assumption that cognitions are knowable and assessable. Thirdly, desired behaviour change may be affected through cognitive change. Thus, while cognitive-behavioural theorists accept that overt reinforcement contingencies can alter behaviour, they are likely to emphasise that there are alternative methods for behaviour change, one in particular being cognitive change (Dobson, 1988). The nature and manifestation of eating disorders from the cognitive-behavioural perspective will be elaborated upon in the next section.

2.1.7.3.1. Development of eating disorders

Cognitive-behavioural theory proposes that the restriction of food intake that characterises the onset of many eating disorders has two main origins. The first is a need to feel in control of life, which is displaced into controlling eating. Anorexic girls typically lack a sense of autonomy and selfhood. Many experience their bodies as somehow under the control of their parents, so that self-starvation may be an effort to regain power. Only through acts of extraordinary self-discipline and starvation can an anorexic patient develop a sense of autonomy and selfhood (Sadock & Sadock, 2003). As Duker and Slade (2003) noted, whether anorexic sufferers come across as entirely confident and superior or as depressed and self-effacing will always be tied closely to their current sense of being in control of food and weight.

The second origin is the over-evaluation of shape and weight in those who have been sensitised to their appearance. The possibility of having an unacceptable body image represents the way in which anorexic patients embody their sense of personal ineffectiveness (Dobson, 1988). Since being fat is the main failure to be avoided in their life, anorexics generally strive against this image of failure. In both instances, the resulting dietary restriction is highly reinforcing. Subsequently, other processes begin to operate and serve to maintain the eating disorder (Fairburn & Harrison, 2003).

In the case of anorexia nervosa, fear of fatness and body image disturbance are seen as the motivating factors that make self-starvation and weight loss powerful reinforcers. Behaviours that achieve or maintain thinness are negatively reinforced by the reduction of anxiety about becoming fat (Davison & Neale, 2001).

2.1.7.3.2. Maintenance of the eating disorder

According to the cognitive-behavioural approach, anorexia nervosa is maintained through body image attitudes and schemas that lead to cognitive distortions. To manage with distressing body image thoughts, certain cognitive strategies are utilised. Finally, the anorexic patient is overwhelmed with a sense of personal inadequacy.

2.1.7.3.2.1. Body image attitudes and schemas

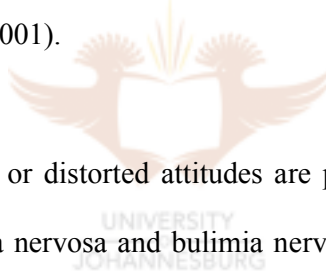
Body image schemas reflect one's core, affect-laden assumptions or beliefs about the influence of one's appearance in life, including the centrality of appearance to one's sense of self (Cash & Pruzinsky, 2004). According to cognitive-behavioural perspectives, specific situational cues or contextual events activate schema-driven processing of information about, and self-evaluation of, one's physical appearance. For anorexic girls, their body image schemas and self-evaluation are closely linked to their physical appearance. Appearance schematic people place more importance on, pay more attention to and preferentially process information relevant to appearance (Cash & Pruzinsky, 2004). Thus, anorexia nervosa is maintained through body image attitudes and schemas including the importance of appearance to one's sense of self, which results in a disturbed body image.

2.1.7.3.2.2. Body image and cognitive distortions

The result of having a disturbed body image leads to cognitive distortions. According to the cognitive-behavioural approach, the resultant internal dialogues that torment girls with disturbed body images involve emotion-laden automatic thoughts,

inferences, interpretations and conclusions about one's looks. Among individuals with problematic body image attitudes and schemas, these inner dialogues are habitual, faulty and dysphoric (Ogden, 2003).

Thought processes may reflect various errors or distortions, such as dichotomous thinking, emotional reasoning, biased social comparison, arbitrary inferences, over-generalisations, over-personalisation, magnification of perceived defects and minimisation of assets (Cash & Pruzinsky, 2004). Cognitive distortions, such as catastrophizing, over-generalising and personalising, have been found in anorexics (Ogden, 2003). Other dysfunctional cognitive styles, such as obsessional thinking and negative self-judgements, are also commonly seen in those diagnosed with anorexia nervosa (Davison & Neale, 2001).



These disordered cognitions or distorted attitudes are proposed as distinctive to the psychopathology of anorexia nervosa and bulimia nervosa. These elements of faulty thinking or flawed reasoning standardly include: magical thoughts or superstitious thinking about the power of certain forbidden foods, selective abstraction of thinness as the sole frame of reference for inferring self-worth and essential to her happiness and well being. In addition, a persisting belief is dichotomous reasoning concerning food, eating and weight and egocentric interpretations of impersonal events. Each of these elements may indeed be characteristic of the sort of thinking that torments the lives of women with eating disorders (Bordo, 1993).

2.1.7.3.2.3. Cognitive strategies

To manage or cope with distressing body image thoughts and emotions, whether anticipated or actual, individuals engage in a range of actions and reactions that may involve well-learned cognitive strategies or behaviours to accommodate or adjust to environmental events. Adjustive reactions include avoidant and body concealment behaviours, appearance correcting rituals, seeking social reassurance and compensatory strategies (Cash & Pruzinsky, 2004).

Research has indicated the role of some dysfunctional cognitive styles that maintain anorexia nervosa. Cash and his colleagues (1997 cited in Cash & Pruzinsky, 2004) developed a 39-item self-report measure, the Body Image Coping Strategic Inventory, and discovered that dysfunctional body-image schemas were significantly associated with coping-avoidance and appearance fixing. One interpretation of their preliminary findings suggests the dynamic interplay of dysfunctional body image schemas and faulty coping strategies that merely reinforce negative self-evaluations and perpetuate body image distress.

According to the cognitive-behavioural approach, it seems that anorexic patients display evidence of abnormal cognitive style or information processing in order to cope. They are superior in concrete and deficient in abstract thinking. They also engage in unwarranted all-or-nothing-thinking, which may lead them to regard themselves as failures after even minor infractions (Bruch, 1973).

Moreover, this contributes to an unusual social-cognitive style. It seems that anorexic patients are good at 'accommodation' which enables them to modify their schemas to fit reality. However, they seem to be deficient in 'assimilation' which would ensure that they incorporate reality into their existing structures of knowledge. Anorexic patients are, therefore, continuously in a state of cognitive disequilibrium (Westen, 1999). It seems that body image attitudes and schemas play a crucial role in coping strategies and in perpetuating anorexia nervosa.

2.1.7.3.2.4. Feelings of inadequacy

Perfectionism and a sense of personal inadequacy may lead a person to become especially concerned with his or her appearance, making dieting a potent reinforcer and perpetuating the development of anorexia nervosa (Davison & Neale, 2001). Anorexia nervosa patients tend to maintain a rigid set of beliefs about weight and eating. They equate their self-esteem with their body shape and weight; that is, body shape and weight are the most important means by which they evaluate themselves. These matters occupy most of their thoughts during the day and strongly influence their eating behaviour (Abraham & Llewellyn-Jones, 2001).

The degree to which shape and weight concerns influence feelings of self-worth has been recognised as an important cognitive feature of anorexia nervosa [APA, 2000]. The cognitive-behavioural model of eating disorders (Fairburn, Cooper, Doll, O'Connor & Welsch, 1997) posits strong associations among self-esteem, shape and weight concerns, and excessive dietary restriction, suggesting that shape and weight concerns mediate the relation between self-esteem and dietary restraint.

Cognitive-behavioural models also suggest that an individual's beliefs of inadequacy are linked to Western culture's values about thinness and that these maladaptive beliefs underscore the reinforcing power of weight-loss attempts (Garner & Bemis, 1982; Vitousek & Hollon, 1990). It has been suggested that anorexic patients need to increase their self-esteem and decrease the importance of their physical appearance in their evaluation of themselves to facilitate recovery (Abraham & Llewellyn-Jones, 2001).

According to the APA [2000], features sometimes associated with anorexia nervosa include concerns about feelings of worthlessness and concerns about a strong need to control one's environment. A person suffering from anorexia nervosa is in a strange dichotomy whereby at times they have succeeded in gaining control over their environment yet they still feel ineffective. In particular, the cognitive-behavioural approach is most applicable in treating anorexia nervosa, as the self-evaluations of anorexic patients seem to be faulty.

2.1.7.3.3. Treatment of eating disorders

In the treatment of anorexia nervosa, the cognitive-behavioural approach integrates the cognitive restructuring approach of cognitive therapy with the behavioural modification techniques of behavioural therapy. When dealing with anorexia nervosa, it is imperative to understand the cognitive-behavioural formulation of eating disorders, which involves two core themes. The first is the process of learning via reinforcement, which is reflected in the patient's behaviour, and the second is the formation of dysfunctional cognitions about body weight and self-esteem (Ogden,

2003). This approach utilises operant conditioning and behaviour modification as specifiable interventions that allow for effective treatment.

In addition, monitoring is an essential component of cognitive-behavioural therapy. Anorexic patients are taught to monitor their food intake, their feelings and emotions, their bingeing and purging behaviours, and their problems in interpersonal relationships. Moreover, problem solving is a specific method whereby anorexic patients learn how to think through and devise strategies to cope with food-related and interpersonal problems (Sadock & Sadock, 2003).

In the treatment of anorexia nervosa, cognitive-behavioural therapy also aims at changing cognitive distortions, over-generalisations, negative self-perceptions and irrational beliefs about eating and about the self (Stice, Ziemba, Margolis & Flick, 1996). Anorexic patients are taught cognitive restructuring to identify automatic thoughts and to challenge their core beliefs. The goal of cognitive-behavioural therapy is to change the anorexics cognitive patterns in order to change his or her maladaptive behaviour. Anorexic patients' vulnerability to rely on anorexic behaviour as a means of coping can be addressed if they learn to use these techniques effectively.

2.1.7.4. Summary

The psychodynamic and family-systems theory provides a brief understanding of anorexia nervosa. The psychodynamic theory argues that the core cause of eating disorders is to be found in disturbed parent-child relationships and agrees that certain core personality traits, such as low self-esteem and perfectionism, are found among individuals with eating disorders. The family-systems theory holds that the symptoms of an eating disorder are best understood by considering both the patient and how the symptoms are embedded in a dysfunctional family structure. For the purpose of this study, the cognitive-behavioural approach was discussed in more detail, since the research is focused on self-evaluation regarding self-efficacy and self-esteem. According to this approach, the development of eating disorders is characterised by a need to feel in control of life, which is displaced into controlled eating. The maintenance of eating disorders stems from body image attitudes and schemas, which result in disturbed body images and cognitive distortions leading to feelings of inadequacy. Finally, the treatment of anorexia nervosa involves learning via reinforced, monitoring, problem-solving techniques and cognitive restructuring. The cognitive-behavioural approach focuses on the anorexics dysfunctional body image schemas and faulty coping strategies that reinforce negative self-evaluations.

2.1.8. Conclusion

Anorexia nervosa is a debilitating psychiatric disorder that is mostly prevalent among adolescent girls, and there seems to have been an increase in reported cases in the past 20 years. It is a complex phenomenon, and several factors seem to contribute to the

development thereof, although various theoretical views on anorexia nervosa exist (e.g. psychodynamic and family-systems perspective), the cognitive-behavioural view was selected as a point of departure for the current study. According to this perspective, negative self-evaluations may play some part in the development and maintenance of anorexia nervosa. In this study, two specific self-evaluations will be considered - i.e. self-efficacy and self-esteem. These constructs are further explicated in the next section.

2.2. SELF-EFFICACY

2.2.1. Introduction

It has been argued that human accomplishments and positive well being require an optimistic sense of personal efficacy. This is because ordinary social realities are filled with difficulties, adversities, setbacks and frustrations. According to Schwarzer (1997, cited in Caldeira, 2000), people need to have a healthy sense of personal efficacy to sustain the perseverant effort needed to succeed. An affirmative sense of efficacy contributes to psychological well being as well as to performance accomplishments. Furthermore, a person who believes in being able to cause an event can carry out a more active and self-determined life course (Schwarzer, 1997, cited in Caldeira, 2000). Judge (1997, cited in Caldeira, 2000) views self-efficacy as a type of self-evaluation, specifically regarding how well one can perform across a variety of situations.

In the section to follow, self-efficacy will be explicated. Sources of self-efficacy, factors contributing to the development of self-efficacy and the relationship between anorexia nervosa and self-efficacy will be discussed.

2.2.2. Bandura's view of self-efficacy

Self-efficacy is a major component of Bandura's (1977, 1986) social-cognitive theory, which contends that behaviour is strongly stimulated by self-influence. Bandura (1982) refers to perceived self-efficacy as the individual's conviction of being able to master specific activities, situations or aspects of his or her own psychological and social functioning. From this perspective, self-efficacy is seen as being domain-specific; referring to the fact that one can have more or less firm self-beliefs in different domains or particular situations.

Perceived self-efficacy facilitates goal setting, effort investment, persistence in the face of barriers and recovery from setbacks. It can be regarded as a positive resistance resource factor. Perceived self-efficacy is an operative construct - i.e. it is related to subsequent behaviour and, therefore, is relevant for clinical practice and behaviour change (Bandura, 1997b).

The construct of perceived self-efficacy reflects an optimistic self-belief. This is the belief that one can perform novel or difficult tasks, or cope with adversity, in various domains of human functioning (Bandura, 1997b). It is clear that Bandura's view of self-efficacy relates to the explication of self-efficacy in specific domains, rather than a global sense of competence.

2.2.3. Generalized self-efficacy

The concept of generalized self-efficacy was formulated by Schwarzer (1992, 1993) and it is regarded as one of the personal resource factors that counterbalance taxing environmental demands in the stress appraisal process. It can be defined as a global confidence in one's coping ability across a wide range of demanding or novel situations. Generalized self-efficacy, therefore, refers to a broad and stable sense of personal competence to deal effectively with a variety of stressful situations (Schwarzer, 1993).

As stated previously, generalized self-efficacy differs from perceived self-efficacy as conceptualised by Bandura (1977) in the sense that it takes a global view of one's coping abilities in a wide variety of situations whereas perceived self-efficacy is more domain-specific looking at one's coping ability in specific situations. In the current study, self-efficacy would be conceptualised from Schwarzer's (1992) perspective.

2.2.4. Sources of self-efficacy information

Efficacy expectations develop and are potentially modified through four sources of experiential information (Bandura, 1977; Betz, 1994). These are: performance experiences, vicarious learning, or modelling; verbal persuasion or encouragement from other people to engage in a specific behaviour; and degree of emotional arousal with reference to a domain of behaviour.

2.2.4.1. Performance experiences

This source of efficacy information is the most powerful because it is based on personal mastery experiences (Bandura, 1977). Success at a task, behaviour or skill raises mastery expectations, whereas failure lowers them, particularly if it occurs early in the course of events. After strong efficacy expectations are developed through repeated successes, the negative impact of occasional failures is likely to be reduced. Once self-efficacy has been established it tends to generalise to other situations which preoccupation with personal inadequacies had previously had a self-debilitating effect on performance (Bandura, 1977).

2.2.4.2. Vicarious learning or modelling

Vicarious experiences such as observational learning, modelling and imitation influence self-efficacy expectations when people observe the behaviour of others, see what they succeeded in doing, note the consequences of the behaviour and then use the information obtained to form expectancies about their own behaviour (Maddux, 1991). The effects of vicarious experiences depend on the observer's perception of the similarity of the situations in which the observer and the model find themselves (Maddux, 1991). It seems that vicarious experiences generally have weaker effects than direct personal experiences (Bandura, 1977).

2.2.4.3. Verbal persuasion

Verbal persuasion, often referred to as social persuasion, is widely used because of its ready availability. According to Bandura (1977), people are led through suggestion into believing they can do certain things. The potency of verbal persuasion as a source of self-efficacy expectancies is likely to be influenced by the expertness, trustworthiness and attractiveness of the source (Maddux, 1991). Experimental studies have shown that verbal persuasion is a moderately effective means for changing both self-efficacy expectancies and outcome expectancies (Maddux, 1991).

2.2.4.4. Emotional arousal

Emotional arousal is another source of information that can affect self-efficacy in coping with threatening situations. If one associates aversive emotional states with poor behavioural performance, perceived failure and perceived incompetence, then when one becomes aware of unpleasant physiological arousal one is more likely to doubt one's behavioural competence. Similarly, comfortable physiological sensations are likely to lead one to feel confident in one's ability to cope with the situation at hand (Maddux, 1991).

2.2.5. Factors contributing to the development of self-efficacy

According to self-efficacy theory, expectations of self-efficacy determine which activities people engage in, how much effort they will expend and how long they will persevere in the face of adversity. Persons who are high in self-efficacy exhibit more

willingness to engage in particular behaviours, more tenacity in domain-specific tasks and greater domain-specific performance accomplishments (Bandura, 1982). According to Bandura (1997a), a belief in one's personal capabilities regulates human functioning in the following ways:

- *Cognitive*: People with high self-efficacy are more likely to have high aspirations and commit themselves to meeting challenges. They guide their actions by visualising successful outcomes instead of dwelling on personal deficiencies or ways in which things might go wrong.
- *Motivation*: People motivate themselves by forming beliefs about what they can do, anticipating likely outcomes of prospective actions, setting goals and planning courses of action.
- *Affect*: The amount of stress or depression that a person experiences in a difficult situation depends to a large extent on how well they think they can cope. People who think that they can manage threats are less distressed by these threats and they also lower their stress by acting in ways that make the environment less threatening. People with high self-efficacy also have better control over disturbing thoughts.
- *Selection*: People can exert some influence over their life paths by the environments they select and the environments they create. People with low self-efficacy tend to avoid activities and situations they believe exceed their coping abilities, whereas people with high self-efficacy readily undertake challenging activities and pick social environments they judge themselves capable of handling.

It is obvious that self-efficacy makes a difference in how people feel, think and act (Bandura, 1997b). In terms of thinking, a strong sense of competence facilitates cognitive processes and performance in a variety of settings. In terms of feeling, a low sense of efficacy is associated with depression, anxiety and helplessness. Such individuals also have low self-esteem and harbour pessimistic thoughts about their accomplishments and personal development. As far as action is concerned, people experiencing a high level of self-efficacy may have a sense of enhanced motivation, enabling them to select tasks and to persevere with these.

2.2.6. Anorexia nervosa and self-efficacy

According to Bruch (1973), anorexia nervosa is characterised by a disturbance of delusional proportions in a person's concept of her own body, a disturbance in her perception or cognitive interpretation and a paralysing sense of ineffectiveness, which pervades all thinking and activities. This implies the role of cognitive factors in the development and maintenance of anorexia nervosa. Within the larger domain of cognitive factors contributing to anorexia nervosa, researchers have focused on self-evaluations of anorexic patients; specifically, the roles of self-esteem and self-concept have been explored. However, little research has been done regarding the role of self-efficacy. Existing studies focused on domain-specific self-efficacy, such as Lugli-Rivero & Vivas (2001) and Strong & Huon (1998).

Anorexia nervosa has been proposed as a coping mechanism favoured by women who do not have more constructive ways of dealing with personal crises (Troop, 1998, cited in Polivy & Herman, 2002). This suggests a possible correlation between a poor

belief in coping abilities, such as a global sense of self-efficacy, and anorexia nervosa. However, no research to date seems to have specifically addressed this possibility. Furthermore, no studies could be found that explored anorexia nervosa and self-efficacy within a South-African context.

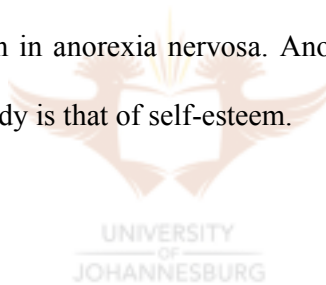
2.2.7. Implication for the current study

Chronic beliefs about the self, control and outcomes reflect key components of an individual's view of the world and of his or her ability to function successfully in that world. These self-beliefs are especially potent in shaping reactions to stressful life events (Cozzarelli, 1993). Anorexia nervosa can be regarded as a psychological disorder, which may be influenced by a person's perception of themselves and their ability to cope. An anorexic person's sense of self-efficacy (or lack thereof) in a global sense could, therefore, be implicated in either recovery from or maintenance of anorexia nervosa.

According to Bruch (1978), a distinguishing and central feature of anorexia nervosa is an all-pervasive sense of ineffectiveness, a feeling that one's actions, thoughts and feelings do not actively originate within the self but rather are passive reflections of external expectations and demands. It is a kind of lacuna at the core of the self, a sense of being 'nothing', of not being an active agent in control of one's destiny. It is possible that anorexic patients' sense of self-efficacy could be affected by this sense of ineffectiveness. The current study aims to explore the extent of self-efficacy in anorexia nervosa, since little is known about the specific relationship in the literature.

2.2.8. Conclusion

Bandura (1982, 1997) developed the concept of perceived self-efficacy that corresponds to the individual's conviction of being able to master specific tasks, situations or aspects of his or her psychological functioning while Schwarzer (1992,1993) introduced the concept of generalized self-efficacy that portrays a global confidence in one's coping ability. In the current study, self-efficacy will be conceptualised from Schwarzer's perspective. Although self-efficacy can be seen as a type of self-evaluation (Judge, 1997, cited in Caldeira, 2000), there seems to be a lack of research regarding self-efficacy and anorexia nervosa. The current study aims to address this lacuna by exploring the role of self-efficacy as a cognitive factor and, specifically, a self-evaluation in anorexia nervosa. Another self-evaluation that is of prime importance for this study is that of self-esteem.



2.3. SELF-ESTEEM

2.3.1. Introduction

It is generally accepted that self- evaluation is crucial to mental and social well being. It influences aspirations, personal goal and interactions with others (Baumeister, 1999). It has been suggested that a high self-esteem can lead to better health and social behaviour, and that poor self-esteem is associated with a broad range of mental disorders and social problems, both internalising problems (e.g. depression, suicidal tendencies and anxiety) and externalising problems (e.g. violence and substance abuse) (Mann, Hosman, Schaalma & Vries, 2004). Several studies have explored the

nature of self-esteem in the anorexic population (e.g. Awad & Voruganti, 2003; Bruch, 1962; Jacobi et al., 2002; Wilksch & Wade, 2004; Williams et al., 1994). However, self-esteem has not been explored together with self-efficacy.

In this section, self-concept and self-esteem will be defined and the various theories around self-esteem will be discussed. Thereafter, self-esteem and its relation to other personality traits will be examined. Finally, the research pertaining to the connection between anorexia nervosa and self-esteem will be presented.

2.3.2. Self-concept

Self-esteem is generally conceptualised as a part of the self-concept and, according to Rogers (1981) as well as Tesser and Campbell (1983) self-esteem is one of the most important parts of the self-concept. Hewitt (1970) states that the self consists of five major components: the first component is an organised set of motivations to pursue certain goals, such as satisfaction of basic sex drives, to have material possessions and to be esteemed by others.

The second component of the self is a series of roles to which the person is committed, along with knowledge of how to play them and acceptance of the norms governing the various role behaviours. The third component of the self is a more general set of commitments to social norms and their underlying values - a commitment acquired through general processes of socialisation.

The fourth component of the self is a set of cognitive abilities, including the ability to create and understand symbols which guide response to the intended meanings of others on social interaction and provide a 'map' of the physical and social setting in which the person finds himself. The fifth, and perhaps most important aspect of the self, is a set of ideas about one's qualities, capabilities, commitments and motives - a self image - that emerges through the degree to which an individual's motivations are achieved, and the ways in which the norms and values he has internalised lead to a personal evaluation of role performance, and the degree to which the cognitive abilities he has acquired enable him to understand and manipulate his environment. One concomitant of this theory is that measures of cognitive ability will be correlated with self-esteem (Bagley, Verma, Mallick & Young, 1979). Therefore, the self-concept is a distinct knowledge structure, made up of different elements and it forms the basis for self-understanding. In summary, the self-concept can be viewed as a cognitive schema that organises abstract and concrete memories about the self and controls the processing of self-relevant information (Baumeister, 1999).

2.3.3. Self-esteem

2.3.3.1. Perspectives on self-esteem

Self-esteem has been described differently by various authors, as will be discussed.

2.3.3.1.1. James' perspective on self-esteem

William James (1890) first referred to self-esteem as an elementary endowment of human nature. He regarded self-esteem as the ratio of pretensions to successes. People with grandiose ambition tend to fail even when accumulating considerable success. Their self-esteem is low because their pretensions are too lofty for them to match. People with modest pretensions, however, need little success for their self-esteem to be high. Thus, to increase self-esteem one must either increase one's successes or lower one's expectations (Baldwin & Hoffmann, 2002).

2.3.3.1.2. Rosenberg's perspective on self-esteem

Rosenberg's perspective focuses on global self-esteem and incorporates the sociological aspect of self-acknowledgement. Global self-esteem describes an overall evaluation of one's self as a person, or how one feels about one's self in a comprehensive sense (Rosenberg, 1965). Research indicates that children as young as 8 years make judgements of global self-esteem that can be distinguished from evaluation attached to specific characteristics of the self (Harter, 1999).

According to Rosenberg's perspective, global self-esteem gauges an individual's basic attitude toward his or her own worth by allowing that individual to invoke his or her own frame of reference. The emphasis is not on one's immediate or momentary self-perception; rather, it stresses the more permanent, more stable components of the self-image (Mecca, Smelser & Vasconcellos, 1989). Global self-esteem aims at capturing the individual's enduring, longstanding self-estimate.

Rosenberg (1965) emphasises an affective aspect and refers to self-esteem as a positive or negative attitude toward a particular object, namely, the self. Rosenberg (1965, 1979) further acknowledges that these feelings derive from the individual's evaluation of self in relation to criteria of excellence, derived in turn from what is valued by society. Thus, high self-esteem is expected to reflect and predict good adjustment and behaviours valued by society. In contrast, low self-esteem is expected to be associated with deviant behaviour that is not valued by society (Mecca, Smelser & Vasconcellos, 1989). Rosenberg (1965) suggests that the motive to achieve and maintain self-esteem is possibly the most powerful in the entire human repertoire.

He continues to stress the importance of the individual's immediate social context - particularly the family - in determining self-esteem. The emphasis is generally on the affect received from significant others within the individual's most immediate social context.

It is clear that Rosenberg (1979) emphasises how social-structural and contextual factors influence individuals' perceptions of self. This sociological perspective seems to see the structuring of self as developing throughout life, whereas the psychological tradition tends to see the self becoming structured in the earlier years. Rosenberg's perspective is primarily sociological, concentrating on the development of self-evaluative behaviour in terms of how social milieu affects behaviour (Rosenberg, 1965, 1979). For the purpose of this study, self-esteem will be defined from Rosenberg's perspective, that is, an overall evaluation of one's self as a person.

2.3.3.1.3. Coopersmith's perspective on self-esteem

Coopersmith (1981) defined self-esteem as the evaluation that the individual makes and customarily maintains with regard to himself. It expresses an attitude of approval or disapproval, and indicates the extent to which the individual believes himself to be capable, significant, successful and worthy. It is a personal judgement of worthiness that is expressed in the attitudes the individual holds toward himself as well as a subjective experience the individual conveys to others by verbal reports and other overt expressive behaviour. This definition centres upon the relatively enduring estimate of global self-esteem rather than upon specific and transitory changes in evaluation (Coopersmith, 1981). There are undoubtedly momentary, situational, limited shifts in self-evaluation, but these are not the concern of the present study.

In addition, self-esteem may vary across different areas of experience and according to sex, age and other role-defining conditions. But, one's overall appraisal of one's abilities would presumably weigh according to one's subjective importance, enabling him to arrive at a general level of self-esteem. Therefore, for the purpose of this study, global self-esteem will be evaluated. In order to broaden the understanding of self-esteem, the different perspectives on self-esteem will be presented.

2.3.3.1.4. Rogers' perspective on self-esteem

Rogers (1961) modified James' ideas, preferring a concept of self-ideal discrepancy. He emphasised who people are (the real self), not what they can accomplish. A congruency between real self and ideal self means self-acceptance. Rogers (1961) argued that what is important is not one's view of one's ability but one's view of one's ability relative to an ideal - what one would like to be.

2.3.3.1.5. Identity theory on self-esteem

An overall theory of self-esteem has been developed by bringing together various conceptualisations of self-esteem in the framework of identity theory. According to this view, proposed by Ervin & Stryker (2001, cited in Cast & Burke, 2002), self-esteem can be understood as a central component of basic identity processes.



From this perspective, self-esteem has been viewed on the presumption of three conceptualisations. Firstly, self-esteem has been investigated as an outcome (Coopersmith, 1981; Rosenberg, 1979). Secondly, self-esteem has been investigated as a self-motive, noting the tendency for people to behave in ways that maintain or increase positive evaluation of the self (Kaplan, 1975; Tesser, 1988). Finally, self-esteem has been investigated as a buffer for the self, providing protection from experiences that are harmful (Longmore & DeMaris, 1997 cited in Cast & Burke, 2002). Identity theory attempts to synthesise the above three conceptualisations and presumes that self-esteem also serves as a type of defence mechanism. When individuals are unable to verify their identities, the self-esteem produced by previous

successful efforts at self-verification 'buffers' or protects individuals from the distress associated with a lack of self-verification (Burke, 1991). Thus, self-esteem is analogous to a 'reservoir of energy'. Like any other resource, self-esteem can be built up, but when used, it is lost. Here, the reservoir of self-esteem is filled up by successful self-verification and used up when the self-verification process is disrupted (Cast & Burke, 2002).

2.3.3.1.6. Meadian theory on self-esteem

James, Mead and their followers (1890, cited in Bagley et al., 1979) proposed this theory, whereby the self arises from interaction with others. The individual's notion of himself, and especially his evaluation of himself, is derived from his interaction with others who evaluate him in various ways. This interactionist conception of the self makes the self- social in origin: the self arises in social interaction (Bagley et al., 1979).

According to the Meadian theory, the process, 'taking the role of others', describes how a person comes to have beliefs about himself (self-concepts) which are similar to those his significant others have of him (Bagley et al., 1979). Thus, a person's self-esteem is also congruent with the evaluation of those around him.

2.3.3.1.7. Summary

Various perspectives on self-esteem exist, but those proposed by Rosenberg and Coopersmith have been most well known. For the purpose of the current study, self-

esteem will be viewed from Rosenberg's (1965) perspective that focuses on global self-esteem and holds a sociological perspective. Low self-esteem has been found as a discriminating characteristic of eating-disordered patients (Polivy & Herman, 1987; Striegel-Moore, Silberstein & Rodin, 1986). The role of self-esteem in this specific population will be addressed in more detail in the following section.

2.3.5. Anorexia nervosa and self-esteem

Low self-esteem or a negative self-concept has assumed a central role in explaining eating disorders. Bruch (1962) first described disturbances in self-concept in terms of a 'paralysing sense of ineffectiveness' as one of the three characteristic psychopathologic features of eating-disordered patients. Many anorexic patients exhibit a low level of self-esteem, lack self-assurance and feel inadequate despite a high level of intelligence and a history of academic success. Their tendency towards obsessiveness may show itself in perfectionism, and by setting themselves the highest (often unattainable) standards they may set themselves up for failure (Frude, 1998).

Various researchers have examined the role of self-esteem in anorexic patients. It has been found that patients with anorexia nervosa exhibit lower self-esteem or a more negative self-concept than healthy control groups (Jacobi et al., 2002). Jacobi et al. (2002) confirmed that eating-disordered patients displayed lower self-esteem and higher feelings of ineffectiveness compared with healthier control groups, even after controlling depression. In addition, Williams et al. (1994) found that anorexic patients had significantly lower self-esteem than bulimic patients. Finally, Wilksch & Wade (2004) reported that women with anorexia nervosa had significantly higher shape and

weight concerns and lower self-esteem than restrained eaters. The above research findings confirm that women with anorexia nervosa seem to have a lower self-esteem. Several factors seem to be related to self-esteem in anorexia nervosa.

2.3.5.1. Dieting and body dissatisfaction

There appears to be some relationship between dieting, low self-esteem and eating disorders. Physiological functions such as appetite, food consumption and body weight are intricately linked to psychological constructs such as body image and self-esteem (Awad & Voruganti, 2003). Dieting, which is highly prone to disruptions that result in overeating, often produces a downward spiral of self-esteem that contributes more specifically to eating disorders (Heatherton & Polivy, 1992).

It seems that adolescent girls begin to diet as a consequence of body dissatisfaction. Potential consequence of body dissatisfaction is the effect it has on the global view of the self - both on how women think of themselves (self-concept) and on their overall affective evaluation of themselves (self-esteem). Self-concept theories propose that dissatisfaction in a particular domain will have an impact on self-esteem to the extent that the domain is important in the person's self-definition (Webster & Tiggemann, 2003).

The degree to which shape and weight concerns influence feelings of self-worth has been recognised as an important cognitive feature of anorexia nervosa [APA, 2000]. The cognitive model of eating disorders (Fairburn et al., 1997) posits strong associations among self-esteem, shape and weight concerns and excessive dietary

restriction. Various studies have supported a relationship between body dissatisfaction and low self-esteem in women (Monteath & McCabe, 1997, cited in Webster & Tiggemann, 2003).

2.3.5.2. Attempts to regulate negative affect

Eating disorders, such as anorexia nervosa, serve as desperate attempts to regulate overwhelming negative affect and to construct a coherent sense of self when internal structures are lacking (Rorty & Yager, 1996, cited in Polivy & Herman, 2002). Low self-esteem and negative affect have been shown to predict eating disorder symptomatology four years later (Leon et al., 1997). This suggests a correlation between self-esteem and anorexia nervosa whereby part of the eating disorder is a hopeless attempt to gain self-esteem.

In contrast, eating disorders have also been viewed as coping mechanisms favoured by women who do not have more constructive ways of dealing with personal crises (Troop, 1998, cited in Polivy & Herman, 2002). In this sense, self-esteem is meant to be the tool that helps tackle adversity; therefore, a person who lacks self-esteem uses other methods to cope - i.e. anorexia nervosa. Both views, however, imply that self-esteem plays some part in the dynamics of anorexia nervosa.

2.3.5.3. Emotional control

According to Fairburn et al. (1997), the higher a person's self-esteem, the higher emotional control they will exhibit. It has been suggested that the anorexic patient attempts to gain some emotional control by refocusing her attention to weight, shape and eating. She achieves at least partial emotional gratification by avoiding food and achieving slimness (Polivy & Herman, 2002). However, in anorexia nervosa, the person's lack of self-esteem perpetuates the need for emotional control.

2.3.5.4. Perceived Rejection

Levine et al. (1994) proposed that girls are affected by how their peers and family view them. If a girl has a low self-esteem coupled with rejection from her peers and family, she will have to find a mechanism of coping with it and it may manifest itself in an eating disorder. Perceived rejection may cause lower self-esteem and maladaptive behaviour, including eating disorders (Polivy & Herman, 2002).

2.3.5.5. Perfectionism

Empirically, perfectionism has been positively associated with eating disorders (Axtell & Newlon, 1993). In addition, self-esteem has been found to moderate perfectionism and feeling overweight (Bardone, 2000, cited in Polivy & Herman, 2002).

Anorexia nervosa has also been associated with maladaptive perfectionism as described by Hamachek (1978) and specifically to lower levels of self-esteem (Ashby & Rice, 2002). It seems that girls suffering from anorexia nervosa strive for the 'idealised image' that results in maladaptive perfectionism and lower self-esteem.

2.3.6. Implications for the current study

Anorexia nervosa, mostly developing in adolescence, progresses throughout the adult years. The majority of aspects that contribute to anorexia nervosa such as body dissatisfaction, negative affect, emotional control, rejection and perfectionism seem to be related to self-esteem (Awad & Voruganti, 2003; Axtell & Newlon, 1993; Fairburn et al., 1997; Heatherton & Polivy, 1992; Leon et al., 1997; Levine et al., 1994;). As far as the author could establish, there has been no research conducted with a South-African adolescent sample regarding anorexia nervosa and self-esteem specifically. For the purpose of this study, the self-esteem of a group of South-African adolescents with anorexia nervosa will be evaluated.

2.3.7. Conclusion

Self-esteem is one of the most important parts of the self-concept. It is the evaluation that the individual makes and maintains with regard to herself. The various perspectives on self-esteem have been presented, and this study will be conceptualised from Rosenberg's perspective. According to this theory, self-esteem refers to a positive or negative evaluation of the self that is influenced by social-structural and contextual factors. Research confirms the relationship between anorexia nervosa and

self-esteem including several factors that connect anorexia nervosa and self-esteem such as dieting and body dissatisfaction, negative affect, emotional control, perceived rejection and perfectionism. Research pertaining to anorexia nervosa and self-esteem within a South-African context has not yet been carried out and, therefore, this study may contribute to more knowledge in this regard.

2.4. Concluding summary

The essential features of anorexia nervosa are that the individual refuses to maintain a minimally normal body weight, is intensely afraid of gaining weight and exhibits a significant disturbance in the perception of the shape or size of his or her body [APA, 2000]. Anorexia nervosa typically begins in mid-to-late adolescence (age 14-18 years). Szmuckler & Patton (1995) estimated that 0.7% of girls up to the age of 16 fulfilled criteria for anorexia nervosa. Follow-up studies show that only 10% of those with anorexia nervosa fully recover. It is evident that anorexia nervosa has reached epidemic proportions and any research that can further shed light on this disorder is valuable.

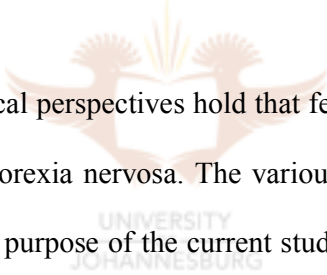
The etiology of anorexia nervosa constitutes various elements. The biological perspective assumes that genetic twins, family studies and neuroendocrine dysfunction provide evidence for genetic underpinning of eating disorders. The intrapersonal perspective suggests that a preoccupation and dissatisfaction with one's own body is a correlate of anorexia nervosa. In addition, personality characteristics, such as introversion, social insecurities and perfectionism, have been contended to contribute to the development of anorexia nervosa. Furthermore, the intrapersonal

view holds that a functional relation between negative affect and eating disorder symptoms has been proposed as well as eating as a coping mechanism. Finally, the cognitive distortions that accompany anorexia nervosa include obsessive thoughts, inaccurate judgements and rigid thinking patterns.

The interpersonal perspective proposes that various family patterns of interaction contribute to anorexia nervosa. This view analyses the influence that peers have on the development of anorexia nervosa as well as the socio-cultural pressures that contribute to it. For the purpose of this research, the impact of cognitions and cognitive distortions on the progression of anorexia nervosa is considered important.

The psychological theories regarding anorexia nervosa namely, the psychodynamic theory, family-systems theory and cognitive-behavioural theory have been discussed in depth. In summary, the psychodynamic theory implies that disturbed parent-child relationships and certain personality traits contribute to anorexia nervosa. The family-systems theory suggests that an individual is physiologically vulnerable and this, coupled with the individual's family, promotes the development of an eating disorder. Finally, the cognitive-behavioural perspective proposes that the origin of anorexia nervosa lies in the need to feel in control of one's life, which gets displaced into controlled eating. This approach focuses on the anorexic's dysfunctional body image schemas and faulty coping strategies that reinforce negative self-evaluations. Two self-evaluations - i.e. self-efficacy and self-esteem - will be explored in the current study.

Previous studies have attempted to explain anorexia nervosa, as far as cognitive factors are concerned, more in the context of negative cognitions (Vitousek & Hollon, 1990). However, little is known about their evaluations of generalized self-efficacy. The construct generalized self-efficacy reflects an optimistic self-belief (Schwarzer, 1992). Both Bandura and Schwarzer's views on self-efficacy have been explored. In addition, sources of self-efficacy information and factors contributing to the development of self-efficacy have been discussed. It seems possible that a lack of generalized self-efficacy could contribute to anorexia nervosa. However, there seems to be a lack of evidence regarding the role of self-efficacy in anorexia nervosa. No studies could be found that explored the role of generalized self-efficacy in anorexia nervosa.



All the discussed psychological perspectives hold that feelings of inadequacy and low self-esteem play a role in anorexia nervosa. The various perspectives on self-esteem have been discussed. For the purpose of the current study, self-esteem will be viewed from Rosenberg's perspective that focuses on global self-esteem and incorporates the sociological aspect of self-acknowledgement. Global self-esteem describes an overall evaluation of one's self as a person, or how one feels about one's self in a comprehensive sense (Rosenberg, 1965). Although previous studies have demonstrated that low self-esteem is a discriminating characteristic of eating-disordered patients (Polivy & Herman, 1987; Striegel-Moore et al., 1986), the evaluation of global self-esteem and anorexia nervosa has not been explored within a South-African context.

Since no literature could be found regarding the relationship between anorexia nervosa and self-efficacy, and since the role of self-esteem has only been investigated in the context of personality and anorexia nervosa, the current study will explore these cognitive factors in anorexia nervosa within a South-African context.

In the next chapter, the methodology of the empirical study will be described.



CHAPTER 3 METHODOLOGY

3.1. Introduction

This chapter describes the research design, participants and method of application. The measuring instruments, hypotheses as well as the data analysis will be presented.

3.2. Research design

An ex-post-facto experimental-control group research design was implemented.

3.3. Participants

For the purpose of this study, the researcher utilised convenience sampling. Convenience sampling is obtaining participants from the individuals who are accessible or convenient to the researcher. Provided that the groups created are mostly equivalent, convenience sampling typically does not limit the importance of experimentation (Kiess, 1989).

The researcher tried to match the samples as far as possible. The experimental group and the control groups were matched in the sense that both groups consisted mostly of white, South-African female adolescents, within the 14-20 year-old range, who constituted the middle- or upper-class income group.

Participants for the experimental group were recruited from psychologists in private practice, a clinic and dieticians practising in Johannesburg. The control group consisted of volunteers recruited at high schools, from a Youth Movement as well as family friends in Johannesburg. Participants in both groups were requested to complete a biographical questionnaire, the Generalized Self-Efficacy Scale and the Rosenberg Self-Esteem Scale.

Participants in the experimental group were selected according to the following criteria:

- Diagnosed with and being treated for anorexia nervosa (to make the group as homogenous as possible)
- Between 14-20 years-old
- White females
- Willing to complete questionnaires (to comply with ethical requirements)
- South African citizens (to prevent contaminating variables)



Participants in the control group were selected according to the following criteria:

- Between 14-20 years-old
- White females
- Willing to complete questionnaires (to comply with ethical requirements)
- South African citizens (to prevent contaminating variables)

The participant group finally consisted of 47 white adolescent girls. One participant in the control group indicated that she was Indian or Asian. There were 24 adolescent females in both the experimental and control group. For the experimental group, 11 participants were recruited from dieticians, 9 participants were recruited from psychologists and 4 participants were recruited from Crescent Clinic.

For the control group, 10 participants were from a High School, 7 participants were from family friends and 7 participants were from a Youth Movement. During the course of the study, 2 girls failed to complete the questionnaire and one girl did not meet the criteria for the sample.

3.4. Measuring instruments



The following measures were used:

3.4.1. Biographical questionnaire

This questionnaire was used to obtain all the necessary biographical information as well as additional information the researcher considered to be relevant to the study. It consists of 22 items of which 3 items were scored on a 5-point Likert scale and 10 items were scored on a 7-point Likert scale. Only the 10 items scored on the 7-point Likert scale were included in the final data analysis, since the researcher considered it most relevant to the study (see Appendix).

3.4.2. Generalized Self-Efficacy Scale (GSE)

3.4.2.1. Rationale

The Generalized Self-Efficacy Scale (GSE), a 10-item scale, was developed by Schwarzer and Jerusalem (1993). The scale was developed to assess a general sense of self-efficacy, with the aim to predict coping with daily problems as well as adaptation after experiencing stressful life events.

Self-efficacy refers to global confidence in one's coping ability across a wide range of situations, and reflects an optimistic self-belief. According to Schwarzer (1993), self-efficacy reflects the belief of being able to control challenging demands by taking adaptive action. The Generalized Self-Efficacy Scale aims at measuring this general sense of competency, rather than competency in specific domains of functioning.



3.4.2.2. Nature and administration

The Generalized Self-Efficacy Scale consists of 10 items. It is answered on a 4-point Likert-type scale, where the individual has to indicate to what extent she agrees with these 10 items. Possible responses are:

Not at all true (1); Barely true (2); Moderately true (3); and Exactly true (4).

The scale is short and easy to complete, and takes about five minutes.

3.4.2.3. Scoring and interpretation

Possible raw scores range from 10 to 40. A higher score indicates a higher sense of self-efficacy. In this study raw scores are used.

3.4.2.4. Reliability and validity

According to Schwarzer (1993), the Generalized Self-Efficacy Scale has been used in numerous research projects where it yielded internal consistencies between alpha = 0.75 and 0.90. In more recent studies, the reliability of the scale was confirmed as seen in the findings of alpha values ranging from 0.74 to 0.92. In the current study, a Cronbach alpha value of 0.871 has been found indicating that this scale is reliable for the current sample.

Schwarzer (1993) states that the scale is valid in terms of convergent and discriminant validity. It correlates positively with self-esteem and optimism and negatively with anxiety, depression and physical symptoms.

It can be concluded that the Generalized Self-Efficacy Scale has favourable psychometric properties.

3.4.2.5. Motivation for use

Self-efficacy can be viewed as a type of self-evaluation, which may play some part in anorexia nervosa. Schwarzer (1992) developed the concept of generalized self-

efficacy, which is a more global concept of self-efficacy. He regards generalized self-efficacy as one of the personal resource factors that counterbalance taxing environmental demands in the stress appraisal process (Schwarzer, 1992). Owing to the fact that the Generalized Self-Efficacy Scale has sound psychometric properties, and has been used in many research projects before, it was the most acceptable test to be used. The scale was included to get an indication of the level of self-efficacy of participants in the two groups.

3.4.3. Rosenberg Self-Esteem Scale (SES)

3.4.3.1. Rationale

The Rosenberg Self-Esteem Scale (SES), a 10-item scale, was developed by Rosenberg (1965). The scale was developed to assess a global self-esteem, with the aim to predict overall feelings of self-worth or self-acceptance.

Self-esteem is one's personal judgement of worthiness that is expressed in the attitudes the individual holds toward himself (Coopersmith, 1981). Global self-esteem is one's overall appraisal of one's abilities that would presumably weigh according to one's subjective importance. The Rosenberg Self-Esteem Scale does not specify particular areas of activity or qualities that individuals must take into consideration when judging themselves. Rather, the scale attempts to gauge a respondent's basic attitude toward his or her own worth by allowing individuals to invoke their own frame of reference (Mecca et al., 1989).

3.4.3.2. Nature and administration

The Rosenberg Self-Esteem Scale (SES) consists of 10 items. It is answered on a 5-point Likert-type scale, where the individual has to indicate to what extent she agrees with these 10 items. Possible responses are:

Strongly disagree (1); Disagree (2); Neutral (3); Agree (4) and Strongly agree (5).

The scale is short and easy to complete, and takes about five minutes.

3.4.3.3. Scoring and interpretation

Possible raw scores range from 10 to 50, which can be converted to a standardised score ranging from 12 to 81. A higher score indicates a higher sense of global self-esteem. In this study raw scores are used. For scoring and interpretation purposes, questions 2, 5, 6, 8 and 9 are inverted indicating that it has the opposite meaning to the rest of the scale.

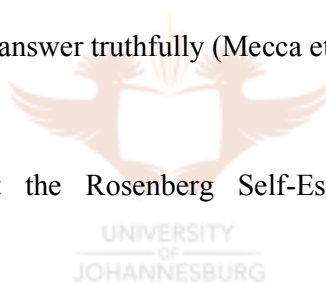
3.4.3.4. Reliability and validity

According to Rosenberg (1965), the Rosenberg Self-Esteem Scale has a reported internal consistency of .88 and test-retest correlation of .82, which indicates that the test is a highly reliable measure of self-esteem. A similar high internal reliability alpha 0.92 was found in more recent studies. In the current study, a Cronbach alpha value of 0.802 has been found indicating that it is reliable.

The Rosenberg Self-Esteem Scale's face validity appears to be good and its convergence with other measures of self-esteem and is acceptably high, ranging from .67 to .83. In addition, the scale appears to have the ability to predict and concur with behaviours, attitudes and experiences to which self-esteem is theoretically expected to be related - e.g. depressive affect, anxiety and interpersonal insecurity (Mecca et al., 1989).

Regarding the scale's ability to provide an accurate assessment of the individual's internal reality, there remains, as there does for all self-concept measures, the possibility that respondents may distort reality in order to provide socially desirable answers. Researchers hope that if they are able to establish rapport and guarantee anonymity, respondents will answer truthfully (Mecca et al., 1989).

It can be concluded that the Rosenberg Self-Esteem Scale has favourable psychometric properties.



3.4.3.5. Motivation for use

Self-esteem is another self-evaluation and has previously been explored in the anorexic population. Although previous studies have demonstrated that low self-esteem is a discriminating characteristic of eating-disordered patients (Polivy & Herman, 1987; Striegel-Moore et al., 1986), this study has not been done within the South-African context. The Rosenberg Self-Esteem Scale (SES) has been used in several studies (e.g. Baldwin & Hoffman, 2002; Cast & Burke, 2002; Mecca et al.,

1989) and was included here to obtain an indication of the participants' level of global self-esteem.

3.5. Hypotheses

The basic hypothesis of this study is that female adolescents who have been diagnosed with anorexia nervosa exhibit lower levels of self-efficacy and lower levels of self-esteem in comparison to a control group. There are two null and alternative hypotheses, stated as follows:

H_{01} = There is no significant difference between the experimental group and the control group regarding levels of self-efficacy.

H_{a1} = There is a significant difference between the experimental group and the control group, regarding levels of self-efficacy.

H_{02} = There is no significant difference between the experimental group and the control group regarding levels of self-esteem.

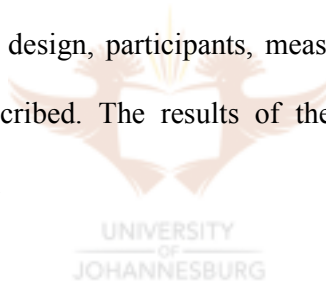
H_{a2} = There is a significant difference between the experimental group and the control group, regarding levels of self-esteem.

3.6. Data analysis

Cronbach alpha reliability indices were determined for both scales, using data of both groups. Two-tailed t-tests were used to determine significance of differences between the experimental and control group with regard to the levels of self-efficacy and self-esteem. A Pearson's correlation co-efficient was used to determine the correlation between self-efficacy and self-esteem. The statistical program used is The Statistical Package for the Social Sciences (SPSS- Version 13).

3.7. Summary

In this chapter, the research design, participants, measuring instruments, hypothesis and data analysis were described. The results of the research are presented and discussed in the next chapter.



CHAPTER 4 RESULTS AND INTERPRETATION

4.1. Introduction

In this chapter, the results of the empirical study will be described and interpreted. The results from the biographical questionnaire will be briefly discussed. Also, the reliability of the Generalized Self-Efficacy Scale and the Rosenberg Self-Esteem Scale will be evaluated and the results from the self-efficacy, self-esteem and anorexia nervosa construct will be interpreted.

4.2. Biographical questionnaire

4.2.1. Demographic characteristics of participants

4.2.1.1. Age



TABLE 4.1: Frequency distribution

Age	Frequency	Percent
14	4	8.3
15	8	16.7
16	2	4.2
17	8	16.7
18	12	25.0
19	6	12.5
20	8	16.7
Total	48	100.0

TABLE 4.2: Age

Whole Sample		
N	Mean	Std. Deviation
24	17.38	1.929

4.2.1.2. Perception of immediate family income group

Most participants in the two groups perceived themselves to be in the lower-middle income groups.

TABLE 4.3: Perception of immediate family income group

	Experimental Group		Control Group		Total	
	Count	% in Group	Count	% in Group	Count	% in Group
Upper	2	8.3%	12	50%	14	29.2%
Middle / Lower	22	91.7%	12	50%	34	70.8%

4.2.1.3. Race

As indicated in Table 4.3, there were 47 White females, while 1 participant indicated herself to be Indian or Asian. This discrepancy was only noticed after statistical analysis was completed.

TABLE 4.4: Race

Group	Frequency	Percent
White	47	97.9
Indian or Asian	1	2.1
Total	48	100.0

4.2.2. Other self-evaluations

In the biographical questionnaire, 10 further questions were put to the participants. These questions concerned with self-evaluation related to conscientiousness, effort put into school work, getting involved in challenging activities, general competence in activities engaged in, interpersonal style, general mood, coping ability at school, competency as a family member, coping with social situations and communication within the family. These evaluations were rated on a Likert scale. Significance of differences between the experimental and control group are reflected in Table 4.5.

The results of the t-tests indicate no significant differences between the experimental and control groups regarding evaluation of conscientiousness, effort put into school work, getting involved in challenging activities and coping ability at school.

TABLE 4.5: Other self- evaluations

Evaluation	Experimental Group		Control Group		p	t
	Mean	Std.	Mean	Std.		
1. Conscientious (high - low)	2.04	1.429	2.75	1.189	0.068	1.867
2. Effort in school work (high - low)	2.04	1.574	2.67	1.308	0.141	1.496
3. Involvement in challenging activities (high - low)	4.50	1.745	4.88	1.541	0.434	0.789
4. General competence in activities (high - low)	2.79	1.285	2.54	1.179	0.486	-0.702
5. Inter-personal style (outgoing - shy)	4.21	2.021	2.46	1.215	0.001 **	-3.635
6. General mood (happy - sad)	5.00	1.694	2.08	1.100	0.000 ***	-7.074
7. Coping ability at school (very well - not at all)	2.83	1.579	2.50	1.474	0.454	-0.756
8. Competence as family member (competent - incompetent)	3.42	2.083	2.04	0.999	0.005 *	-2.915
9. Coping ability with social situations (very well - not at all)	3.67	1.971	1.79	0.932	0.000 ***	-4.214
10. Communication in family (available to discuss issues - never available to discuss issues)	4.25	2.005	2.13	1.393	0.000 ***	-4.264

* $p = \leq 0.05$ ** $p = \leq 0.01$ *** $p = \leq 0.001$

However, the two groups differed significantly regarding self-evaluation of interpersonal style, general mood, perceived competence as a family member, coping with social situations and communication within the family. Specifically, the experimental group rated themselves as being shyier than the control group ($p \leq$

0.001). This finding is in accordance with Scott and Baroffio's (1986) study that noted vulnerable predisposing personality factors such as anxiety and introversion that appears to be associated with eating disorders. The experimental group further rated themselves as being sadder, in comparison to the control group ($p \leq 0.001$). This finding is congruent with previous research that states that depression is often present in adolescents with anorexia nervosa with a comorbidity rate of 73% (Herzog et al., 1992).

When evaluation of competence as a family member is considered, the experimental group seems to feel less competent than the control group ($p \leq 0.05$). This finding is congruent with research explaining that family influences may contribute to anorexia nervosa including family discord, alienation of affection and restriction of autonomy (Strober & Humphrey, 1987). The experimental group further rated themselves lower with regard to coping with social situations ($p \leq 0.001$). This finding is in accordance with Strober (1980) who concluded that patients with anorexia nervosa are socially insecure and, therefore, do not cope well in social situations. Finally, the experimental group described communication opportunities in their families as being less available than the control group ($p \leq 0.001$). This finding is congruent with previous research that reported that the families of girls with anorexia nervosa evidenced over-involvement, failure to resolve conflicts and poor communication (Fosson, Knibbs, Bryant-Waugh & Lask, 1987).

These evaluations were not part of the main study, but were included to gain additional information regarding self-evaluations.

4.3. Reliability of measurements

Cronbach alpha values were calculated for both the measuring instruments. The reliability indices of all measures were satisfactory (see Table 4.6).

TABLE 4.6: Reliability of measurements

Measuring Instruments	Cronbach Alpha
Generalized Self-Efficacy Scale	0.871
Rosenberg Self-Esteem Scale	0.802

4.4. Significance of differences between the experimental and control group regarding self-efficacy and self-esteem

4.4.1. Significance of differences between the experimental and control group regarding levels of self-efficacy

Results of the two-tailed t-test indicated no significant difference between the experimental and control group regarding levels of self-efficacy. The p-value is 0.101 which is larger than 0.05; therefore, one cannot reject the null hypothesis. The effect size, which indicates practical significance of differences, is 0.240 indicating that there is no significant difference of self-efficacy for the experimental and control group. With a small sample like this, the Mann-Whitney Test was also done, which

confirmed the small effect size. These results indicate that there is no significant difference between the experimental and control group regarding levels of self-efficacy. Self-efficacy reflects a sense of control over one's environment. It reflects the belief of being able to control challenging environmental demands by means of taking adaptive action (Schwarzer, 1992). These results show that adolescent girls with anorexia nervosa perceive themselves as having a sense of control over their environment, similar to the control group. The mean raw score of the control group was similar to findings in other recent studies, where the mean raw score for adolescents ranged from 29.58 to 30.64 (Luszczynska, Gutierrez-Dona & Schwarzer, 2005; Pulford, Johnson & Awaida, 2005).

The lack of significant difference regarding the level of self-efficacy between the two groups was surprising, since several authors, such as Bruch (1962) have noted that anorexic patients seem to experience a paralysing sense of ineffectiveness. Possible explanations for this lack of difference will be discussed in Chapter 5.

TABLE 4.7: Significance of differences between the experimental and control group regarding levels of self-efficacy

Measure	Experimental Group		Control Group		p	Effect size
	Mean	Std.	Mean	Std.		
GSE	26.91	6.43	29.62	4.58	0.101	0.240

* $p \leq 0.05$ ** $p \leq 0.01$ *** $p \leq 0.001$ +effect size = [0.5]: medium effect

4.4.2. Significance of differences between the experimental and control group regarding levels of self-esteem

Results of the two-tailed t-test indicated a significant difference between the experimental and control group regarding levels of self-esteem.

The p-value is 0.02, which is smaller than 0.05; therefore, the null hypothesis can be rejected in favour of the alternative hypothesis. The effect size is 0.436 indicating a moderate to large effect that shows the difference is practically significant. A Mann-Whitney Test was also implemented, since the sample was small, and confirmed the moderate to large effect size.

By calculating the mathematical average of the two groups, it was ascertained that the experimental group's average was lower than that of the control group. These results confirm that the experimental group had a significantly lower level of self-esteem in comparison to the control group. This finding is congruent with Bruch's (1962) view that low self-esteem or a negative self-concept plays a central role in eating disorders. Previous findings confirmed that dieting disordered patients do have low self-esteem (Griffiths et al., 1999).

Various other research support these findings, such as Jacobi et al. (2002), who found that patients with anorexia nervosa exhibit lower self-esteem or a more negative self-concept than healthy control groups. In addition, Wilksch and Wade (2004) reported that women with anorexia nervosa had significantly higher shape and weight concerns and lower self-esteem than restrained eaters. Bas et al. (2004) confirmed that

participants who had disturbed eating attitudes had lower self-esteem than those who had normal eating attitudes. The current finding suggests that South African adolescents diagnosed with anorexia nervosa exhibit lower levels of self-esteem, which is similar to other studies done world-wide. The mean raw score of the control group was slightly higher than scores reported in other studies of adolescents in general. Pulford et al. (2005) reported a mean score of 28.17 on the Rosenberg Self-Esteem Scale in a group of university students while Cheng and Furnham (2003) reported a mean score of 31.05 in a group of female adolescents.

TABLE 4.8: Significance of differences between the experimental and control group regarding levels of self-esteem

Measure	Experimental Group		Control Group		p	Effect size
	Mean	Std.	Mean	Std.		
SES	28.58	9.45	36.95	8.14	0.02*	0.436+

* p = ≤ 0.05 ** p = ≤ 0.01 *** p = ≤ 0.001 +effect size = [0.5]: medium effect

4.5. Correlation between self-efficacy and self-esteem

A Pearson coefficient was calculated for the scores of the two groups on both measures, yielding a correlation coefficient of 0.778. Recent research in an adult sample (Luszczynska et al., 2005) also found a high correlation of 0.81 between self-efficacy and self-esteem.

4.6. Concluding summary

Results from the empirical study indicate that there is a significant difference between the experimental and the control group when self-efficacy and self-esteem are viewed collectively. However, post hoc t-tests revealed no significant differences between the two groups regarding levels of self-efficacy, and a significant difference regarding levels of self-esteem. Specifically, the control group seems to exhibit higher levels of self-esteem in comparison to the experimental group. The lack of significant difference between the two groups regarding levels of self-efficacy was surprising, since the two measures were found to be interrelated. The finding may be due to chance factors, or the relatively small sample size. Another possibility is that a scale devised to measure domain-specific self-efficacy may be more relevant in eating disordered patients. Other possible explanations will be offered in the next chapter.

Research from previous studies supports the conclusion that anorexic girls have lower levels of self-esteem in comparison to a control group (e.g. Bas et al., 2004; Griffiths et al., 1999; Jacobi et al., 2002; Wilksch & Wade, 2004). Specifically, adolescent girls in the experimental group seem to experience lower levels of self-esteem in comparison to the control group. Possible reasons for the lack of significant difference regarding levels of self-efficacy between the two groups will be presented in the final chapter. Final conclusions and recommendations will be presented in Chapter 5.

CHAPTER 5 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1. Introduction

In this chapter, the main conclusions regarding the literature review will be presented followed by the main results from the empirical study. Possible limitations of the study will be noted and recommendations will be made for future research.

5.2. Conclusions based on the review of the literature

Anorexia nervosa is a debilitating disorder, characterised by sustained and determined pursuit of weight loss. It is mostly prevalent among adolescent girls and there seems to be an increase in reported cases in the past 20 years. It has been estimated that 15% or more of college women meet diagnostic criteria for anorexia nervosa and bulimia nervosa (Borgen & Corbin, 1987).

Eating disorders, in general, and anorexia nervosa and bulimia nervosa in particular, are complex problems, involving behavioural, cognitive and emotional issues (Bussolotti et al., 2002). The cause of eating disorders, and particularly anorexia nervosa, is complex. Recent research has explored the role of causal factors such as biological factors, intrapersonal factors (body image, personality, cognition and perfectionism) and interpersonal factors (family influences, peer relations and socio-cultural pressure). For the purpose of this study, the role of cognitive factors in anorexia nervosa was of prime importance. Although various theoretical views on anorexia nervosa exist (e.g. psychodynamic and family-systems perspective), the

cognitive-behavioural view was used as a point of departure for this study. According to this perspective, negative self-evaluations play some part in the development and maintenance of anorexia nervosa.

Two specific self-evaluations were considered - i.e. self-efficacy and self-esteem. Generalized self-efficacy reflects a global confidence in one's coping ability across a wide range of demanding situations. From the literature, anorexia nervosa has been proposed as a coping mechanism favoured by women who do not have more constructive ways of dealing with personal crises (Troop, 1998, cited in Polivy and Herman, 2002). It is, therefore, possible that a lack of generalized self-efficacy could contribute to anorexia nervosa. Self-esteem is seen as the evaluation that the individual makes and maintains with regard to himself/herself. From the literature, previous findings confirmed that patients with anorexia nervosa do have low self-esteem (Griffiths et al., 1999).



Since little scientific knowledge exists regarding the levels of generalized self-efficacy in anorexic patients, and since the role of self-esteem and anorexia nervosa has not been investigated in a South-African adolescent population, the current study has attempted to contribute to scientific knowledge in this regard.

The first two aims were obtained in the literature review. They were, firstly, to explore and explicate relevant literature on anorexia nervosa, namely, the definition, developmental course, prevalence, associated characteristics, etiology and psychological theories and, secondly, to explore and explicate two cognitive self-evaluations, namely, self-efficacy and self-esteem.

5.3. Conclusions based on the empirical study

5.3.1. Self-efficacy and anorexia nervosa

Results obtained indicated that there is no significant difference between the experimental and control groups' level of self-efficacy. This was a surprising finding given the fact that a recent study (Luszczynska et al., 2005) confirmed a correlation between self-efficacy and self-esteem. Specifically, these authors argued that persons with low self-efficacy have low self-esteem and harbour pessimistic thoughts about their accomplishments and personal development. According to the literature, self-efficacy reflects a sense of control over one's environment. It reflects the belief of being able to control challenging environmental demands by means of taking adaptive action (Schwarzer, 1992). These results, therefore, suggest that adolescent girls with anorexia nervosa perceive themselves as having a sense of control over their environment, comparative to a control group of adolescent girls. They also perceive themselves as coping with daily problems as does the control group.

Possible explanations of this lack of significant difference between the two groups are as follows: Firstly, the majority of the experimental group consists of adolescents being treated for anorexia nervosa on an outpatient basis, implying that their daily functioning was not so severely affected that they had to be hospitalized. In this sense, a level of self-efficacy that is comparative to the control group may be a resource factor that assists them in coping with life in general. Another possible explanation may be that in anorexic adolescents, a global measure of self-efficacy needs to be viewed in conjunction with domain-specific measures of self-efficacy to gain a further

understanding of this self-evaluation. Chance factors and the small sample size may also have contributed to the results.

5.3.2. Self-esteem and anorexia nervosa

The results from the current study confirmed previous research regarding self-esteem and anorexia nervosa. Specifically, the results indicate that adolescents with anorexia nervosa exhibited lower levels of self-esteem in comparison to a control group. This finding is congruent with Frude's (1998) view that low self-esteem or a negative self-concept plays a central role in eating disorders. This view holds that many anorexic patients have a low level of self-esteem, lack self-assurance and feel inadequate despite a high level of intelligence and a history of academic success. Previous findings confirmed that dieting disordered patients do have low self-esteem (Griffiths et al., 1999) and that patients with anorexia nervosa, specifically, exhibit lower levels of self-esteem than healthy control groups (Jacobi et al., 2002). Bas et al. (2004) confirmed that participants who had disturbed eating attitudes had lower self-esteem than those who had normal eating attitudes. Therefore, since the current study yielded similar results to studies done in other countries, it is important that preventative and therapeutic interventions include the enhancement of self-esteem.

5.3.3. Self-efficacy, self-esteem and anorexia nervosa

The results indicate that there is no significant difference between the experimental and control group regarding levels of self-efficacy. Therefore, it can be argued that generalized self-efficacy, as a cognitive self-evaluation on its own, does not

distinguish between adolescents with anorexia nervosa and a control group. Perhaps domain-specific self-efficacy would have more relevance in examining efficacy beliefs in anorexia nervosa, and possibly play a mediating role in anorexia nervosa. For instance, in bulimic patients, eating self-efficacy was related to severity of bulimic symptomatology (Bennett, Spoth & Borgen, 1991). The results further indicate that there is a significant difference between the experimental and control groups' level of self-esteem, with the experimental group's level of self-esteem being lower than that of the control group. Therefore, self-esteem, as a cognitive self-evaluation, does play a significant role in anorexia nervosa. Specifically, adolescents who were diagnosed with anorexia nervosa seem to exhibit lower levels of self-esteem in comparison to a control group.

With completion of the empirical study, the third aim of this research was obtained.

5.4. Limitations of the current study

The main limitation of the current study was the relatively small number of participants in each group, which suggests that caution should be applied in generalising the results. Secondly, the experimental group also consisted of only white adolescent girls, which limits generalisation to the rest of the South African population. Thirdly, the majority of the experimental group consisted of adolescents being treated for anorexia nervosa on an outpatient basis, which means that they are already recovering and the conclusions are not applicable to inpatients. Finally, perhaps more attention including other aspects of cognitive self-evaluations, such as

domain-specific self-efficacy and self-regulation, could have provided more information regarding the role of self-efficacy in anorexia nervosa.

5.5. Recommendations for further research

1. Further research using larger groups is needed to elaborate on the current findings.
2. Within a South African context, the cultural differences among adolescent girls with anorexia nervosa should be acknowledged and further studies should include all the population groups.
3. Additional research investigating the role of other aspects of self-esteem, such as outer self-esteem and inner or trait self-esteem, and other aspects of self-efficacy, such as domain-specific self-efficacy, could contribute to the current findings.
4. More research needs to be done to fully understand the nature and manifestation of anorexia nervosa with particular emphasis on the role of cognitive self-evaluations.

5.6. Concluding remarks

During the study, my eyes were opened to the struggle that adolescent girls with anorexia nervosa face on a daily basis. I was also privileged to witness the hard work, tenacity and dedication that psychologists and dieticians display in an attempt to treat adolescent girls with anorexia nervosa. It also made me realise the obligation we have to ourselves to work on our self-esteem and self-efficacy to ensure that we as people reach our full potential.

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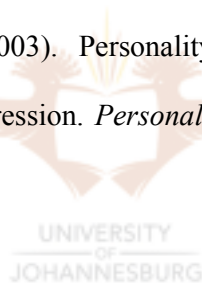
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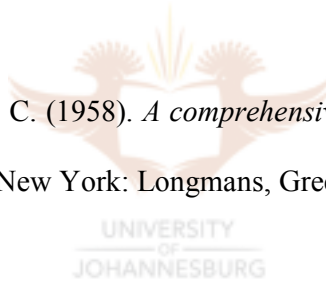
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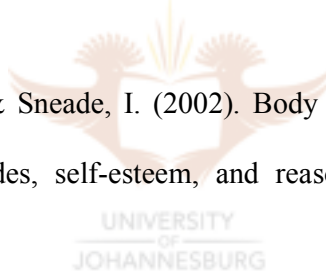
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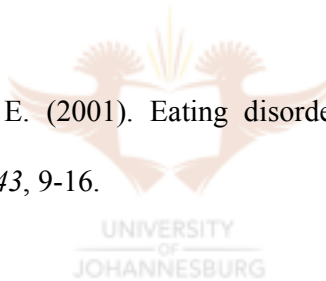
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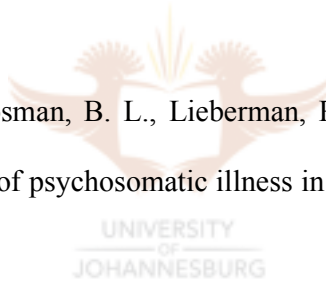
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APPENDIX

Biographical Questionnaire

All information provided in this questionnaire will be regarded as strictly confidential. Please do not enter your name or contact details on the questionnaire. It remains anonymous.

Kindly provide the following information about yourself by crossing (X) the block or number corresponding to your answer.

1. Your age?	14 <input type="checkbox"/>	15 <input type="checkbox"/>	16 <input type="checkbox"/>	17 <input type="checkbox"/>	18 <input type="checkbox"/>	19 <input type="checkbox"/>	20 <input type="checkbox"/>
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2. Gender?	Male <input type="checkbox"/>	Female <input type="checkbox"/>
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3. Race	Black <input type="checkbox"/>	White <input type="checkbox"/>	Coloured <input type="checkbox"/>
	Indian or Asian <input type="checkbox"/>		

4. Do you consider your immediate family as being in the	Upper Income group? <input type="checkbox"/>
	Middle Income group? <input type="checkbox"/>
	Lower Income group? <input type="checkbox"/>

5. On a scale of 1 to 5 where 1 is cold and 5 is affectionate, how do you rate your immediate family?
Cold = 1 2 3 4 5 = Affectionate

6. On a scale of 1 to 5 where 1 is strict and 5 is lenient, how do you rate your immediate family?
Strict = 1 2 3 4 5 = Lenient

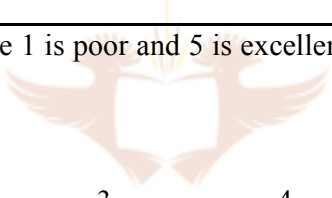
7. Who do you consider to be closest to you in your immediate family?
Your Mother Your Father A Sister A Brother
Another Person (please specify) _____ Nobody

8. What is your position in your family of origin?
The eldest or only child a middle child the youngest child
other (please specify) _____

9. What type of school do you currently attend?
Public Private Home schooling Not at School

10. Which is the HIGHEST grade you have SUCCESSFULLY completed?
Grade 9 Grade 10 Grade 11 Grade 12

11. On a scale of 1 to 5 where 1 is poor and 5 is excellent, how do you rate your own academic performance?


UNIVERSITY
JOHANNESBURG

Poor = 1 2 3 4 5 = Excellent

12. Which screen actress / actor do you consider to be your role model?
Gwyneth Paltrow in "Shakespeare in Love"
Kate Winslet in "Titanic"

13. On a scale of 1 to 5 where 1 = no close friends and 5 = many close friends, how do you rate yourself?

Poor = 1 2 3 4 5 = Excellent

The following questions can be answered on a scale from one to seven, numbers 1 and 7 being the extreme answer. Please indicate the number that best expresses your opinion regarding the question put to you. There are no right or wrong answers.

14. How conscientious do you consider yourself to be?

1	2	3	4	5	6	7
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hard working / extremely conscientious				Lazy / not conscientious at all		

15. How do you rate the effort you put into your school work?

1	2	3	4	5	6	7
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I always do my best			I never do my best			

16. What type of activities do you prefer to engage in?

1	2	3	4	5	6	7
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Activities that are not challenging				Activities that are extremely challenging		

17. How successful do you consider yourself to be in activities that you engage in?

1	2	3	4	5	6	7
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very successful				Not at all successful		

18. How would you describe your inter-personal style?

1	2	3	4	5	6	7
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Out-Going Shy

19. How would you describe your general mood?

1	2	3	4	5	6	7
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Happy Sad

20. How do you perceive your general coping ability at school?

1	2	3	4	5	6	7
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I cope very well I do not cope at all

21. How do you perceive your general competency as a member of your family

1	2	3	4	5	6	7
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Very competent Incompetent

22. How do you cope with social situations?

1	2	3	4	5	6	7
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I cope very well I do not cope at all.

23. How would you describe the communication in your family?

1	2	3	4	5	6	7
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Always available to discuss issues Never available to discuss issues