"DETACHING FROM FOOD" THE RELATIONSHIP BETWEEN DISORDERED EATING AND STYLES OF ATTACHMENT WITHIN A MULTI-RACIAL STUDENT SAMPLE

A thesis submitted in partial fulfilment of the requirements of the degree of Master of Arts (Clinical Psychology) in the School of Psychology in the University of KwaZulu-Natal, Pietermaritzburg.

Melanie-Ann Jorgensen

November 2004

Durban, KwaZulu-Natal

ABSTRACT

A growing body of research has explored the prevalence of eating disorder pathology within the ethnically and culturally diverse South African context. The purpose of this study was to examine the presence and severity of eating disorder symptoms within a multi-racial, female student sample. In addition to this, the pathogenic role of the family was considered and framed in terms of attachment theory. Thus, a secondary aim was to explore the relationship between disordered eating and participants' membership to an attachment style and /or dimension.

A questionnaire survey was administered to a convenience sample of 127 first year, female, university students. The sample included 39 (30.71%) Black, 5 (3.94%) Coloured, 29 (22.83%) Indian and 54 (42.52%) White women. Levels of disordered eating were measured by the Eating Disorder Inventory 1 (EDI 1). Attachment styles were determined by means of the Close Relationship Questionnaire (CRQ) and attachment dimensions were calculated by means of the Adult Attachment Scale (AAS).

It was found that Black students had higher mean scores on seven of the eight EDI 1 sub-scales than their Indian and White peers. There were significant differences noted on the EDI 1 sub-scales of Bulimia ($p < .01$), Perfectionism ($p < .05$), and Interpersonal Distrust ($p < .05$). White participants scored highest on the Body Dissatisfaction sub-scale. A negative relationship was indicated between the eight EDI 1 sub-scales and the secure attachment dimension (Close). A positive relationship was found between the eight EDI sub-scales and the two insecure attachment dimensions (Depend and Anxiety). Significant differences were

found between the race groups in terms of the classification of participants into three attachment styles /dimensions.

This research supports previous findings with regard to high levels of eating disordered pathology among Black women. Furthermore, support of a relationship between disordered eating and participants' attachment in close relationships was indicated. In particular, the psychological struggles implicated in disordered eating such as feelings of inadequacy and worthlessness, mistrust of others, and difficulty with emotions, were found to be significantly associated with unhealthy or insecure attachment patterns that reflected difficulty with trust and dependency in close relationships.

DECLARATION

I, Melanie-Ann Jorgensen, declare that this dissertation is my own original work. All other sources of reference have been acknowledged.

This dissertation has not been submitted previously by me for a degree at this or any other university.

ACKNOWLEDGEMENTS

I would like to extend my appreciation to the following people who have assisted me in various ways in the compilation of this thesis:

My supervisor, Dr Doug Wassenaar, for his valuable critique, interest and encouragement throughout the writing of this thesis.

The late Dr Bruce Faulds, for the many patient hours he spent assisting me with the input, analysis and interpretation of the statistics. His kindness will be remembered.

To my immediate and extended families for their enthusiasm, caring and continued support.

To my husband, Andrew, for his unfailing belief in me.

TABLE OF CONTENTS

CHAPTER ONE

INTRODUCTION

1.1 PLACING EATING DISORDERS AND ATTACHMENT IN CONTEXT

A number of studies have considered the prevalence of eating disorders in Westernised societies, with a particular focus on its prevalence in white populations. For the most part, theoretical models have emphasised Western socio-cultural risk factors in the development of eating disorders (Dolan, 1991). In South Africa, the presumption that eating disorders are a predominantly 'white' disorder has been maintained by a political ideology that focussed research and resources on the white population, to the exclusion of other race groups. Over the past two decades cross-cultural studies have supported the prevalence of eating disorders in people from a range of ethnic groups and socio-economic strata (Davis & Yager, 1992).

In South Africa some studies have suggested an equal prevalence, and in some cases a higher prevalence, of eating disorder pathology among Black women (le Grange, Telch &Tibbs, 1998; Wassenaar, le Grange, Winship & Lachenicht, 2000). In particular, higher scores on the psychological correlates of the Eating Disorder Inventory (EDI 1), such as Interpersonal Distrust, Maturity Fears and Perfectionism have been implicated (Marais, Wassenaar & Kramers, 2003; Wassenaar et al., 2000). The process of acculturation to the dominant Westernised ideology in developing countries has been considered a contributing factor to the vulnerability of black women in terms of their risk of developing an eating disorder. Therefore, the primary aim of this study is to consider the prevalence of disordered eating symptomatology in a multi-racial sample of student women. Chapter two begins with a

discussion of the role of culture in eating disorders, particularly within the South African context.

The consideration of the role of the family in the development of eating disorders has stimulated significant research attention (Kog & Vandereycken, 1985). Family influences that have been explored include factors such as closeness, the blurring of boundaries, poor communication and the avoidance of conflict in families (le Grange, 1993). Research which has explored the possible aetiological link between family dynamics and eating disorders can be located within a broader theoretical and research context which has placed relationships within the family, particularly early relationships, at the centre of psychological development.

The past decade has seen a proliferation of interest in attachment theory (Main, 1996). Within the context of family functioning, the importance of the attachment relationship between the infant and caregiver(s) and later between the developing adolescent and her parents is relevant to the present study. A secondary aim of this study is to explore the relationship between disordered eating and styles or dimensions of attachment in adolescent and young adult women. Thus, the second section of the literature review considers the theoretical perspectives of family influences such as classical psychoanalysis, object relations theory, and family systems model. As an extension to this, the theoretical contributions of Bowlby and Ainsworth are presented. Furthermore, the process of attachment in adolescents and adults and its link with attachment in romantic love is considered. Finally, given the multi-racial nature of the current sample, the applicability of attachment styles and dimensions across varying cultures is explored.

The specific relationship between parental attachment and eating disorders has received increasing attention over the past ten years (Ward, Ramsay & Treasure, 2000). Notwithstanding a number of methodological and conceptual difficulties of this research, support is provided for the existence of a relationship between difficulties in attachment and disordered eating. Given that very little research has been conducted within this area in South Africa, this study aims to explore this relationship in the local context. It is, however, acknowledged that the methodology employed for this research does not permit any inferences regarding causality.

Chapter three will describe the methodology employed in this study. Chapter four will provide a summary of the data analysis as outlined in chapter three. In chapter five, a discussion of these results is presented within the context of the original aims and hypotheses of this study. The limitations of the study and the clinical implications of the present findings are explored. Finally, recommendations for future research are discussed in the light of the limitations of this research.

CHAPTER TWO

LITERATURE REVIEW

This chapter will provide an overview and discussion of the relevant literature and research in an attempt to contextualise the aims, hypotheses and results of this study.

2.1 EATING DISORDERS

2.1.1 A Definition

At the outset it is important to distinguish between disordered eating versus eating disorders. The eating disorders, anorexia nervosa and bulimia nervosa, comprise a set of clinical features associated with significant disturbances in body image and eating behaviour. They are defined in terms of specific criteria set out in the psychiatric classification system of the Diagnostic and Statistical Manual of Mental Disorders (APA, 2000). For purposes of this study, the focus will be on disordered eating as measured by the Eating Disorder Inventory - EDI 1 (Garner & Olmstead, 1984). As opposed to providing a clear clinical diagnosis, the aim of this measure is to examine attitudes, behaviours and traits thought to underlie disordered eating. The characteristics highlighted by the EDI 1 are likely to be common among individuals diagnosed with an eating disorder, and although it may not diagnose all cases accurately it provides a means of identifying high risk groups.

Research on the aetiology of eating disorders has emphasised the need for a multi-dimensional approach. A complex interplay of a number of risk factors is implicated in the development of the disorder. Broadly these can be said to include biological vulnerability, psychological predisposition, family influences and socio-cultural expectations (Halmi, 1995;

White, 1992). Notwithstanding the importance of this interaction, this study will focus on the incidence of disordered eating within a multi-racial sample and consider the relationship between familial influences - notably early attachment relationships - and disordered eating. This can be seen as one dimension of several factors considered in the aetiology of eating disorders.

2.1.2 The Role of Culture

Historically, with reports indicating the highest prevalence of anorexia nervosa and bulimia among affluent white females living in the urban economies of Northern Europe and North America (Gordon, 2001), eating disorders have been considered to be culture-bound syndromes. The prevalence of eating disorders within developing countries and amongst non-western cultural groups has been reported as limited. Thus, it has been presumed that white women have a higher risk of developing eating disorders than their counterparts from other cultural and race groups (Becker & Hamburg, 1996; Dolan, 1991; Swartz, 1985). Studies that have supported this hypothesis suggest that white women have a greater preoccupation with their weight and shape as compared to black women (Abrams, Allen & Grey, 1993; Kumanyika, Morssink & Agurs, 1992). It has also been argued that women in the Western world are exposed to a particularly stringent thin body ideal that presses them to engage in weight control practices (Garner, Garfinkel, Schwartz & Thomson, 1980). The driving force behind the pursuit of the thin body ideal is postulated to be as a result of particular anxieties in Western women such as self-doubt associated with identity conflicts and roles choices (Gordon, 2000; Silverstein & Perlick, 1995).

However, an increase in cross-cultural studies over the past two decades provides support for the prevalence of eating disorders amongst individuals from a range of ethnic /race groups

and socio-economic strata (Davis & Yager, 1992; Dolan, 1991). A study by Nasser (1986) indicated that Arab women students were more at risk for developing bulimia in London than in Cairo. Similarly, the prevalence of bulimia nervosa was reported to be higher among Asian women in the United Kingdom than those in Pakistan (Mumford, Whitehouse & Choudry, 1992). The authors suggested that this might be attributed to the stressors associated with acculturation and the assimilation of dominant foreign cultures. In the United States several studies have disputed the traditional assumptions of eating attitudes and behaviours among different ethnic groups. Smith and Krejci (1991) conducted a study which indicated that native Americans and Hispanics scored higher than whites on a number of the sub-scales of the Eating Disorders Inventory (EDI 1) and the Bulimia Test (BULIT). Furthermore, in another study, Hispanics were found to engage in higher levels of binge eating than blacks and whites (Fitzgibbon, Spring, Avellone, Blackman, Pingitore, & Stolley, 1998). Finally a study by Striegel-Moore, Schreiber, Pike, Wilfley and Rodin (1995) demonstrated that a higher degree of Drive for Thinness in Blacks, as compared to whites, was found in a study of girls aged 9 to 10.

2.1.3 The South African Context

Until recently, the role of culture and ethnicity has been given limited consideration within the body of research on eating disorders in South Africa. The presumption that eating disorders are predominantly found among the white population has been confounded by the existence of a political climate that supported segregation of racial groups and focussed health and research resources on the white population. Eating disorders in Caucasian women have been well documented since the 1970s (Beumont, George & Smart, 1976). Well over thirty years ago, Beaumont (1970) reported on observations of anorexia nervosa in South Africans of European, Indian and coloured ethnicity, but had seen no reports of it among

blacks. Norris (1979) reported on hospitalised patients in Johannesburg that included only white, English, Afrikaans and Jewish speaking patients. In a prevalence study by Ballot et al. (1981) the factor of race was not mentioned and it can be presumed that their sample of 1 246 girls from provincial and private schools were all white. More recently le Grange, Tibbs and Selibowitz (1995) reported on the eating attitudes and body shape of an adolescent community sample, reflecting only a white sample.

Hooper and Garner (1986) conducted one of the first multi-racial studies in Southern Africa. In this study the EDI 1 was administered to a sample of 399 black, white and mixed race high school girls in Zimbabwe. Results indicated that the Black group scored lower than Whites or the Mixed ethnic group on Drive for Thinness and Body Dissatisfaction, but higher scores on Interpersonal Distrust, Maturity Fears and Perfectionism. The elevation on these sub-scales suggested a general reluctance of the black sample group to form close relationships and reflected a stronger sense of their alienation. In addition to this, they appeared to place excessive demands or expectations on personal achievement. Bulimia was shown to be consistently present in all groups, with the mixed race group showing the strongest tendency. The authors suggest that while the black group scored higher on the truly psychological dimension of the EDI 1, their lower scores on the Drive for Thinness sub-scale may be supported by a culture less demanding of slimness and perfection than their white counterparts.

In another cross-ethnic study by Wassenaar et al. (2000), the Black group also scored considerably higher on Perfectionism and Maturity Fears than Whites or Asians. Their results concurred with the findings of Hooper and Garner (1986) where Whites scored higher on Body Dissatisfaction. However, in contrast to the above study the black sample group had

the highest mean score on the Drive for Thinness sub-scale. The authors concluded that this is suggestive of high levels of concern about body shape among black South African females, reinforced by ideals about perfectionism and concerns over expectations others might have of them. Findings indicated that significant levels of abnormal eating attitudes and behaviours were evident in females across all ethnic groupings in South Africa (Wassenaar et al., 2000).

Szabo and colleagues reported on three cases of Anorexia Nervosa, of the bulimic subtype, among black patients (Szabo et al., 1995; cited in Szabo & le Grange, 2001). In addition to this more community focussed, multi-ethnic surveys have been conducted to explore abnormal eating attitudes in adolescents (Szabo & Hollands, 1997) and young adults (le Grange et al., 1998; Wassenaar et al., 2000). In their use of the Eating Attitude Test and Bulimic Investigatory Test, le Grange et al. (1998) investigated the eating attitudes and behaviours of 1435 South African, male and female college students between the ages of 17 and 25. Their results surprisingly revealed that black students demonstrated significantly greater eating disorder psychopathology than the White, mixed race and Asian subjects. Their findings were suggestive of a greater prevalence of eating disorder pathology in developing non-Caucasian societies.

More recently a study by Marais et al. (2003) investigated the prevalence of eating disorder symptoms amongst black South African men and found that they scored significantly higher on the psychological sub-scales of the EDI 1 than white men did. Thus concerns regarding the future increase of the prevalence of clinical eating disorders amongst all race groups are well founded (Szabo & le Grange, 2001).

2.1.4 Family Influences

The role of the family has been considered to be a risk factor in the development of eating disorders. Bruch (1973) considered the importance of the mother-child relationship while Selvini-Palazzoli (1974) considered the role of the whole family system. It is plausible that families may be implicated in triggering or perpetuating eating disorders, however it is also important to consider that the presence of an eating disorder within a family is likely to have a substantial impact on its cohesion and functioning (le Grange, 1993).

Family therapists have discussed work with anorexic patients for many years (Dare & Eisler, 1997). For example, Selvini-Palazzoli (1974) and Minuchin, and colleagues (1978), have emphasised family characteristics such as the closeness of relationships within the family, the blurring of boundaries between generations, and a tendency to avoid open disagreement or conflict. There has thus been recognition of a problem in relation to the families of sufferers and considerable research into family therapy as an intervention in the management of eating disorders (le Grange, 1993). Family theorists consider factors of the family such as patterns of interaction, family structure and family life cycle stages (Dare & Eisler, 1997).

2.1.5 Theoretical Perspectives of Family Influences

The consideration of eating disorders as a psychological disorder, created and maintained within a dysfunctional family context will be considered from the following theoretical paradigms, namely classical psychoanalysis, object relations theory and a family systems model.

2.1.5.1 Classical Psychoanalysis

A psychodynamic approach to psychopathology concerns itself with the meaning of the symptomatic state, and in this way the interpreted message of the symptomatic behaviour is seen to be the cause of those thoughts and acts. Some caution should be taken in being uncritical of this assumption. Thus, the theoretical explanations provided should be understood as offering an understanding of the characteristics of the development of the eating disordered experience as opposed to being causative or predictive of its symptoms.

> "Psychodynamic psychology emphasises the place of infancy and subsequent experiences in shaping the person so that when that person meets up with the possibility of being anorexic she clasps it to her emaciated breast and makes it her own. The chance to embrace the symptom, its availability to the patient, is determined by social, cultural, familial, biological and cognitive processes." (Dare & Crowther, 1995, p.126)

A number of key propositions will be illustrated to position the psychoanalytic approach. Firstly, behaviour is regarded as being governed by unconscious as well as conscious motives and processes. Freud emphasised three sets of instinctual drives: the sexual drive (libido), life preserving drives, including avoidance of hunger and pain; and aggressive drives. Secondly, personality structure is said to develop over time, as a result of the interaction between the child's inborn drives/needs and the responses of key people in the child's world. In this way the infant develops new skills (e.g., planning, talking and delaying) and techniques to allow for the gratification of their basic needs in more indirect ways. Thus, the ego is created, and it remains the planning, organising, and thinking part of the personality. The superego, develops because the parents try to restrain certain kinds of gratification and these parental standards are eventually incorporated into the child's own personality. Thirdly, personality development is fundamentally stage-like (known as the psychosexual stages of development) and is centred on a particular task or a particular form of basic need. Finally, the specific

personality or associated "pathology" a child develops depends on the degree of success the child has in traversing these various stages (Bee, 1995).

Within drive theory the sensual interests of children are postulated to move through phases, with different stages being characterised by distinctive drive energies. In the development of anorexia nervosa, individuals are said to developmentally demonstrate 'oral fixation' with 'anal' character qualities. The influence of the earliest oral sexual energies is reflected in the anorexic's preoccupation with food, the preparation of meals, menus and cuisine. In addition to this, it is postulated that certain personality traits such as dependency on others, passivity, gullibility and other oral preoccupations such as smoking, drinking and kissing may arise in response to the infant's fixation and unsuccessful resolution of the oral stage. This is commonly referred to as the 'oral character' (Blum, 1953).

Similarly, the personality traits of parsimony, perfectionism, rigidity and defiance are thought to be acquired in reaction to fixation at the anal stage and the subsequent frustration of the anal sexual drives i.e., anal pleasures and activities, and interest and pride in faeces (Dare & Crowther, 1995). More specifically these character traits are said to arise as a result of the power struggle between child and parent during toilet training. The demand for gaining control of their excretion may be viewed as parental insistence on giving up freedom and enjoyment in the potential sensuality of anal and urethral functions. In the therapeutic context it is suggested that discussion of the power struggle between patient and parent over feeding, may widen into the nature of autonomy for the developing person and may well be vividly evoked by metaphors of the contests surrounding the development of the control of sphincter function. The problem of control of impulses is of great and general importance in eating disorder patients (Dare & Crowther, 1995).

During the phallic stage of psychosexual development Freud hypothesised that the sexual life of infants becomes focused upon their genitalia, and in this way male and female development take on separate paths as they become aware of the physical differences between the genders (Dare & Crowther, 1995). In these terms it is hypothesised that the anorexic woman may displace her concern with the physical lack of a penis towards a preoccupation with her body shape. In this way she is said to attempt to perfect herself physically by losing her 'unacceptable' feminine, or more rounded, appearance. Classical psychoanalysis postulates that by abolishing any sexual body shape through starvation, a psychological process takes place that symbolises the young woman's rejection of femininity and her subservience to the fantasy that she could reach another ideal state i.e., a more masculine one (Dare & Crowther, 1995).

The oedipal component arises next in the Freudian developmental chronology. "He stressed the rivalrous, murderous wishes that a child might have for a father if the mother was desired as a sexual partner" (Dare & Crowther, 1995, p.130). Although in contemporary society the emphasis on the representative male power does not carry as much weight as it may have during the Victorian era, it offers a useful way of conceptualising all children's struggle with the power differences between men and women. It further highlights the associated difficulties with the problems of jealousy, rivalry and competition in three person relationships. For example, it is suggested that the anorexic patient may experience some discomfort with a particular closeness to one parent, and concern that this may be interpreted by the other parent as a form of betrayal. In the instance where she may feel a special closeness with her father, she may extend this to the idea that he has sexual interest in her. As a result she may fear that her own developing sexuality will be a danger to herself and to the integrity of the family, and in turn risk her closeness to her mother. In this way the

physical state of her body, the reduction of secondary sexual characteristics and her sexual interests, may serve to legitimise her father's interests and solve the problem of an actual or feared incestuous relationship (Dare & Crowther, 1995).

The aggressive drive is also considered to contribute to the complex dynamics of the eating disordered person. It is suggested that eating disorders serve the psychological function of creating a legitimate way for the sufferer to express aggression. This may be apparent in observations of the anorexic patient's seething fury in defence of her right to starve. It is also postulated that a bulimic sufferer with problems of impulse control is generally able to demonstrate anger more directly, but the expression of this is often against herself, in self-injury, or sometimes in the vomiting itself (Dare & Crowther, 1995).

2.1.5.2 Object Relations Theory

In classical psychoanalysis, Sigmund Freud conceptualised the object as an integral component of his instinctual drive theory. In the psychoanalytic scheme, the object refers primarily to the libidinal object of another person i.e., an object that serves as the target of an instinctual drive. However, as object relations theorist Balint (1958, cited in Klein, 1987) clarified, *object* is used in the psychoanalytic sense, and includes people ideas, sentiments or anything that might be cathected by an instinctual urge. Thus the focus is on the gratification of instinctual impulses and the psychic defences employed to prevent their direct expression, hence the term 'instinct-drive theory' (Greenberg & Mitchell, 1983).

In contrast to this, object relations theory shifts the focus from the mere cathexis of the instinctual striving, to the notion that this striving serves as the means to the end of establishing relationships with people. Thus psychopathology would not be seen to arise

from instinctual frustration, but from the internalisation of pathological relationships with key people in early childhood. In this way the quality of the interaction with primary caregivers in the family context is regarded as crucial in the development of psychopathology.

Through her clinical work, Selvini-Palazzoli (1974) observed a number of patients whose capacity to recognise and distinguish between body stimuli had been impaired in various ways. This led her to believe that only psychodynamic theory based on object relations (particularly on relations with the negative aspects of the introjected object) could make a substantial contribution to an understanding of the psychopathology of body experience. She postulated that in the early phase, the incorporation of the object is inevitable. The child's fundamental experience with her body is an object experience. The experience of goodness and well being is a body experience, and so is that of evil and discomfort. In particular she noted the dysfunctional patterns of interaction in the mother-child dyad of eating disordered patients (Selvini-Palazzoli, 1974).

It is postulated that when defective emotional relations with that object thwart this process, a pathological situation arises. In that case the child, because she cannot perceive herself as distinct from the object, may feel her own body as a source of unpleasant or bad sensations. As a result she comes to consider it as bad in itself or else as being inhabited by a bad object.

In her attempt to account for the patient's choice of psychopathological bodily experience, Selvini-Palazzoli (1974) emphasises the primary incorporative phase. However, she doesn't underestimate the importance of all the later interpersonal experiences of childhood, the latency period and adolescence. In different cases they may compensate for, or aggravate, the consequences of the defective primary object relation.

Selvini-Palazzoli (1974) argues that the anorexic person is afraid of her body and not of food, and that she experiences food intake as an increase of the body at the expense of her ego. Accordingly, for an anorexic being a body is tantamount to being a thing and therefore if the body grows, the thing grows as well and the 'person' starts to shrink. In this way the fight against the body is deemed a desperate fight against reification. However, this is paradoxical because while refusing to be a thing the anorexic fights her battle, not on a spiritual plane, but on the purely physical one of her own body. This experience of her body is said to develop through her identification of her body with the incorporated object, namely the mother, in its negative and overpowering state. This incorporation of the bad or negative object is hypothesised to offer the anorexic an opportunity to control and oppose it in her attempt to separate it from the ego. Therefore the anorexic does not merely contain the bad object, but she is the bad object.

From the phenomenological point of view, the body is experienced as having all the features of the primary object as it was perceived in a situation of oral helplessness: all-powerful, indestructible, self-sufficient, growing and threatening (Selvini-Palazzoli, 1974). Without a clear conception of herself as an autonomous, effective and worthy individual the control of food symbolically fulfils her striving for a separate sense of identity and autonomy, and assists in managing her anxiety.

2.1.5.3 Family Systems Model

Minuchin, Rosman and Baker (1978) used the paradigm of a systems model to explore the past influence of family members on the development and maintenance of symptoms of anorexia nervosa. Traditionally the linear model has focused on the individual, i.e., medical, psychodynamic and behavioural aspects, which has led to a number of valuable insights into

the inner life of the patient and her fantasies around food and eating. "Diagnosis, and therefore therapy, have tended to zero in on the individual, to the exclusion of the contextual components of the anorexia syndrome" (Minuchin et al., 1978, p.10). The systems model analyses the behaviour and psychological makeup of the individual by emphasising the continuity of the influences that family members have on each other from the earliest life of the child through to the present.

In their work, Minuchin et al. (1978) postulate that certain types of family organisation are closely related to the development and maintenance of psychosomatic syndromes in children, and that the child's psychosomatic symptoms in turn play an important role in maintaining the family homeostasis. In their study of diabetic children repeatedly hospitalised from acidosis, they postulated four family characteristics: enmeshment, overprotectiveness, rigidity and lack of conflict resolution.

They maintain that all families can be conceived of as falling somewhere along a continuum of two extremes, namely diffuse boundaries (or enmeshment) and overly rigid boundaries (or disengagement). The enmeshed family is characterised by a high degree of communication and concern among family members, while boundaries are blurred and differentiation is diffuse. It is suggested that such a system may lack the resources necessary to adapt and change under stressful circumstances. At the opposite extreme, the disengaged family has overly rigid boundaries. Their communication is difficult, and the protective functions of the family are said to be limited (Minuchin et al., 1978).

The Anorectic System

Minuchin et al. (1978) specifically views the anorexic family system as being characterised by highly enmeshed patterns. In such a system the child orientates her life toward giving prime importance to proximity in interpersonal contact. In this way loyalty and protection take precedence over autonomy and self-realisation. A child growing up in an extremely enmeshed system learns to subordinate the self, and therefore her expectation from a goal directed activity, such as studying or learning a skill, is approval rather than competence.

The anorectic family system is also typically child-oriented, to the extent that parental concern is expressed in hyper-vigilance of the child's movement and intense observation of her psychobiological needs. In line with this pattern, the child also develops vigilance over her own actions and as a result she develops an excessive concern for perfectionism because the evaluation of what she does is in the hands of others. Her concern about her effect on others leads to a hesitation to initiate action and an increased dependency on parental approval. The anorexic child is socialised to act as the family expects and may feel great responsibility for not embarrassing the family in the eyes of outsiders. Parental punishment is experienced as guilt and shame, and their control is maintained under the cloak of concern so that it can never be challenged. In this atmosphere, the child develops as a keen observer of intra-familial operations, dependent on parental assessment and highly loyal to family values. In this way disagreement and even initiative are perceived to be acts of betrayal, and this concern for mutual accommodation without friction produces an environment in which differences are denied and submerged. (Minuchin et al., 1978).

With the child's entrance into adolescence she finds herself in a crisis. Instead of focussing more and more on the extra-familial world, the anorectic turns her expanded viewpoint back into focussing on her parents and attempts to try to help and change them. This misguided

focus, together with the parents' response serve to strengthen the boundaries that keep the child over-involved with the family.

Finally, it is characteristic of anorectic families, as well as of psychosomatic families in general, to focus on bodily functions. Many family members present somatic complaints. Such complaints can represent either bona-fide illness or merely general sensitivity to normal physiological processes. In families with an anorectic child, the entire family often has a special concern with such matters as eating, table manners, diets and food fads. When the disequilibrium that is a part of life threatens the psychosomatic family, all family members are rapidly mobilised to protect the system, particularly by coercing those members whose need for change is threatening the status quo. The concern for somatic issues that is an element in the family culture may spark the anorectic symptoms in a child. Because these symptoms can be utilised in conflict-detouring patterns, the family unites in a concern for and protection of the child, thereby rewarding the symptoms. The symptom becomes imbedded in the family organisation.

2.1.6 Research on Family Characteristics of Eating Disorder Patients.

A number of research studies have considered the relationship of specific family characteristics to anorexia nervosa and bulimia nervosa. Clinical reports as early as 1873 considered the unusual and often harmful ways in which parents interacted with their anorexic child (Yager, 1982). Scalf-McIver and Thompson (1989) investigated the relationship between family variables and eating disturbances of 175 normal weight women. They found that bulimic behaviour was positively correlated with parents' inconsistent expression of affection, which suggested that the greater the individual's bulimic symptomatology the more likely she was to report her parents' attitude toward her as

inconsistent when she was growing up. In addition to this the degree of bulimia was negatively correlated with family cohesion, and suggested decreasing commitment, help and support among family members as bulimic symptomatology increased. They report that combined family variables were significant predictors of severity of bulimic symptoms and of factors associated with bulimia i.e., depression, cognitive distortion, and dissatisfaction with physical appearance (Scalf-McIver & Thompson, 1989). Of these family variables, the mother's perceived inconsistent expression of affection toward her daughter was the best predictor of severity of bulimic behaviour.

Moreno, Selby, Aved and Besse (2000) investigated the family dynamics and communication patterns among eating disordered women. They found significant differences in family dynamics among subtypes of eating disordered women. In particular, anorexic women reported greater family cohesion and flexibility compared to obese and bulimic women. In addition to this, they found that non-eating disordered women had significantly better communication with their mothers in comparison to bulimic women. Furthermore, bulimic and obese women reported significantly more problems communicating with their mothers compared to anorexic women. They suggest that the bulimic and obese person's attachment to food may serve as a means of compensating for deficits in the mother-child relationship (Moreno et al., 2000).

Although comparisons of these studies are problematic because of the different methodologies used, they at the very least suggest that a number of different factors may be implicated in the relationship between family dynamics and disordered eating.

2.2 ATTACHMENT THEORY

Attachment theory concerns itself with the bond that develops between child and caretaker and the consequences this has for the child's emerging self-concept and developing view of the social world (Collins & Read, 1990).

The origin of Attachment theory can be traced back to two key figures. John Bowlby formulated the basic framework of the theory, drawing from concepts in ethology, psychoanalysis, systems theory and cybernetics. Mary Ainsworth's contribution took the form of developing robust diagnostic procedures from the basic tenets of attachment into empirical findings. This was primarily done through her explanation of individual differences in attachment relations and the concept of the caregiver as a secure base. The work of Bowlby and Ainsworth is reviewed below.

2.2.1 Bowlby's Contribution

The London family psychiatrist, John Bowlby, used data from observations of young children who were hospitalised, institutionalised, or otherwise separated from their parents and focussed his research specifically on mother-child separation. He was the first to draw attention to a behavioural attachment system as being primarily responsible for regulating infant safety and survival in their environment (Bowlby, 1969).

He proposed that this system encourages the infant to seek out the proximity of the mother as a set-goal. It is through patterns of behaviour such as sucking, clinging, following, crying and smiling, and, with age, more sophisticated goal-corrected patterns, that the child tends to be maintained in proximity to her mother (caregiver) (Bowlby, 1969). However, attachment is not merely elicited by the infant, but requires adequate parental behaviour in order to

terminate the infant's proximity seeking behaviour and to encourage exploration. In this way the infant continually monitors the accessibility of one or few protective, older "attachment figures" and retreats to these individuals as a haven of safety in times of alarm. Upon being consoled by the caretaker, the infant is free to continue to play and explore (Main, 1996).

First attachments are usually formed by the age of 7 months. This attachment formation is limited to only a few key figures and it is said to occur in all infants. Thus infants become attached to even neglectful and insensitive parents, and develop as a result of social interactions which indicate a qualitative change in behavioural organisation such that the infant may cry when the attachment figure is absent and be consoled or show pleasure on their return.

Drawing from psychoanalytic principles, Bowlby stressed the importance of the first five years of child development and its importance for later social and emotional functioning (Harwood, Miller & Irizarry, 1995). Derived from Systems Theory, he stressed the importance of instinctive behaviours of the infant being mediated by goal corrective behavioural systems. The importance of feedback from the attachment figure is stressed as a means of maintaining a state of equilibrium in attachment behaviours emitted to the primary caregiver by the infant. From an ethological perspective, the original function of attachment behaviour was the protection from predators as observed in studies of sub-human primates. Bowlby (1969) thus maintained that human behavioural systems found their origins, both their goals and functions, from the environment in which they evolved and became adapted. However, in humans the goal is seen to be that of proximity to the caregiver for physical safety and survival, whereas in animals the goal is that of protection from danger.

Bowlby (1969) also suggested that their other important behavioural systems include exploration, affiliation and wariness. The child is required to co-ordinate these sometimes conflicting behavioural tendencies into an integrated whole in an attempt to maintain effective functioning. This is not a simple process and therefore requires a higher process of integration and control on the part of the infant. He postulated the existence of a central information processor that allows the development of an internal working model. This serves as a means of assessing the external environment and its constraints, as well as the infant's own capacities to achieve a given goal within these parameters. An example of this may be seen where a child might experience significant stress through the unavailability of an attachment figure. This in turn would lead to an internal representation of the environment as dangerous, and the conclusion that the self and others are ineffective or unreliable in mediating these dangers. Such a representation may leave the child fearful of exploration, uncertain of the availability of safety, doubtful of his or her ability to master environmental demands and/ or distrustful of significant others.

> "Bowlby suggested that much psychopathology may find its roots in internal working models that are not well adapted to the environmental demands ultimately encountered by the individual" (Harwood et al., 1995, p.6).

Bowlby has argued that the accessibility of parental figures is uniquely capable of sustaining children's feelings of security and has used the term 'attachment', to refer to the responsible relational bond (Bowlby 1969, 1973). Three characteristics have been proposed as distinguishing attachment from other relational bonds:

1. Proximity seeking - the child will attempt to remain within protective range of her parents. The protective range is reduced in strange or threatening situations.
2. Secure base effect - the presence of an attachment figure fosters security in the child. This results in inattention to attachment considerations and facilitates confident exploration and play.

3. Separation protest - threat to the continued accessibility of the attachment figure gives rise to protest and to active attempts to ward off the separation. (West et al., 1987, cited in Weiss, 1991).

Bowlby identified three phases of separation response: protest (related to separation anxiety), despair (related to grief and mourning), and denial or detachment (related to defense) (Bowlby, 1969; Bretherton, 1991).

2.2.2 Ainsworth's Contribution

The Canadian clinical psychologist Mary Ainsworth's most important contribution has been her empirical studies of maternal responsiveness during the first year of life, and the development of a standard laboratory procedure known as the Strange Situation (Ainsworth, Blehar, Waters, & Wall, 1978). She elaborated on Bowlby's view that affect and emotion are part of a child's appraisal processes. She theorised and broadened the set goal of attachment behaviours to include the infant's subjective sense of security. The function of attachment behaviour was expanded to embrace a sense of safety that enables the infant to explore freely and to affiliate with others (Harwood et al., 1995). Thus, owing to her contribution, attachment is defined as "the affectional bond or tie an infant forms between himself and his mother – a bond that tends to be enduring and independent of specific situations" (Ainsworth et al., 1978, p.302).

She identified three organised patterns of response to two brief separations from, and reunions with, the parent in a laboratory environment. These conclusions were drawn from two concurrent studies, i.e. through infant's responses to the Strange Situation experiment and Ainsworth's year-long home observational study of 26 Baltimore infant-mother dyads.

Infant Strange Situation Response classifications:

Secure (B)

> Infants who showed signs of missing mother during her absence, greeted her actively, and then returned to play were found to have treated the mother as a "secure base" for exploration in the home, where they had exhibited little anger toward her and little anxiety regarding minor separations.

This secure response pattern appeared in the majority of infants and was associated with mother's tender, careful holding, with contingent pacing of face to face interactions, and with sensitivity to infant signals in the first year of life.

Insecure-Avoidant (A)

> Infants focused on toys, failed to cry during separation, and actively avoided and ignored the mother on reunion. In contrast they exhibited marked anger with the mother and anxiety with regard to her whereabouts in the home, but not in the stressful separation setting.

Mothers of avoidant infants rejected attachment behaviour and were particularly averse to tactile contact.

Insecure-resistant/ Insecure-ambivalent (C)

> Infants appeared to be preoccupied with mother throughout the procedure, and, being either markedly angry or passive, failed to settle and to return to play on reunion.

A few infants demonstrated this response pattern, and they appeared to be anxious in the home. Their mothers were not rejecting, but they were inept in holding, non-contingent in face-to-face interaction, and unpredictable.

In terms of Bowlby's (1969) findings, avoidance on reunion had only been noted after long-term separations and was interpreted to be repression in the making. Through these studies Ainsworth demonstrated that behaviour of a phenotypic resemblance to defensive process could develop out of daily interaction.

Many of her original findings in relation to the Strange Situation behaviour have been replicated. The majority of infants world-wide have been found secure, and greater variation in the distribution of groups A, B, and C (avoidant, secure and resistant-ambivalent respectively) exists within than between countries (Main, 1996).

Building on Bowlby's notion of an internal working model, Main, Kaplan and Cassidy (1985, p. 66-67) have expanded its definition to include "a set of conscious and/ or unconscious rules for the organization of information relevant to attachment and for obtaining or limiting access to that information, that is, to information regarding attachment-related experiences, feelings and ideations". This metapsychological notion of mental representations of the self poses a departure from the more behaviourally oriented studies of infant-parent interaction, such as Ainsworth's Strange Situation protocol, which relies purely on descriptions of the infant's non-verbal behaviour toward a parent in a structured setting (Sperling & Berman, 1994). Thus, individual differences in attachment organisation are re-conceptualised as individual differences in the mental representation of the self in relation to attachment (Main et al., 1985). This new focus on representation and language permits further investigation of attachment in older children and adults.

2.2.3 Attachment in Adolescents and Adults

Bowlby (1979, p 129) maintained that "attachment behavior is held to characterize human beings from the cradle to the grave". Thus, Bowlby (1969, 1973, and 1979) hypothesised

that early relationship experience with the primary caregiver leads eventually to generalised expectations about the self, others, and the world. The cognitive representations of these take the form of internal working models and, although such representations emerge early in development, they continue to evolve in light of attachment-related experiences during childhood and adolescence. (Bowlby, 1973; Bretherton, 1991). Main, Kaplan and Cassidy (1985) explain that repeated experiences with caregivers are organised into internal working models of self and attachment figure, which govern the attachment system and reflect the child's expectations of future interactions. Ainsworth (1991) also noted that the young person or adolescent becomes increasingly concerned with a search for partnership with an age peer, usually of the opposite sex, which is likely to be a relationship in which the reproductive, caregiving and attachment systems are involved. These hypotheses about infant and adult attachment have generated considerable research on secure base behaviour in infancy and attachment representations in adulthood. However, it has only recently become possible to consider long-term follow-up studies that examine these ideas about consistency and change from childhood to early adulthood, with regard to attachment representations (Waters, Hamilton & Weinfeld, 2000).

Waters, Merrick, Treboux, Crowell and Albersheim (2000) conducted a twenty-year longitudinal study of attachment security in infancy and early adulthood. In their study, sixty white middle-class infants were seen in the Ainsworth Strange Situation at 12 months of age. Fifty participants (21 males, 29 females) were re-contacted 20 years later and interviewed by using the Berkeley Adult Attachment Interview (AAI). Their findings indicate that overall, 72% of the infants received the same secure versus insecure attachment classification in early adulthood. Furthermore, as predicted by attachment theory, negative life events were an important factor implicated in the change of attachment classification. Such negative life

events included loss of a parent, parental divorce, life-threatening illness of parent or child, parental psychiatric disorder and physical or sexual abuse by a family member. Only 22% (7 of 32) of the infants whose mothers reported no such events changed classification ($p < .05$). They conclude that their results support Bowlby's hypothesis that individual differences in attachment security can be stable across significant portions of the life-span and yet remain open to revision in light of experience (Waters et al., 2000).

Similarly, Hamilton (2000) based her study on a sample of 30 participants drawn from the Family Lifestyles Project, an ongoing longitudinal study of children's development within the context of non-conventional family lifestyles. She examined relations between infant Ainsworth Strange Situation classifications, negative life events and Adolescent Attachment Interview classifications. She reports that overall, the stability of secure versus insecure classifications was 77%, and infant attachment classification was a significant predictor of adolescent attachment classification. Forty percent of her sample constituted participants from conventional two-parent families. However, there were no differences reported between adolescents reared in conventional or non-conventional families in the distribution of adolescent attachment security, the experience of negative life events, or the continuity of attachment from infancy through adolescence. These studies thus support the conclusion that attachment security can be stable from infancy through early adulthood, and that change in attachment security is meaningfully related to changes in the family environment.

2.2.4 Attachment as Romantic Love

Developmental psychologists have consistently found that attachment experiences are closely connected with children's feelings toward themselves and others (Ainsworth et al., 1978). In the mid-1980s, researchers began to investigate how attachment styles and orientations might

apply to people's cognitive –emotional attitudes toward romantic love and sexual relationships (Hartup & Rubin, 1986; Hazan & Shaver; 1987).

Hazan and Shaver (1987) set out to explore the possibility of romantic love as an attachment process and contend that the affectional bonds that form between adult lovers closely resembles the affectional bonds formed in earlier life between infants and their parents. They further maintain that romantic love is an attachment process (a process of becoming attached), that is experienced differently by different people because of variations in their attachment histories. The authors drew from principles of Bowlby and Ainsworth's theory of attachment, and translated it into terms appropriate to adult romantic love. The translation centred on the three major styles of attachment in infancy, namely secure, avoidant and anxious/ ambivalent attachment. Their notion of the continuity of relationship style was based in part on Bowlby's idea of inner working models that represent mental models of self and social life. Consequently, these models (and hence a person's attachment style) are seen as determined in part by childhood relationships with parents. Their research findings were derived from two studies. The first study was based on 620 responses to a 'love quiz' that the authors designed and printed in a local, Denver (USA), newspaper. Owing to the limitations and possible selection bias of this method, a second study was conducted and included 108 undergraduate students. Similar findings were found between the two studies. They concluded that: (1) the relative prevalence of the three attachment styles is roughly the same in adulthood as in infancy; (2) the three kinds of adults differ predictably in the way they experience romantic love; and (3) attachment style is related in theoretically meaningful ways to mental models of self and social relationships and to relationship experiences with parents (Hazan & Shaver, 1987).

One of the limitations of their study is the low probability that their single-item measure of attachment style is comparable to Ainsworth et al.'s (1978) coded, behavioural, observations of infant-mother dyads. In an attempt to overcome this weakness, Collins and Read (1990) developed a multi-item scale to measure dimensions underlying adult attachment styles to replace Hazan and Shaver's discrete, categorical measure.

During the past fifteen years a number of research studies have shown that attachment orientations deeply influence the way people think and feel about their romantic relationships (Feeney & Noller, 1996; Klohnen & John, 1998). Varying adult attachment orientations have been linked to patterns of romantic relationship conflict and stress (Rholes, Simpson & Stevens, 1998), romantic satisfaction and harmony (Collins and Read, 1990) and the temporal duration of romantic relationships (Hazan & Zeifman, 1999).

2.2.5 Attachment and Culture

> "The psychology of attachment grew out of John Bowlby's psychoanalytic studies in Europe and Mary Ainsworth's naturalistic observations in Uganda and Baltimore, but their efforts to transform attachment theory into a universal biopsychology left it strangely detached from local contexts of parental behaviour and childhood experiences in human populations. As their context-free approach became dominant in child development research, the need to ground attachment behaviour in the cultural symbolism informing parent-child communications and relationships became increasingly apparent and led directly to the research by a number of authors" (Harwood, Miller & Irizarry, 1995, p. ix).

van Ijzendoorn and Kroonenberg (1988) comment that cross-cultural aspects of attachment theory and findings have been discussed for several years. Research using the Strange Situation paradigm in various countries seemed to show marked differences in distributions of attachment classifications across cultures. Distributions found in the Federal Republic of Germany (Grossman, Grossman, Spangler, Suess & Unzner, 1985); in Japan (Miyake, Chen, & Campos, 1985); and in Israeli kibbutzim (Sagi, Lamb, Lewkowicz, Shoham, Dvir, & Estes,

1985) were seen to deviate strongly from the American 'standard' distribution of about 20% avoidant (A), 70% secure (B) and 10% resistant (C) attachment relationship (Ainsworth et al., 1978). A relatively high percentage of 'A' classifications were found in Germany, and a relatively high percentage of 'C' classifications were found in Japan and Israel. The authors report being puzzled by all the attention given to the deviant distributions of these samples, particularly since sample sizes in attachment research have tended to be small and thus make it difficult to rule out the effect of sampling error.

In general, findings have presupposed that there are large cross-cultural differences compared with intra-cultural differences. However, no empirical studies have addressed this issue on the available data. A number of authors have compared classification distributions from several different cultures, but at most only a third of the available evidence was considered in each instance. Therefore, statements about the proportion of intra-cultural to cross-cultural differences could only be imprecise. For example, Lamb, Thompson, Gardner and Charnov (1985) mentioned both variation of distributions between and within cultures, but they did not compare the relatively large intra-cultural variation of the United States with that of non-American distributions. van Ijzendoorn and Kroonenberg (1988) contend that deviations from the American 'standard' may not be as dramatic as they appear. A plausible explanation is that this may simply indicate expectable between sample variation, particularly with the absence of systematic, large sample analyses of a wide range of American and non-American distributions.

For this reason, van Ijzendoorn and Kroonenberg (1988) considered the largest database of Strange Situation classifications collected so far. In comparing individual samples with a 'global' distribution derived from all available samples, it was thought that a more valid

perspective on sample-specific variations could be gained. Their findings suggest that, of the 32 studies considered in their analysis, intra-cultural differences emerged as being quite considerable. When aggregated over the 18 U.S. samples, the U.S. distribution was proportional to the 'global' pattern derived from all samples (as is Ainsworth et al.'s 1978 sample). Therefore its status as a 'standard' is achieved only through aggregation over a wide diversity. There were noticeable differences in distributions within the American samples. There were also notable differences in the make-up of the samples. One study's sample consisted of middle-class, mostly professional families; in contrast another three studies reflected low socio-economic status groups and included black infants from a low-income population, economically disadvantaged and maritally unstable families, and a number of maltreated infants respectively. Thus, the effects of environmental stress appeared to be an implicating factor in the vast differences observed.

Evidence suggested that U.S. samples resembled non-U.S. ones more closely than they did each other. The authors conclude that great caution should be exercised in assuming that an individual sample is representative of a particular (sub) culture and that the eccentric status of an 'outlier' distribution should await replication before it is brought to bear on cross-cultural debates (van Ijzendoorn & Kroonenberg, 1988).

Some cross-cultural similarities and differences were also suggested by the data. Their evidence suggests that the 'B' classification was modal in all countries, but did not necessarily imply that patterns of secure attachments (as understood in U.S. research) were predominant in all rearing environments, since there was no data obtained outside the Strange Situation. The overall pattern of among-country-differences suggested greater relative frequency of 'A' (Insecure-avoidant) classifications in Western European countries and of

'C' (Insecure-resistant /insecure-ambivalent) classifications in Israel and Japan, with the U.S. distribution falling in between these two poles. Intra-cultural differences were one-and-a-half times as large as cross-cultural differences, in fact the global distribution would hardly change if the U.S. samples were not taken into account (van Ijzendoorn & Kroonenberg, 1988). The Strange Situation thus appears to be a valid instrument for measuring attachment quality in the U.S., with acceptable cross-cultural validity.

Schmitt et al. (2004) recently considered patterns and universals of attachment across 62 cultural regions. A number of African countries were included in their study, namely Morocco, Ethiopia, United Republic of Tanzania, Democratic Republic of Congo, Zimbabwe, Botswana and South Africa. As part of the International Sexuality Description Project, a total of 17 804 participants from 62 cultural regions completed the Relationship Questionnaire (Bartholomew & Horowitz, 1991), a self-report measure of adult romantic attachment. Through analyses of specific attachment styles, their findings indicated that secure romantic attachment was normative in 79% of cultures and that preoccupied romantic attachment was particularly prevalent in East Asian cultures.

2.3 Research on Attachment and Eating Disorders

Latzer, Hochdorf, Bachar and Canetti (2002) set out to examine the extent to which family environment and attachment styles are concurrently related to eating disorders. Their sample included 25 anorexic and 33 bulimic female patients at intake in an eating disorder clinic, and 37 age-matched female controls. They found that eating disorder patients were less secure, more avoidant, and more anxious than controls. Furthermore, the families of eating disorder patients were found to be less cohesive, expressive, and encouraging of personal growth than were controls. They conclude that low encouragement of personal growth and uncertain

attachment styles may be manifestations of family difficulties in supporting the child during the process of separation individuation, and exploration of the outside world.

Ward, Ramsay and Treasure (2000) conducted a review of the literature of disturbances in attachment and the link with eating disorder symptomatology. Their review covers the period up to and including 1998. This builds on research conducted by O'Kearney (1996), which includes studies published up to mid-1995, where evidence was found for the presence of attachment disturbances in eating-disordered populations and an association of these disturbances with key aspects of eating disorder psychopathology. However, he concluded that few inferences could be drawn about the role of attachment processes in the aetiology and maintenance of eating disorders because of the limitations of study conceptualisation and design (Ward et al., 2000).

Ward et al. (2000) found that there had been more studies published in the three-year period between 1995 and 1998, than in the entire period up until O'Kearney's (1996) review. This review considered studies on both clinical and non-clinical groups of college students, although greater attention was given to the former group because of the typically milder range of eating difficulties in the non-clinical groups and their limitation in teasing out specific associations between attachment difficulties and eating disorders. However, given the current study's focus on a non-clinical group, only a summary of the relevant non-clinical findings is provided in Table A below.

Table A

Ward et al. (2000) Summary of findings: Non-clinical groups

Reference	*Participants*	*Diagnosis*	*Instrument*	*Main Findings*
Becker *et al.*, 1987	USA F, college (N=547)	Four groups: two bulimic (purging and restricting). Two non-bulimic (bingeing and normal)	BORI, Bulimia Inventory	Increase in insecure attachment and egocentricity according to severity of ED
Heesacker & Neimeyer, 1990	USA F, college (N=183)	Assessed for ED on two measures	BORI, Repertory Grid Technique, EDI, EAT	Increase in eating difficulties associated with increase in both insecure attachment and social incompetence, and with more simplistic and rigid social cognitive schemes
Tucker & McNamara, 1995	USA F, college (N=123), mothers (N=115), fathers (N=95)	Three scales of EDI used to generate scores	BORI, EDI, Psychological Separation Inventory, Attitudes Towards Women Scale, Beliefs about Attractiveness Questionnaire	Insecurity in mothers' attachments related to bulimic tendencies in daughters. Daughters' difficulties in separating psychologically from mother were related to a range of daughter's eating difficulties
Mallinckrodt *et al.*, 1995	USA F, college (N=102), F with CSA (N=52)	Incest survivors (N-59); CSA but no incest (N=50); no CSA (N=36) Of above (N=38) had ED	AAI, PBI, FES, EAT-26 (and other scales for CSA and social competency)	Social competency (SC) appeared as a mediating factor between CSA and ED. Highest rate of ED was among incest survivors, and among these, those with lowest levels of SC and poorest bonds with mothers had more ED
Brennan & Shaver, 1995	USA M=F, college, (N=242)	Subselected on categorical attachment measure (N=148): secure (36%); anxious (31%); avoidant (33%); plus partners (N=94)	Single Item and Rating Scale Attachment Measures (Hazan & Shaver), factor-based attachment scales (Brennan), EDI, sociosexual orientation inventory, drinking scales	Two attachment factors emerged; insecurity (avoidant-secure), and preoccupied (anxious-secure) All EDI sub-scales correlated with preoccupied. Various items on the multi-item scales correlated to different EDI sub-scales leading to a better understanding of which aspects of attachment are associated with ED
Cole-Detke & Kobak, 1996	USA F, college (N=743)	Selected (N=61) for high/low depressive (BDI) and ED (EDI) symptoms. Sample had no AN	AAI (rated by Q-sort), EDI, Bulimia Criteria Questionnaire, BDI	Hyperactivating attachment strategies were associated with depression alone, whereas deactivating strategies were associated with ED symptoms alone. Reports of ED were uniquely associated with poor relationships with fathers
Sharpe, Killen, Bryson, Shisslak, Estes, Grey, Crago &Taylor, 1998	USA School children, 9-12 years (N=305)	None	Single-item attachment style measure and measure of: (a) weight concern; (b) perception of current body shape; and (c) of self-esteem	Insecurely attached participants reported greater weight concerns than did securely attached participants, and thus were at greater risk of developing eating disorders. Insecurely attached participants also had lower levels of self-esteem

Reference	*Participants*	*Diagnosis*	*Instrument*	*Main Findings*
Evans & Wertheim, 1998	Australia F, college, Student nurses, keep fit attenders, (N=360)	BULIT-R, EDI, and Dietary Restraint Scale used to generate scores	BULIT-R, EDI sub-scales, Dietary Restraint Scale. BMI (past and current). Adult Attachment Style and other intimacy measures, depression and anxiety measures	Those with eating /body concerns reported an insecure attachment style, low satisfaction in intimate relationships, a belief that sexual relationships were exploitative, and less positive descriptions of the mother. General affective measures, and especially public self-consciousness, appeared to mediate the associations

Note. F = female; M = male; AN = anorexia nervosa; BN = bulimia nervosa; ED = eating disorders; EAT = Eating Attitudes Test; EDI = Eating Disorder Inventory; BORI = Bell Object Relations Inventory; CSA = Childhood Sexual Abuse; BULIT-R = Bulimia Test-Revised; AAI = Adult Attachment Interview; PBI = Parental Bonding Instrument; FES = Family Environment Style; BMI = body mass index.

As is evidenced, a wide range of Attachment measures was considered in the current review. In addition to this, an important difference lies in the different populations studied and the methods used to establish a diagnosis of eating disorder in different studies (Ward et al., 2000). Difficulty in comparing the studies arises out of the use of different questionnaires, or different versions of the same questionnaire as well as the fact that in some cases selected sub-scales were used rather than the full questionnaire. This raises questions around what the various measures are actually measuring.

In this review age was also considered to be a confounding variable as many of the studies were carried out in the adolescent/early adult populations typical of eating disorders. However, this was not true of all studies. Therefore, both within and between group comparisons become problematic as attachment issues in adolescence can be considered to be dramatically different from those of middle age. Since many of these studies were carried out on American College students, cultural factors also need to be considered before the applicability of these findings can be extended to other populations. Furthermore, the selection of appropriate control groups is complicated as a general psychiatric population may well contain patients who could be diagnosed as experiencing a number of disorders concurrently. To simply screen out the comorbidity, as some studies have attempted, may

serve to distort the clinical picture. As for example, the most severely affected eating disordered patients in a naturalistic setting may well have a comorbid depression or personality disorder (Ward et al., 2000). In summary it can be concluded that:

> "Insecure attachment is common in eating disordered populations, further work with refined instruments may clarify whether or not there is a specific association between attachment style and eating disorder subgroup. However, such an association is likely to be complicated and it may be more fruitful to study specific aspects of attachment, rather than global attachment style, in relation to eating disorder behaviour. The transgenerational transmission of attachment is a fruitful area for further investigation in eating disordered populations." (Ward et al., 2000, p.35).

However, given the financial, time and resource limitations of this study, this investigation will be limited to further exploring the relationship between attachment classifications and disordered eating. Relatively few studies have been conducted in this area within South Africa. One unpublished study by Biggs (1999) found some evidence in support of this relationship. Her study set out to explore the relationship between parental attachment (as measured by the Parental Attachment Questionnaire) and disordered eating (as measured by the Eating Disorder Inventory 1) among 209 white female adolescents. She reported that greater attachment to parents, as measured by higher scores on the PAQ sub-scales, was inversely related to disordered eating as measured by higher scores on the EDI 1 sub-scales. Furthermore, in addition to these simple correlations of the individual sub-scales of the two measures, the overall degree of relationship between the two measures was also found to be highly significant. The recommendations for future research suggest the inclusion of other South African ethnic groups in an attempt to facilitate cultural information on attachment and disordered eating. Therefore, this study aims to build on these findings by modifying some key aspects of the methodology and using a multi-racial sample.

CHAPTER THREE

METHODOLOGY

This chapter outlines the proposed aims and hypotheses of the current study. In addition, the characteristics of the research design, sample and assessment instruments will be presented.

3.1 AIMS AND HYPOTHESES

The aim of this investigation was to assess the prevalence of disordered eating attitudes and behaviours amongst a cross-racial sample of first year university students. An additional aim was to explore the relationships between indicators of disordered eating and attachment styles and dimensions.

The following hypotheses, generated from the literature review, were formulated to address the research aims outlined above:

Hypothesis 1: There is a significant difference in the degree of disordered eating attitudes, behaviours and psychological correlates (assessed using the Eating Disorders Inventory 1 (Garner & Olmstead, 1984)) across the four race groups, namely Black, White, Indian and Coloured respondents.

1a: Black participants display significantly higher scores on the Drive for Thinness and Perfectionism sub-scales of the EDI 1 than the other race groups.

1b: White participants display significantly higher scores on the Body Dissatisfaction sub-scale of the EDI 1 than the other race groups.

Hypothesis 2:

2a Disordered eating attitudes, behaviours and psychological correlates are associated with participants' classification into the attachment styles (viz. Secure, Avoidant and Anxious /Ambivalent) of the Close Relationships Questionnaire.

2b Disordered eating attitudes, behaviours and psychological correlates are negatively correlated with participants' membership of the secure attachment dimension, namely 'Close', of the Adult Attachment Scale.

2c Disordered eating attitudes, behaviours and psychological correlates are positively correlated with participants' membership of the insecure attachment dimensions of Depend and Anxiety, of the Adult Attachment Scale.

Hypothesis 3: There is a significant difference between participants' membership of the attachment dimensions (viz. Close, Depend and Anxiety) of the Adult Attachment Scale amongst the race groups.

3.2 RESEARCH DESIGN

This investigation can be categorised as a quantitative, non-experimental, correlational study. In other words, the raw data exists in a numerical form, the independent variable cannot be manipulated and the study concerns itself with the co- or joint relationship (or among) two or

more variables (Rosnow & Rosenthal, 1996). This study does not attempt to establish a causal relationship between race, disordered eating and attachment styles, but rather considers their interrelationship.

3.3 SAMPLE

The sample population consisted of 139 female, first year psychology students registered at the University of KwaZulu-Natal, Pietermaritzburg campus. This sample included students from four race groups, namely Black, White, Indian and Coloured participants. A first year university sample was chosen as a number of studies in this area have used similar sample groups (le Grange et al., 1998; NEDCC, 1996; Wassenaar et al., 2000). Thus, an attempt has been made to match sample groups as far as possible in order to draw stronger comparisons. In addition to this, the EDI 1 was validated on a female comparison group that consisted of three independent sub-samples of female university students (N=770) who were engaged in first and second year psychology courses (Garner, Olmstead & Polivy, 1983), so a similar sample was sought.

Anorexia Nervosa and Bulimia Nervosa are thought to be most prevalent in the United States, Canada, Europe, Australia, Japan, New Zealand and South Africa. At least 90% of cases are said to occur in females. Anorexia Nervosa rarely begins before puberty and usually in mid to late adolescence (age 14-18 years), while Bulimia Nervosa usually begins in late adolescence or early adult life (APA, 2000). The age range of the current sample was postulated to fall between 17 and 25 years of age, and therefore considered to be suitable to a study of this nature.

It is, however, acknowledged that the sample for this study is essentially a convenience sample as the students were accessed and approached via a psychology lecturer known to the researcher. It would have been beyond the time and resource constraints to randomly sample all female, first year, university students on campus. This must therefore be considered a pilot study.

3.4 INSTRUMENTS

3.4.1 Confidential Data Sheet

A confidential, biographical data sheet (Appendix C) was included in order to obtain necessary personal details for each participant. Names were not required.

3.4.2 The Eating Disorders Inventory 1 (EDI 1)

Garner et al. (1984) constructed the EDI as a 64-item self-report measure (Appendix G) to assess numerous psychological and behavioural traits common in anorexia nervosa and bulimia.

> "The EDI can be useful as a screening tool, as an outcome measure, as an aid in typological research, or as an adjunct to clinical judgements with eating disorder patients" (Garner et al., 1984, p. 1).

Although a more recent version of this instrument is available, namely the EDI 2 (Garner, Olmstead & Polivy, 1990), for the purposes of this study the former version was preferred. This decision was primarily based on the extensive research undertaken using the EDI 1 on South African sample groups, including the NEDCC (National Eating Disorders Co-ordinating Committee) Survey (1996) of South African female students. This offers a means of comparison, as norms for the local population are not available. A pilot study is currently being undertaken in an attempt to validate the EDI 1 on a South African population (Mitchell,

2004). The items were designed to measure eight constructs that are considered to be reflective of disordered eating. This was reduced from 11 constructs after the reliability and validity criteria had not been met on all constructs. The eight sub-scales and their abbreviations are:

1. Drive for Thinness (DT)
2. Bulimia (B)
3. Body Dissatisfaction (BD)
4. Ineffectiveness (I)
5. Perfectionism (P)
6. Interpersonal Distrust (ID)
7. Interoceptive Awareness (IA)
8. Maturity Fears (MF)

The first three sub-scales assess attitudes and behaviours related to eating and body shape while the remaining five sub-scales measure traits that are considered to be fundamentally related to the psychopathology of eating disorders (Garner & Olmstead, 1984).

Garner et al. (1984) undertook validation studies on two groups of subjects. The criterion group were constituted by three sub-samples of female, primary anorexia nervosa patients (n=129) including restricting and binge-eating/purging types. The female comparison group consisted of three independent sub-samples of female university students (n=770) who were engaged in first and second year psychology courses.

A satisfactory level of internal consistency was demonstrated with reliability coefficients (Cronbach's alpha) for the eight sub-scales ranging from .72 to .92 among the college women, and from .83 to0.93 for the eating disordered individuals. An average item-total correlation of .63 suggests substantial within scale common variance among items (Garner & Olmstead, 1984).

3.4.3 Close Relationships Questionnaire (CRQ)

This questionnaire was designed to apply Ainsworth's three-category system to the study of romantic love. A number of longitudinal studies from infancy through to early school years support the controversial claim of cross-situational and cross-age continuity. These studies suggest that this evidence for continuity adds plausibility to the notion that a person's adult style of romantic attachment is also affected by attachment history (Appendix E). They thus explored the possibility that the specific characteristics of parent-child relationships identified by Ainsworth et al. (1978) as the probable causes of differences in infant attachment styles were also among the determinants of adults' romantic attachment styles.

Hazan and Shaver's (1987) Close Relationships Questionnaire contains three paragraphs that describe attitudes towards partners (Appendix D), expectancies about relationship longevity and varying degrees of comfort with emotional closeness. Subjects are required to select the description that most resembles their experiences in close relationships in order to classify their attachment style as secure, avoidant or anxious/ambivalent. In support of the validity of the adult attachment construct, Hazan and Shaver (1987) report that older adults in their first study (mean age 36) and college students in their second study (mean age 18), classified themselves in the same proportions of attachment styles as had been found in infant-mother

attachment studies. These were namely: secure (56% vs. 56%), avoidant (25% vs. 24%) and anxious/ambivalent (19% vs. 20%) respectively.

3.4.4 Adult Attachment Scale (AAS)

Collins and Read (1990) developed the 18-item Adult Attachment scale (Appendix F) as a dimensional measure of attachment, in an attempt to overcome the inherent problems with a categorical assessment of adult attachment styles as in Hazan and Shaver's (1987) measure. The paragraphs used in the Close Relationship Questionnaire were broken down into their component statements and used as the basis for this scale. As a result 15 items, five from each attachment style, were constructed. A further six statements were developed by Collins and Read (1990) to measure two important aspects of attachment not included in Hazan and Shaver's (1987) measure. These were: beliefs about whether the attachment figure will be available and responsive when needed and reactions to separation from the caretaker.

Collins and Read's (1990) scale initially contained a final pool of 21 items, seven for each attachment style. Participants were required to rate the extent to which each statement described their feelings on a likert scale ranging from *not at all characteristic* (1) to *very characteristic* (5). Factor analysis was performed. After rotation the three items relating to responses to separation loaded on a single factor that had an eigenvalue of less than one and did not account for substantial variance. They were thus deleted from further analyses, and as a result only 18 scale items were retained.

After joint consideration of Kaiser's eigenvalue criterion and a scree test, Collins and Read (1990) extracted three factors for the final solution. The first factor contained items concerning the extent to which subjects could trust others and depend on them to be available

when needed (Depend). Factor 2 consisted of items reflecting anxiety in relationships, such as fear of being abandoned and not being loved (Anxiety). The third factor contained items regarding the extent to which subjects were comfortable with closeness and intimacy (Close). On the basis of the items defining each factor, they were labelled Depend, Anxiety and Close respectively.

It is important to note that each factor was composed of items from more than one of Hazan and Shaver's (1987) original attachment style descriptions. For example, Factor 1 (Depend) and 3 (Close) contained items from both the secure and avoidant descriptions, Factor 2 (Anxiety) had items from both the anxious and secure descriptions. In order to examine the relation between attachment dimensions and attachment styles, Collins and Read (1990) performed a discriminant function analysis. Their results indicate that (1) a person with a secure attachment style is comfortable with closeness, able to depend on others and not worried about being abandoned or unloved. (2) A person with an avoidant attachment style is uncomfortable with closeness and intimacy, not confident of others' availability and not particularly worried about being abandoned or unloved. (3) A person with an anxious attachment style is comfortable with closeness, fairly confident in the availability of others, but very worried about being abandoned and unloved. Thus the dimension measured by the Adult Attachment Scale captures much of the core structures that are thought to underlie differences in attachment styles.

The discriminant function analysis could not completely overcome the limitations of Hazan and Shaver's (1987) measure because it used aspects of that measure to assign people to groups. Moreover, the assumption remained that there were three attachment styles and that by choosing one description, adults adequately assign themselves to a category. In order to

overcome these limitations, Collins and Read (1990) used a clustering procedure to determine whether there are distinct clusters of people and whether the clusters differ in ways consistent with theoretical conceptions of the three attachment styles. In cluster 1 - people with high scores on Close and Depend couple with low scores on Anxiety appeared to have a secure attachment style. In cluster 2 - people with high scores on Anxiety coupled with moderate scores on Close and Depend fit well with an anxious attachment style; and in cluster 3 - people with low scores on Close, Depend and Anxiety suggest an avoidant cluster.

Cronbach's alpha for the Depend, Anxiety and Close items of Collins and Read's (1990) Adult Attachment Scale were .75, .72 and0.69 respectively. Means and standard deviations for the Depend, Anxiety and close composites were 18.3 (4.7), 16.2 (5.1), and 21.2 (4.8) respectively. Test-retest correlations for Close, Depend and Anxiety were .68, .71 and .52 respectively.

3.5 PROCEDURE

The researcher requested permission from a first year psychology lecturer to approach students during the afternoon lecture periods. The lecturer agreed and indicated her willingness to provide the last twenty minutes of the lecture slot with one student group, followed by a repeat lecture for a second group of students on the same day (first year students were divided into two groups based on their timetable requirements). The students were informed of the purpose of the study, and told that the intention of the study was to consider the relationship between ethnicity, disordered eating and patterns of attachment (Appendix A). However, the hypotheses of the study were not disclosed to prevent any possible expectancy effects. It was requested that only female students participate, and male

students were asked to leave. It was explained that participation was entirely voluntary and would not form part of the course evaluation. Indicating that the disclosure of names and contact details was entirely optional encouraged the confidentiality of the respondents. In the event that these details were provided, they were ensured that access to questionnaires would be limited to the researcher and supervisor of the study to maintain privacy. The informed consent portion preceded the questionnaire (Appendix B).

The researcher was available during this time and responded to any questions that arose. All the respondents completed and submitted the questionnaires during the scheduled time. Participants were encouraged to contact the researcher directly or the campus Student Counselling Centre, in the event that any concerns had been raised during the completion of the questionnaires.

The data from the three questionnaires was entered into SPSS 11.5 (Statistical Programme for the Social Sciences, 2002) by the researcher for statistical analysis. Data was stored in a password protected electronic file.

3.6 ANALYSIS OF DATA

Descriptive statistics of the sample characteristics were calculated by race, and considered factors such as age and closeness to parents.

Reliability coefficients (Cronbach's alpha) were calculated for the eight sub-scales of the EDI and were compared to Garner and Olmstead's (1984) findings. Further comparisons were

made with two South African studies that have investigated disordered eating within a South African sample (Biggs, 1999).

A hierarchical, discriminant analysis was calculated in an attempt to see whether two functions identified by the authors of the CRQ (Hazan & Shaver, 1987), adequately assigned participants of the current study to their appropriate attachment categories. Independent sample t-tests were calculated from 22 attachment-history variables.

Reliability coefficients (Cronbach's alpha) were also calculated on the three sub-scales of the AAS to examine the level of internal consistency for this measure. Principal component factor analyses, with varimax rotation, was performed on the 18 items of the AAS to explore Collins & Read's (1990) rationale for reducing the 18 items into three factors or dimensions.

One-way ANOVAs and Tukey's test for significance were performed on all eight of the EDI sub-scales. The means and standard deviations for each sub-scale were compared across the racial groups. In addition to this, the percentage of subjects falling below and above Hooper's (1986, cited in Winship, 1996) suggested cut-off points were calculated as an additional means of comparison.

A step-wise, canonical, discriminant, function analysis was performed to examine an association between the eight sub-scale scores of the EDI and the three sub-scales of the CRQ.

Correlation coefficients were computed between all the sub-scales of the EDI and AAS to observe the overall pattern of interrelationship between disordered eating symptoms/ behaviours, and attachment dimensions.

Finally, the frequencies for the CRQ and the means and standard deviations for the AAS were calculated separately for each race group. The statistical significance of the differences between each group was computed using Tukey's pairwise test. The results are presented in the section that follows.

CHAPTER FOUR

RESULTS

This chapter summarises the results of the data analysis as outlined in chapter three. Chapter five will provide a discussion of these results and implications for future research.

4.1 DESCRIPTIVE STATISTICS

One hundred and thirty-seven respondents returned the questionnaires. Ten participants failed to complete the Eating Disorders Inventory and /or the Attachment scales, and were therefore omitted from the study (7 black students and 3 white students). The final sample comprised 127 female students registered for a first year Psychology course at the University of KwaZulu-Natal, Pietermaritzburg campus. Those participants who did not complete some of the demographic variables such as age and height were included. All participants indicated their racial group. As accessed from the South African government website (2004), the results of the 2001 census indicate that the proportional representation of the population by race group is 79% African, 9.6% white, 8.9% coloured, and 2.5% Indian /Asian. The racial make up of this sample constituted 39 (30.71%) Black, 5 (3.94%) Coloured, 29 (22.83%) Indian and 54 (42.52%) White students, and is therefore not proportionately representative of the population. Whites and Indians were over-represented, while Blacks and Coloureds were under-represented. Due to the small representation of the Coloured group, this sample was not included in the final analysis. The participants ranged in age between 17 and 29 years, with a mean age of 19.4 (standard deviation = 1.8). Table 1 reflects the racial distribution of only 91 (75%) participants that provided their current age.

Table 1

Means and standard deviations of age by race

	Mean	n	SD
Black	**19.72**	**25**	**2.15**
Indian	**19.00**	**20**	**2.08**
White	**19.39**	**46**	**1.51**
Total	**19.40**	**91**	**1.83**

Table 2

Closest parent (family of origin)

	Mother	Father	Neither	Both
Black	**29 (74.4%)**	**5 (12.8%)**	**3 (7.7%)**	**2 (5.1%)**
Indian	**17 (58.6%)**	8 (27.6%)	**3 (10.3%)**	**1 (3.4%)**
White	36 (66.7%)	9 (16.7%)	**7 (13%)**	**2 (3.7%)**
Total	82 (67.2%)	22 (18%)	13 (10.7%)	**5(4.1%)**

Percentages indicate frequency within each race. Bold typeface percentages indicate frequency within the total sample (N = 122)

From Table 2 it is clear that all race groups reported being closest to mothers, secondly to fathers, and then to neither parent and both parents respectively. The black group showed a higher incidence of closeness to mothers and a lower incidence of closeness to fathers than either the Indian or White groups. In terms of a general trend, the Indian group reported substantially higher closeness to fathers. This lends support for the assumption that in most cases the primary attachment figure and attachment (for women) relates to attachment relationships with the mother figure.

4.2 RELIABILITY

4.2.1 Eating Disorders Inventory (EDI 1)

The 64 EDI 1 items produced a Cronbach's Alpha of .9053, which indicates that the EDI is a highly reliable instrument and that the items are highly correlated. Item 51 produced a negative correlation, which could indicate that the wording of the question might require

revising, as it does not compliment the other 63 items. When removing item 51, the total Alpha increased to .9109. Thus, a more conservative approach was taken and item 51 was not included in any further analyses. The eight EDI 1 sub-scales produced a standardised Cronbach's Alpha of 0.76, which is close to the 0.80 alpha level expected of widely used tests. Wassenaar et al.'s (2000) study of a cross-ethnic population of 628 female students in South Africa yielded a similar standardised Cronbach's Alpha of .77. A consideration of each ethnic group separately, yielded Cronbach's Alpha of .66, .64 and .79 for Blacks, Indians and Whites respectively.

Table 3

Reliability coefficients (Cronbach's alpha) and group comparisons for the eight sub-scales of the EDI 1

	Reliability Coefficients (Cronbach's Alpha)	
Sub-scales of EDI	**Current Study**	**Garner & Olmstead 1984 (N=271) (Female College Students)**
Drive for Thinness	**.87**	**.87**
Bulimia	**.58**	**.83**
Body Dissatisfaction	**.90**	**.92**
Ineffectiveness	**.83**	**.88**
Perfectionism	**.75**	**.76**
Interpersonal Distrust	**.75**	**.80**
Interoceptive Awareness	**.71**	**.81**
Maturity Fears	**.78**	**.72**

Table 3 illustrates this study's support for the respectable internal consistency of the eight sub-scales of the EDI 1. This suggests that the scale items are well constructed, and for the most part demonstrate that the scale items consistently measure the same constructs across time. However, an exception to this was found on the Bulimia sub-scale, which had a significantly lower reliability coefficient of .58, in comparison to the American, female college student sample of .83. Owing to the limitations of using an American sample, comparison with a South African sample will be examined to further explore this.

Table 4

Reliability coefficients (Cronbach's alpha) and group comparisons for the eight sub-scales of the EDI 1

Sub-scales of EDI	Reliability Coefficients (Cronbach's Alpha)	
	Current Study N=122	Biggs (1999) N=209
Drive for Thinness	.87	.87
Bulimia	.58	.72
Body Dissatisfaction	.90	.90
Ineffectiveness	.83	.88
Perfectionism	.75	.72
Interpersonal Distrust	.75	.81
Interoceptive Awareness	.71	.81
Maturity Fears	.78	.82
Full Scale EDI	.76	.94

Table 4 indicates that this study matched the reliability coefficients for Biggs' (1999) study on most of the EDI 1 sub-scales. However, a substantial difference was noted on the reliability coefficient for Bulimia. The current study reports a considerably lower level of internal consistency (.58) than Biggs (1999) reported (.72). Overall, Biggs' study reflected high internal consistency for the full scale of the EDI 1 (.94), in comparison to this study's nevertheless respectable level of .76.

4.2.2 Close Relationships Questionnaire (CRQ)

Hazan and Shaver (1987) report that the best predictors of adult attachment type were participants' perceptions of the quality of their relationship with each parent and the parents' relationship with each other (Appendix B). They derived these findings by performing a hierarchical discriminant analysis to assess the predictability of membership in the three attachment categories from a combination of attachment-history variables. They concluded that the first discriminant function separated secure participants from the two kinds of insecure participants. The second function separated avoidant from anxious/ ambivalent participants.

In an attempt to replicate these findings, a hierarchical discriminant analysis using two factors/ functions was performed on the current study. Independent sample "t" tests were performed, and both functions 1 and 2 passed the Levene's test for equality of variances. The results indicated that function 1 successfully discriminated between the participants categorised as secure versus those who fell into the insecure categories. The difference in means between the secure group (8.24, n=79), and the insecure groups (5.32, n=43) was highly significant, p = .00. Function 2 appeared to be less successful in discriminating between the avoidant (1.83, n=35) versus the anxious/ ambivalent groups (2.00, n=8), with a two-tailed significance of p = .72. Thus, the 22 attachment-history variables appear to be more accurate in distinguishing between secure and insecure participants on the whole, but provide little support for discriminating between the two kinds of insecure attachments. However, the strength of this conclusion is questionable since only eight anxious/ ambivalent participants could be included. The sample was considered too small for an accurate analysis.

4.2.3 Adult Attachment Scale (AAS)

Tables 5 to 7, below, suggest a moderate level of internal consistency across the AAS sub-scales of Depend, Anxiety and Close, with Cronbach's alpha at .65 for each respectively. This can be considered fair given that each sub-scale comprises only six items. Collins and Read (1990) report higher internal consistency for Depend, Anxiety and Close of .75, .72 and .69 respectively. However, this was based on an American sample of 406 undergraduate students, and included 206 women and 184 men.

Table 5

Cronbach's alpha for six items of Depend sub-scale of the AAS, N = 122

Item of Depend	Item Total Correlation	Alpha if Item Deleted
1	.38	.61
2	.42	.60
3	.40	.60
4	.31	.63
5	.34	.63
6	.44	.59
Total Cronbach's alpha		.65

Table 6

Cronbach's alpha for six items of Anxiety sub-scale of the AAS, N = 122

Item of Anxiety	Item Total Correlation	Alpha if Item Deleted
7	.27	.66
8	.55	.54
9	.36	.62
10	.62	.51
11	.18	.68
12	.38	.62
Total Cronbach's alpha		.65

Table 7

Cronbach's alpha for six items of Close sub-scale of the AAS, N = 122

Item of Close	Item Total Correlation	Alpha if Item Deleted
13	.54	.66
14	.38	.54
15	.52	.62
16	.63	.51
17	.05	.68
18	.25	.62
Total Cronbach's alpha		.65

4.2.3.1 Factor Analysis

It is acknowledged that a sample size of 122 is relatively small when considering a factor analysis of 18 scores. Nevertheless, a factor analysis was conducted in an attempt to illustrate the author's decision to reduce items to three factors, and to explore the extent to which each item corresponds with these factors. Collins and Read (1990) maintain that factor 1 contains items concerning the extent to which participants could trust others and depend on

them to be available when needed (labelled 'Depend'). Factor 2 consists of items that reflect anxiety in relationships, such as fear of being abandoned and not being loved (labelled 'Anxiety'), and factor 3 contains items regarding the extent to which participants were comfortable with closeness and intimacy (labelled 'Close').

Principal component analysis with varimax rotation and Kaiser normalisation was performed on the data of the current study. In Figure 1 the scree plot suggests the authors were justified in their inclusion of three factors, as there is a considerable dip in the curve after three factors.

Figure 1

Scree Plot of principal component analysis with varimax rotation and Kaiser normalisation of the eigenvalues. Components reflect 18 attachment history variables.

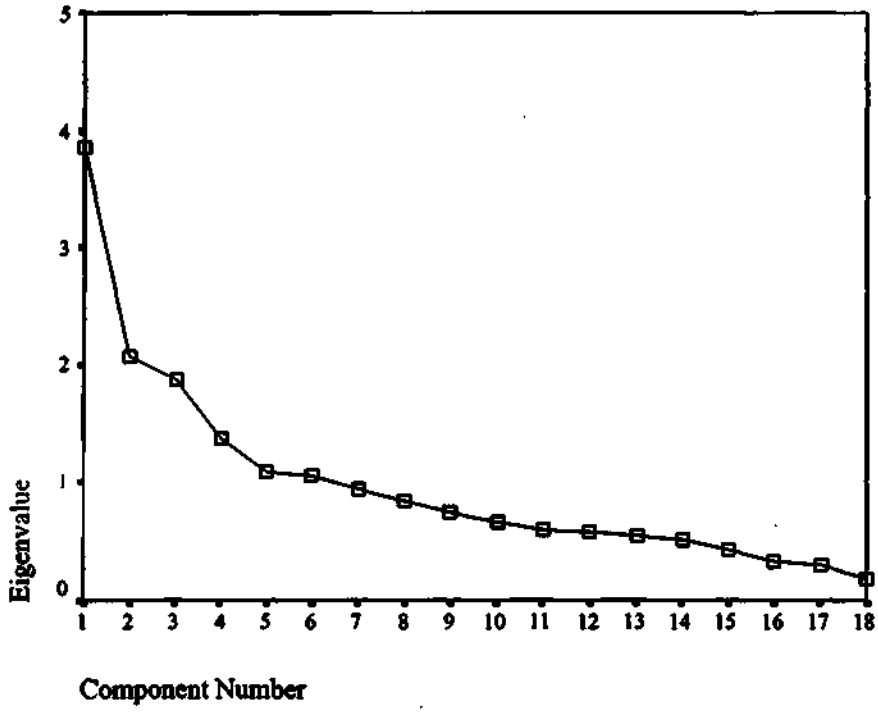

Table 8

Rotated Component Matrix for AAS scale items and factor loadings. Comparison of current study with Collins and Read's (1990) study

Sub-scale	Item	Factor 1 Depend Current Study	Factor 1 Depend Collins & Read (1990)	Factor 2 Anxiety Current Study	Factor 2 Anxiety Collins & Read (1990)	Factor 3 Close Current Study	Factor 3 Close Collins & Read (1990)
Depend	1	**.72**	**.54**	-.06	-.18	-.06	.06
	2	**.46**	**.48**	.41	.26	-.21	.09
	3	**-.57**	**-.58**	-.10	.24	.01	-.09
	4	**-.26**	**-.66**	-.21	-.18	.61	.03
	5	**.55**	**.38**	.12	.13	-.10	.12
	6	**.75**	**.71**	-.03	.14	-.02	-.10
Anxiety	7	-.10	.03	**-.38**	**-.48**	.12	-.19
	8	.17	.09	.78	**.64**	-.03	.21
	9	-.18	.10	.54	**.47**	-.19	-.13
	10	.14	.10	**.82**	**.62**	.00	.15
	11	.15	-.11	**.40**	**.49**	.49	-.14
	12	-.14	.05	**.61**	**.55**	-.12	-.14
Close	13	.09	-.16	.09	.02	**-.74**	**-.45**
	14	.01	.07	.10	.01	**-.63**	**-.46**
	15	-.03	.05	-.12	.04	**.72**	**.71**
	16	-.13	-.02	-.24	.20	**.76**	**.77**
	17	.20	-.03	-.15	.08	**-.18**	**-.40**
	18	-.08	.07	-.35	-.03	.31	.29

In Table 8 it can be seen that Collins and Read (1990) interpreted factor loadings of .30 or larger as defining a factor, with the exception of item 18 (whose highest loading was .29). In the current study a similar pattern was observed, indicating an overall correspondence with the authors' three factors. However, some differences were noted with certain items. Item 4 corresponded poorly with the Depend factor (-.26) and considerably stronger with the Close factor (.61). Item 4 reads "I know that others will be there when I need them" and requires reversed scoring of participants' responses. This suggests that it might have been more appropriate to include it as an item that reflects a Close attachment dimension, and that the mere reversal of the score does not adequately distinguish it as an item relating to a Depend attachment dimension. Similarly, item 11 "I want to merge completely with another person" correlates slightly closer with factor 3, Close, (.49) than with factor 2, Anxiety, (.40). Item

18, "Often love partners want me to be more intimate than I feel comfortable being", does not appear to belong to any of the factors and could possibly have been omitted from this sub-scale.

4.3 HYPOTHESIS 1

4.3.1 Sub-scale Characteristics and Comparisons of the EDI 1

SPSS is well known for its voluminous output and therefore only the means and standard deviations for each sub-scale (and not for each individual item) of each measure will be reported. The tables (9-16) below present one-way ANOVAs for all eight sub-scales of the EDI 1, followed by the Tukey test for significance between race groups. The means of a South African, cross-ethnic (Black, White and Asian) sample of, undergraduate, university and college students is provided for comparison (Wassenaar et al., 2000). The mean age of their sample was 21.9 years (SD = 4.7 years). 'Asians' were defined as persons from Indian descent.

Table 9

Means, standard deviations and mean differences for Drive for Thinness sub-scale for non-clinical university women by race group

Sub-scale	Race Group A	N	Mean	SD.	Race Group B	Mean Difference A-B	Sig. (*) .05	Wassenaar et al. (2000) (n=628)
DT	Black	39	6.36	5.83	Indian	1.98	.38	7.92
					White	0.78	.81	
	Indian	29	4.38	6.34	Black	-1.98	.38	4.77
					White	-1.19	.67	
	White	54	5.57	6.13	Black	-0.78	.81	6.56
					Indian	1.19	.67	
	Total	*122*	*5.54*	*6.08*				

* Pairwise significances as determined by the Tukey test

On the Drive for Thinness sub-scale, Blacks scored highest (6.36), followed by Whites (5.57) and then Indians (4.38), although not significant at $p < 0.05$. A similar ranking is observed in the Wassenaar et al. Study, although in that study all three pairs of groups differed significantly ($p < 0.01$).

Table 10

Means, standard deviations and mean differences for Bulimia sub-scale for non-clinical university women by race group

Sub-scale	Race Group A	N	Mean	SD.	Race Group B	Mean Difference A-B	Sig. (*) .05	Wassenaar et al. (2000) (n=628)
B	Black	39	2.67	2.73	Indian	2.22(*)	.01	1.6
					White	0.63	.45	
	Indian	29	0.45	1.15	Black	-2.22(*)	.01	1.04
					White	-1.59(*)	.02	
	White	54	2.04	2.75	Black	-0.63	.45	1.98
					Indian	1.59(*)	.02	
	Total	*122*	*1.86*	*2.58*				

* Pairwise significances as determined by the Tukey test

Interestingly, Table 10 shows that on the Bulimia sub-scale Blacks (2.67) scored significantly higher than Indians (0.45, $p < .05$), while the Indian group scored significantly lower than Whites (2.04, $p < .05$). Wassenaar et al. (2000) indicated no significant difference amongst their three groups, although Blacks scored lower than Whites on this sub-scale.

Table 11

Means, standard deviations and mean differences for Body Dissatisfaction sub-scale for non-clinical university women by race group

Sub-scale	Race Group A	N	Mean	SD.	Race Group B	Mean Difference A-B	Sig. (*) .05	Wassenaar et al. (2000) (n=628)
BD	Black	39	8.90	7.14	Indian	0.66	.94	8.41
					White	-1.79	.51	
	Indian	29	8.24	6.76	Black	-0.66	.94	9.17
					White	-2.44	.35	
	White	54	10.69	8.46	Black	1.79	.51	12.65
					Indian	2.44	.35	
	Total	*122*	*9.53*	*7.68*				

* Pairwise significances as determined by the Tukey test

Table 11 shows that the means of this sample was different on the Body Dissatisfaction sub-scale. Although not significant, Whites (10.69) scored highest overall, followed by Blacks (8.90) and then Indians (8.24). In the comparative study, Whites similarly scored highest overall and this difference was significant ($p < .01$).

Table 12

Means, standard deviations and mean differences for Ineffectiveness sub-scale for non-clinical university women by race group

Sub-scale	Race Group A	N	Mean	SD.	Race Group B	Mean Difference A-B	Sig. (*) .05	Wassenaar et al. (2000) (n=628)
I	Black	39	4.36	3.49	Indian	0.88	.72	2.96
					White	0.99	.57	
	Indian	29	3.48	3.45	Black	-0.88	.72	2.42
					White	0.11	.99	
	White	54	3.37	5.76	Black	-0.99	.57	3.04
					Indian	-0.11	.99	
	Total	*122*	*3.71*	*4.62*				

* Pairwise significances as determined by the Tukey test

Table 12 shows that the Ineffectiveness sub-scale indicated that Blacks (4.36) scored highest, followed by Indians (3.48) and then Whites (3.37), although no differences were significant.

No significant differences were reported on the comparative study, although a slightly different pattern emerged in that Whites score highest overall, followed by Asians (Indians).

Table 13

Means, standard deviations and mean differences for Perfectionism sub-scale for non-clinical university women by race group

Sub-scale	Race Group A	N	Mean	SD.	Race Group B	Mean Difference A-B	Sig. (*) .05	Wassenaar et al. (2000) (n=628)
P	Black	39	8.15	4.54	Indian	1.60	.35	9.61
					White	3.15(*)	.01	
	Indian	29	6.55	5.25	Black	-1.60	.35	6.31
					White	1.55	.32	
	White	54	5.00	4.45	Black	-3.15 (*)	.01	5.24
					Indian	-1.55	.33	
	Total	*122*	*6.38*	*4.84*				

Table 13 shows that on Perfectionism, Blacks scored highest overall (8.15) followed by Indians (6.55) and then Whites (5.00). There was a significant difference between the Black and White ethnic groups ($p < .05$). Wassenaar et al. (2000) reported that Blacks scored significantly higher than the other two groups on Perfectionism ($p < .01$).

Table 14

Means, standard deviations and mean differences for Interpersonal Distrust sub-scale for non-clinical university women by race group

Sub-scale	Race Group A	N	Mean	SD.	Race Group B	Mean Difference A-B	Sig. (*) .05	Wassenaar et al. (2000) (n=628)
ID	Black	39	4.80	3.40	Indian	1.20	.54	4.25
					White	3.37(*)	.01	
	Indian	29	3.97	3.25	Black	-1.20	.54	4.56
					White	2.17	.10	
	White	54	3.39	3.77	Black	-3.37(*)	.01	3.28
					Indian	-2.17	.10	
	Total	*122*	*3.98*	*3.56*				

* **Pairwise** significances as determined by the Tukey **test**

Similarly on Interpersonal Distrust (Table 14), Blacks (4.80) scored significantly higher than Whites (3.39) at ($p < .05$). Although the Indian (3.97) group also scored higher than Whites, this was not significant. A different pattern is observed in the comparative study, with Indians scoring significantly higher than both the Black and White groups ($p < .01$).

Table 15

Means, standard deviations and mean differences for Interoceptive Awareness sub-scale for non-clinical university women by race group

Sub-scale	Race Group A	N	Mean	SD.	Race Group B	Mean Difference A-B	Sig. (*) .05	Wassenaar et al. (2000) (n=628)
1A	Black	39	5.54	4.43	Indian	0.83	.61	4.02
					White	1.41	.15	
	Indian	29	3.24	2.99	Black	-0.83	.61	3.37
					White	0.58	.76	
	White	54	3.83	4.38	Black	-1.41	.15	3.10
					Indian	-0.58	.76	
	Total	*122*	*4.24*	*4.18*				

* Pairwise significances as determined by the Tukey test

Table 15 shows that the Black group reflected a higher mean on Interoceptive Awareness than Whites or Indians, however, this difference was not significant. Wassenaar et al. (2000) reported no significant differences in their sample on this sub-scale.

Table 16

Means, standard deviations and mean differences for Maturity Fears sub-scale for non-clinical university women by race group

Sub-scale	Race Group A	N	Mean	SD.	Race Group B	Mean Difference A-B	Sig. (*) .05	Wassenaar et al. (2000) (n=628)
MF	Black	39	7.13	4.80	Indian	2.30	.06	6.46
					White	1.71	.12	
	Indian	29	5.93	5.74	Black	-2.30	.06	3.51
					White	-0.59	.81	
	White	54	3.76	3.59	Black	-1.71	.12	2.56
					Indian	0.59	.81	
	Total	*122*	*5.35*	*4.77*				

* **Pairwise** significances as determined by the Tukey test

Finally, as can be seen in Table 16, the Black group (7.13) scored higher than Indians (5.93) and Whites (3.76) on the Maturity Fears sub-scale, although also not significantly. A similar pattern is observed in the comparative study with the difference significant across all three ethnic groups ($p < .01$).

4.3.2 Summary of Findings

The above results confirm Hypothesis 1. Differences between the ethnic groups were observed on all eight EDI sub-scales. The Black group attained the highest mean on all of the eating disordered sub-scales, except for Body Dissatisfaction where Whites scored highest overall. Significant differences between the ethnic groups were observed on three of the sub-scales. On the Bulimia sub-scale Blacks scored significantly higher than Indians ($p = .01$). Two of the psychological indicators of disordered eating, namely Perfectionism and Interpersonal Distrust, reflected significant differences between the Black and White groups. Blacks scored significantly higher on Perfectionism ($p = .05$) and on Interpersonal Distrust ($p = .02$). Thus, hypothesis (1a) was partly confirmed in the current study as Black respondents scored highest on the Drive for Thinness and Perfectionism sub-scales, but this difference

was only significant for Perfectionism. Hypothesis (1b) was also partly confirmed in this study. Although White respondents scored highest on Body Dissatisfaction overall, the difference was not significant.

4.3.3 Percentage of Subjects Falling Below and Above Cut-off Points

Owing to the limitation of using American norms to interpret South African scores, Hooper's (1986, cited in Winship, 1996) suggested cut-off scores have been included as an additional means of comparison. The scores of the eight EDI sub-scales, for each race group, were compared and participants were assigned to two groups according to whether their score fell below or above the cut-off point for that sub-scale (Tables 17-24). Four (3.3%) participants scored above the cut-off point on all eight sub-scales. The percentages of subjects falling below and above the cut-off points appear in brackets. The bold typeface indicates the distribution for the total sample group.

Table 17

Percentage of participants falling below and above the cut-off on Drive for Thinness

Sub-scale	Race Group	Below 15	Above and = 15
DT Cut-offs	Black	33 (84.6%)	6 (15.4%)
	Indian	26 (89.7%)	3 (10.3%)
	White	47 (87.03%)	7 (12.96%)
	Total	**106** (86.89%)	**16 (13.11%)**

Table 17 shows that a higher percentage of Black participants (15.4%) scored above the Drive for Thinness cut-off point than either Indians or Whites.

Table 18

Percentage of participants falling below and above the cut-off on Bulimia

Sub-scale	Race Group	Below 4	Above and = 4
B Cut-offs	**Black**	30 (76.9%)	9 (23.1%)
	Indian	28 (96.6%)	1 (3.4%)
	White	43 (79.6%)	11 (20.4%)
	Total	**101 (82.8%)**	**21 (17.2%)**

On the Bulimia sub-scale, seen in Table 18, the Black group (23.1%) also scored highest in terms of comparative percentages.

Table 19

Percentage of participants falling below and above the cut-off on Body Dissatisfaction

Sub-scale	Race Group	Below 14	Above and = 14
BD Cut-offs	**Black**	30 (76.9%)	9 (23.1%)
	Indian	24 (82.8%)	5 (17.2%)
	White	35 (64.8%)	19 (35.2%)
	Total	**89 (73.0%)**	**33 27.0%)**

A similar pattern for the black participants (23.1%) was seen in Table 19 on the Body Dissatisfaction sub-scale. At least a third of the total sample scored above the cut-off on this sub-scale.

Table 20

Percentage of participants falling below and above the cut-off on Ineffectiveness

Sub-scale	Race Group	Below 10	Above and = 10
I Cut-offs	**Black**	35 (89.7%)	4 (10.3%)
	Indian	27 (93.1%)	2 (6.9%)
	White	47 (87.0%)	7 (13.0%)
	Total	**109 (89.3%)**	**13 (10.7%)**

Table 20 shows that on Ineffectiveness, Whites scored higher (13%) than either Blacks or Indians.

Table 21

Percentage of participants falling below and above the cut-off on Perfectionism

Sub-scale	Race Group	Below 8	Above and = 8
P Cut-offs	Black	19 (48.7%)	20 (51.3%)
	Indian	18 (62.1%)	11 (37.9%)
	White	37 (68.5%)	17 (31.5%)
	Total	74 (60.7%)	48 (39.3%)

Table 21 shows that Black participants scored very high on Perfectionism, with at least half (51.3%) falling above the cut-off point. In addition, the total sample reflects a high percentage of participants that fall above the Perfectionism cut-off.

Table 22

Percentage of participants falling below and above the cut-off on Interpersonal Distrust

Sub-scale	Race Group	Below 5	Above and = 5
ID Cut-offs	Black	19 (48.7%)	20 (51.3%)
	Indian	19 (65.5%)	10 (34.5%)
	White	37 (68.5%)	17 (31.5%)
	Total	75 (61.5%)	47 (38.5%)

Similarly, seen in Table 22, Blacks (51,3%) scored highest on Interpersonal Distrust.

Table 23

Percentage of participants falling below and above the cut-off on Interoceptive Awareness

Sub-scale	Race Group	Below 10	Above and = 10
IA Cut-offs	Black	28 (71.8%)	11 (28.2%)
	Indian	28 (96.6%)	1 (3.4%)
	White	47 (87.0%)	7 (13.0%)
	Total	103 (84.4%)	19 (15.6%)

Table 23 shows that Blacks also scored highest on Interpersonal Distrust (28.2%), with a relatively low percentage of the total sample falling above this cut-off.

Table 24

Percentage of participants falling below and above the cut-off on Maturity Fears

Sub-scale	Race Group	Below 5	Above and = 5
MF Cut-offs	Black	15 (38.5%)	24 (61.5%)
	Indian	16 (55.2%)	13 (44.8%)
	White	37 (68.5%)	17 (31.5%)
	Total	68 (55.7%)	54 (44.3%)

Finally, Table 24 shows that the highest percentage of the total sample scored above the cut-off on Maturity Fears than any other sub-scale, with the majority of black participants (61.5%) falling into this disordered category.

4.3.4 Summary of Findings

The comparison using cut-off scores, rather than means, reflected a similar pattern between the race groups. As with the comparisons of the means (Tables 9-16), Blacks scored highest on six of the eight EDI 1 sub-scales, while Whites scored highest on Body Dissatisfaction. However, a different pattern was noted for the Ineffectiveness sub-scale. The distribution on this sub-scale indicated that comparatively more White respondents (13%) scored above the cut-off point than either the Black (10.3%) or Indian (6.9%) samples.

To aid the logical flow of the argument for this study, the results of hypothesis 3 will be presented before considering those of hypotheses 2a, 2b and 2c.

4.4 HYPOTHESIS 3

4.4.1 Close Relationships Questionnaire (CRQ)

Table 25

Classification of attachment style by race group according to Hazan and Shaver's (1987) categorical measure of attachment (N = 122)

	Secure	Avoidant	Anxious/ Ambivalent
Black	24 (61.5%)	10 (25.6%)	5 (12.8%)
Indian	18 (62.1%)	11 (37.9%)	0
White	37 (68.5%)	14 (25.9%)	3 (5.6%)
Total	79 (64.8%)	35 (28.7%)	**8 (6.6%)**

Percentages indicate frequency within each race group
Bold typeface indicates percentages within the total sample group

Table 25 indicates that the majority of the sample were assigned to the secure attachment style (64.8%), with considerably fewer students assigned to the insecure attachment styles of avoidant (28.7%) and anxious/ ambivalent (6.6%). In terms of cross-racial comparisons, Whites more frequently classified themselves as 'Secure' (68.5%) than either of the other two groups. A higher proportion of Indians fell into the 'Avoidant' (37.9%) category than Blacks or Whites. Proportionately more of the Black group assigned themselves to the 'Anxious /Ambivalent" attachment style than the other two ethnic groups.

4.4.2 Adult Attachment Scale (AAS)

Table 26

Classification of attachment dimension by race group according to Collins & Read (1990) dimensional measure of attachment (N = 122).

	Close	Depend	Anxiety
Black	18 (48.6%)	14 (37.8%)	5 (13.5%)
Indian	20 (74.1%)	6 (22.2%)	1 (3.7%)
White	42 (80.8%)	8 (15.4%)	2 (3.8%)
Total	80 (69.0%)	28 (24.1%)	**8 (6.9%)**

Percentages indicate frequency within each race group
Bold typeface indicates percentages within the total sample group

Table 26 shows that the highest percentages of participants by race group and for the total sample were assigned to the Close attachment dimension. In terms of percentages per group, considerably more Black participants were assigned to the insecure attachment dimensions of Depend (37.8%) and Anxiety (13.5%), than either Indians (22.2% and 3.7% respectively) or Whites (15.4% and 3.8% respectively). This data reflects the assignment to attachment dimensions for only 116 participants, since participants who scored equally on two dimensions (n = 6) were omitted.

Table 27

Means, standard deviations and mean differences for measures of AAS for non-clinical university women by race group, together with Tukey's pairwise significances

Attachment Dimensions	Race Group A	n	Mean	SD	Race Group B	Mean Difference (A-B)	Sig. (*) .05
Depend	Black	39	21.18	3.62	Indian	0.35	.71
					White	3.77(*)	.00
	Indian	29	20.83	3.14	Black	-0.35	.71
					White	3.42(*)	.00
	White	54	17.41	4.22	Black	-3.77(*)	.00
					Indian	-3.42(*)	.00
	Total	122	19.43	4.18			
Anxiety	Black	39	17.00	5.20	Indian	2.55(*)	.02
					White	2.50(*)	.01
	Indian	29	14.45	3.60	Black	-2.55(*)	.02
					White	-0.05	.96
	White	54	14.50	4.41	Black	-2.50(*)	.01
					Indian	0.05	.96
	Total	122	15.29	4.63			
Close	Black	39	23.13	3.87	Indian	-1.53	.16
					White	-1.89(*)	.04
	Indian	29	24.66	4.92	Black	1.53	.16
					White	-0.36	.72
	White	54	25.02	4.42	Black	1.89(*)	.04
					Indian	0.36	.72
	Total	122	24.33	4.42			

As shown in Table 27, Blacks scored highest (21.18) on the Depend attachment dimension of the AAS, followed by Indians (20.83), and then Whites (17.41). There is a significant mean

difference in attachment between Blacks and Whites on the Depend sub-scale (3.77, $p < .05$). In addition to this, Indians scored significantly higher than Whites (3.42, $p < .05$).

Similarly, on the Anxiety sub-scale, Blacks (17.00) scored higher than both Indian (14.45) and White (14.50) groups. There was a significant mean difference between Blacks and Indians (2.55, $p < .05$) and Blacks and Whites (2.5, $p < .05$) respectively.

On the Close sub-scales Whites (25.02) scored highest, followed by Indians (24.66) and then Blacks (23.13). The only significant difference was between Whites and Blacks (1.89, $p < .05$).

4.4.3 Summary of Findings

On the CRQ, the majority of the total sample was classified as belonging to the Secure attachment style and less frequently to the insecure attachment styles of Avoidant and Anxious /Ambivalent. The Black group were more frequently assigned to the Anxious /Ambivalent category than the other race groups. Indians were more frequently categorised as belonging to the Avoidant category and Whites as belonging to the Secure category, in comparison with other groups.

Tables 26 and 27 reflect the assignment of the sample into the attachment dimensions of the AAS. The data confirms Hypothesis 3 in that significant differences were found amongst the race groups in terms of the classification of participants into three attachment dimensions. On the Close attachment dimension, Whites scored significantly higher than Blacks. On the Depend attachment dimension, Blacks and Indians scored significantly higher than Whites

respectively. Finally, on the Anxiety attachment dimension Blacks scored significantly higher than Whites and Indians respectively.

4.5 HYPOTHESIS 2

4.5.1 Relationship between EDI 1 and CRQ sub-scales

Owing to the fact that the CRQ is a categorical measure and thus reflects a nominal data set, the Pearson's correlation cannot be computed between the sub-scales of the CRQ and the EDI 1. Thus a step-wise, canonical, discriminant, function analysis was performed to examine any association or relationship between participants' sub-scale scores of the EDI and their membership of one of the three attachment styles. The step-wise method instructs SPSS to only select the best predictors first, and then continues to add predictors until they no longer add value. The results indicate that, per participant, the scores of the 8 EDI sub-scales classified 73% of cases into their appropriate categories of secure, avoidant or anxious/ ambivalent (CRQ). This suggests a relationship between disordered eating (as measured by the EDI) and membership of an attachment style.

4.5.2 Correlations between EDI 1 and AAS sub-scales

Table 28

Correlation between full scale EDI 1 and AAS sub-scales for total sample group (N = 122)

	Full Scale EDI	Close	Depend	Anxiety
Full Scale EDI	1	-0.34**	0.35**	0.40**
Close	-0.34**	1	-0.38**	-0.20*
Depend	0.35**	-0.38**	1	0.25**
Anxiety	0.40**	-0.20*	0.25**	1

** Correlation is significant at $p < .01$ (2-tailed)
* Correlation is significant at $p < .05$ (2-tailed)

Table 28 indicates a number of significant relationships. A weak negative relationship was found between the full scale EDI 1 and the Close attachment dimension (-.34, $p < .01$). The data reflects a weak positive relationship between the full scale EDI 1 and the Depend attachment dimension (.35, $p < .01$). A moderate positive relationship was found between the full scale EDI 1 and the Anxiety attachment dimension (.40, $p < .01$).

Table 29

Correlations between eight EDI sub-scales and AAS sub-scales for total sample group (N = 122)

	DT	B	BD	I	P	MF	ID	IA	Close	Depend	Anxiety
DT	1	.51**	.66**	.43**	.25**	-.03	.10	.56**	-.10	.17	.36**
B	.51**	1	.40**	.43**	.08	.11	.13	.54**	-.14	.10	.36**
BD	.66**	.40**	1	.42**	-.01	-.14	.13	.32**	-.11	.06	.14
I	.43**	.43**	.42**	1	.16	.23*	.48**	.59**	-.39**	.35**	.37**
P	.25**	.08	-.01	.16	1	.33**	.12	.33**	-.08	.32**	.11
MF	-.03	.11	-.14	.23*	.33**	1	.23*	.29**	-.10	.13	.19*
ID	.10	.13	.13	.48**	.12	.23*	1	.30**	-.66**	.46**	.19*
IA	.56**	.54**	.32**	.59**	.33**	.29**	.30**	1	-.28**	.25**	.40**
Close	-.10	-.14	-.11	-.39**	-.08	-.10	-.66**	-.28**	1	-.38**	-.20*
Depend	.17	.10	.06	.35**	.32**	.13	.46**	.25**	-.38**	1	.25**
Anxiety	.36**	.36**	.14	.37**	.11	.19*	.19*	.40**	-.20*	.25**	1

** Correlation is significant at the .01 level (2-tailed).
* Correlation is significant at the .05 level (2-tailed).

A closer inspection of these relationships in Table 29 revealed that, similar to the overall pattern, all of the eight EDI sub-scales were negatively correlated with the Close attachment dimension. More specifically, three significant negative relationships were found. A moderate negative correlation was indicated between the Ineffectiveness sub-scale and the Close attachment dimension (-.39, $p < .01$). A moderate to strong negative correlation was found between the Interpersonal Distrust sub-scale and Close attachment (-.66, $p < .01$) for this sample group. Finally, a weak negative relationship was suggested between Interoceptive Awareness and the Close attachment dimension (-.28, $p < .01$).

Furthermore, the eight sub-scales of the EDI 1 were all positively correlated with the Depend attachment dimension. Of interest were the four significant positive correlations. Weak positive correlations were observed between the Depend attachment dimension and the Ineffectiveness (.35, $p < .01$), Perfectionism (.32, $p < .01$) and Interoceptive Awareness (.25, $p < .01$) sub-scales respectively. A moderate positive relationship was found between Interpersonal Distrust and the Depend dimension (.46, $p < .01$).

Finally, all eight sub-scales of the EDI 1 were positively correlated with the Anxiety attachment dimension and six of these relationships were significant. Weak to moderate positive relationships were indicated between Drive for Thinness (.36, $p < .01$), Bulimia (.36, $p < .01$), Ineffectiveness (.37, $p < .01$) and Interoceptive Awareness (.40, $p < .01$) with Anxiety respectively. The two EDI 1 sub-scales of Maturity Fears (.19, $p < .01$) and Interpersonal Distrust (.19, $p < .01$) showed weak positive correlations with the Anxiety attachment dimension respectively.

Table 30

Correlation between full scale EDI 1 and AAS sub-scales by race group

		Full Scale EDI 1	Close	Depend	Anxiety
Black (n = 39)	**Full Scale EDI**	**1**	**-.19**	**.12**	**.47(**)**
	Close	**-.19**	**1**	**-.08**	**-.08**
	Depend	**.12**	**-.08**	**1**	**.22**
	Anxiety	**.47(**)**	**-.08**	**.22**	**1**
Indian (n = 29)	Full Scale EDI	1	**-.32**	**.04**	**.05**
	Close	**-.32**	**1**	**-.35**	**-.25**
	Depend	**.04**	**-.35**	**1**	**.22**
	Anxiety	**.05**	**-.25**	**.22**	**1**
White (n = 54)	**Full Scale EDI**	**1**	**-.38(**)**	**.52(**)**	**.42(**)**
	Close	**-.38(**)**	**1**	**-.51(**)**	**-.19**
	Depend	**.52(**)**	**-.51(**)**	**1**	**.19**
	Anxiety	**.42(**)**	**-.19**	**.19**	**1**

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

Table 30 demonstrates that when the correlations between the full scale EDI 1 and the AAS sub-scales are considered by race group, some differences can be observed. In agreement with the findings shown in Table 28, negative correlations were observed across all three race groups on the Close attachment dimension. Similarly, positive correlations were observed on the Depend and Anxiety attachment dimensions with the full scale EDI 1 for all race groups. However, for the Black sample, the only significant relationship was found between the full scale EDI 1 and the Anxiety attachment dimension (.47, $p < .01$), reflecting a moderate positive correlation. There were no significant relationships indicated for the Indian sample group. In contrast, all three attachment dimensions were significantly correlated with the full scale EDI 1 for the White sample group. Weak to moderate relationships were observed for the Close (-.38, $p < .01$), Depend (.52, $p < .01$) and Anxiety (.42, $p < .01$) dimensions and the full scale EDI respectively. Owing to the relatively small and uneven sample sizes across the three race groups, further correlations between the eight EDI sub-scales and the AAS sub-scales were not considered.

4.5.3 Summary of Findings

Hypothesis (2a) was confirmed by the above results as an association was demonstrated between the EDI 1 sub-scales and the CRQ attachment styles.

The above data confirms Hypothesis (2b) in that the disordered eating attitudes, behaviours and psychological correlates, as measured by the EDI 1, were negatively correlated with the secure attachment dimension of Close. Within this overall pattern three significant negative relationships were noted, namely between the Ineffectiveness, Interpersonal Distrust, Interoceptive Awareness sub-scales and the Close dimension respectively.

Similarly, Hypothesis (2c) was confirmed. The full scale and eight EDI sub-scales were positively correlated with the insecure attachment dimensions, namely Depend and Anxiety. Four significant positive relationships were found between the EDI sub-scales (viz. Ineffectiveness, Perfectionism, Interoceptive Awareness and Interpersonal Distrust) and the Depend attachment dimension respectively. Six of the EDI 1 sub-scales (viz. Drive for Thinness, Bulimia, Ineffectiveness, Interoceptive Awareness, Maturity Fears and Interpersonal Distrust) were significant and demonstrated positive relationships with the Anxiety attachment dimension respectively.

Additional findings indicated that when correlations were explored between the full scale EDI 1 and the AAS sub-scales per race group, fewer significant relationships were demonstrated. A consideration of the interaction between participants' membership of an attachment dimension and race is reported below.

The implications of the above results will be considered in the following chapter.

CHAPTER FIVE

DISCUSSION

In this chapter the results presented in chapter four will be discussed in terms of the original aim and hypotheses of this study and the literature review in chapter two. The limitations of the study will be examined and the implications of the present findings for future research will be explored.

Only 91 participants provided their current age. However, owing to the fact that a first year university sample was selected for the study, the average age of the remaining 31 students was likely to be 19 years.

The reliability of the eight EDI sub-scales was respectable at .76. This ranged from .64 for Indians to .66 for Blacks and .79 for Whites. This study supported the respectable internal consistency of seven of the EDI 1 sub-scales when compared to Garner and Olmstead's (1984) pilot study of female college students, shown in Table 3.

The most notable exception to this was on the Bulimia sub-scale where Cronbach's alpha was .58. Test reliability reflects the extent to which individual differences in test scores are attributable to 'true' differences in the characteristics under consideration and the extent to which they are attributable to chance errors (Anastasi, 1988). The reliability score for the Bulimia sub-scale was calculated using item-total correlations, which consider the consistency of responses to all items in the test (or sub-scale as in this instance). The lower reliability on this sub-scale can perhaps be attributed to the wording of the six items. On the Bulimia sub-scale most of the items relate to the bingeing component of bulimic behaviour,

except for item 53 "I have the thought of trying to vomit in order to lose weight" (Garner & Olmstead, 1984). Therefore, contrary to the diagnostic criteria for bulimia nervosa set out in the DSM-IV-TR (APA, 2000) very little consideration is given to the purging behaviours such as the misuse of laxatives, diuretics, enemas or other medications, fasting or excessive exercise. Additional items investigating these types of purging behaviours should be included to address this limitation. In the multi-cultural sample of the current study, one would need to consider the implications of practices such as cultural purging and the extent to which this may indicate false positives on the bulimia sub-scale. Split-half reliability (Anastasi, 1988) should be performed to further investigate the consistency of the measure with regard to content sampling. The lower reliability on this sub-scale indicates the crucial need for appropriately standardised norms for the South African population. The small sample size of this study could also partly account for some error in the reliability of this measure.

5.1 COMPARISON OF THE EDI SUBSCALES ACROSS THE RACE GROUPS

The results in section 4.3.1 confirm Hypothesis 1 in that significant differences were observed amongst the race groups in terms of the degree of disordered eating attitudes, behaviours and psychological correlates. Differences between the race groups were observed on all eight of the EDI 1 sub-scales. The Black group attained the highest mean on seven of the eating disordered sub-scales, i.e., Drive for Thinness, Bulimia, and the psychological correlates of Ineffectiveness, Perfectionism, Interpersonal Distrust, Interoceptive Awareness and Maturity Fears. The only exception to this was on Body Dissatisfaction where Whites scored highest overall. Significant differences between the race groups were observed on

three of the sub-scales, namely Bulimia, Perfectionism and Interpersonal Distrust. This discussion will be limited to an analysis of the significant differences only.

Hypotheses (1a) and (1b) were formulated and derived from findings reported by Wassenaar et al. (2000). In terms of hypothesis (1a), the current study revealed that the Black group scored highest on the Drive for Thinness sub-scale. Although not significant, these findings confirm those of Wassenaar et al. (2000) in that a similar pattern was observed between the two studies where the Drive for Thinness mean for Blacks was highest, followed by Whites and then Indians. Furthermore, the highest percentage of Black participants scored above the cut-off point on this sub-scale. Garner and Olmstead (1984) describe Drive for Thinness as being indicative of a person's excessive concern with dieting, their preoccupation with weight and them aspiring to the ideal of an extreme pursuit of thinness. They comment that it has been described by Bruch (1973, 1978, cited in Garner & Olmstead, 1984, p. 5) and others as "a cardinal feature of anorexia nervosa". This study further supports the findings of a number of studies considered in the literature review (Wassenaar et al., 2000; Marais et al., 2003), and suggests that significant numbers of university-level Black South African women are preoccupied with weight loss and the fear of gaining weight.

The second aspect of hypothesis (1a) relates to the Perfectionism sub-scale. The results of this study show a significant difference between the mean scores on Perfectionism between the Black sample group and their White counterparts. Garner and Olmstead (1984) describe this psychological construct as being indicative of excessive personal expectations of superior achievement. Their research suggests that families in which anorexia nervosa occurs have been described as highly achievement orientated. These results concur with the findings of Wassenaar et al. (2000) and Marais et al. (2003) and may be reflective of the increasing

emphasis contemporary South African culture places on success. The higher levels among Black female university students may be attributed or explained by an increase in pressures to acculturate to Western ideals and values. Thus, hypothesis (1a) was partly confirmed in the current study as Black respondents scored highest on the Drive for Thinness and Perfectionism sub-scales, but this difference was only significant for Perfectionism.

Hypothesis (1b) was also partly confirmed in this study as, although White respondents scored highest on Body Dissatisfaction overall, the difference was not significant. When using the comparative measure of cut-off points, White participants also scored proportionately higher (35.2%), followed by Blacks (23.1%) and then Indians (3.4%). This sub-scale reflects body image disturbances that are considered to be a basic deficit in anorexia nervosa (Garner & Olmstead, 1984). The higher incidence of body dissatisfaction amongst Whites is supported in studies conducted by Hooper and Garner (1986) and Wassenaar et al. (2000). White students display higher body-image dissatisfaction than their Black peers. As Wassenaar et al. (2000) suggest, this may be partly attributed to the presumption of traditional cultural encouragement of heavier body weights amongst blacks. The scourge of HIV AIDS in South Africa, with prevalence among Black women (Nelson Mandela/HSRC Study of HIV/AIDS, 2002), may serve to further discourage low body weights because of fear of discrimination from the community should this be misinterpreted as an indication of AIDS or HIV infection.

It is important to highlight some additional findings. Table 10 in section 4.3.1 of the results chapter reports that on the Bulimia sub-scale Blacks scored significantly higher than Indians ($p = .01$). In addition to this, a higher proportion of Black participants scored above the cut-off point than both White and Indian participants. This is a pattern not seen in the NEDCC

(1996) or Wassenaar et al. (2000) studies. However, Marais et al. (2003) reported that a higher proportion of Black women scored above the Bulimia cut-off point than both black and white men in that study, although the mean score for Black men was higher than for Black women. Given these findings, notwithstanding the limitations of cross-sectional designs, there may be a temporal increase in the bulimic type of disordered eating behaviour at least among black female, first year university students. However, low reliability (.58) and the sub-scale's under-emphasis on purging behaviours, as discussed above, may undermine the validity of this interpretation.

The psychological construct of Interpersonal Distrust was included by the authors of the EDI to measure the individual's sense of alienation, general reluctance to form close relationships and a general discomfort with expressing emotions toward others (seen to be important in the development and maintenance of Anorexia Nervosa). In the current study Blacks scored significantly higher than Whites on Interpersonal Distrust, and higher than the Indian group. Furthermore, more than half of Black participants scored above the cut-off point on this sub-scale, suggesting very high levels of difficulty with intimacy and frustration in forming close relationships for this sample of university students. These findings differ from Wassenaar et al. (2000) where Asians (Indians) scored significantly higher than Blacks and Whites on this sub-scale. Although cross-sectional comparisons are problematic, the higher scores for Black women on this sub-scale may suggest that, even with the new political dispensation, Black women continue to feel isolated and uncomfortable in forming close relationships, at least as measured by 'Western' rules like the EDI 1. Through the process of acculturation and the adoption of Western ideals they may experience increased pressure towards self-reliance and individual competence and success.

Section 4.3.3 indicated that on six of the eight EDI 1 sub-scales a higher proportion of Black participants scored above the cut-off scores than any other race group, while Whites scored highest on Body Dissatisfaction. However, a different pattern was noted for the Ineffectiveness sub-scale. The distribution on this sub-scale indicated that comparatively more White respondents (13%) scored above the cut-off point than either the Black (10.3%) or Indian (6.9%) samples. Yet, when comparing the mean scores for each group, Blacks scored highest followed by Indians and then Whites. This suggests that although more whites (7 versus 4 and 2 respectively) scored pathological levels of Ineffectiveness, on average Blacks and Indians appear to experience higher levels of general inadequacy, insecurity, worthlessness, and the feeling of not being in control of life. It can be hypothesised that even with the new political dispensation and ten years of democracy, previously disadvantaged South African communities continue to struggle with negative self-evaluation. The so-called 'levelling of the playing fields' may have exacerbated this, and added significant pressure to these groups to succeed.

In summary, the Black sample scored highest on most of the indicators of disordered eating and in particular on all of the purely psychological constructs of disordered eating. This lends support for an apparent increase in disordered eating behaviours for non-white groups. As Marais et al. (2003) suggests, this may be attributed to an acculturation process whereby Westernised values and practices are assimilated and become the new ideal or standard of measure. A further consideration could perhaps be a weakening of the protective influence of family and cultural ideals in Black and Indian communities and thus an increase in disordered eating behaviours as reflected by results on Drive for Thinness and Bulimia.

5.2 COMPARISON OF ATTACHMENT STYLES /DIMENSIONS ACROSS THE RACE GROUPS

The classification of the total sample into the three attachment styles of the Close Relationships Questionnaire resembles Ainsworth's standard distribution of 70% Secure, 20% Avoidant and 10% Anxious /Ambivalent (Ainsworth et al., 1978). Although in the current sample a lower percentage of participants was classified as Secure (64.8%), a higher percentage of the sample was classified as Avoidant (28.7%) and a comparatively low level of participants was classified as Anxious /Ambivalent (6.6%). As suggested in the literature review and presented in Table 25, within sample variations were high. The Black sample group were more frequently assigned to the Anxious /Ambivalent (12.8%) category than the other race groups. Indians were more frequently categorised as belonging to the Avoidant (37.9%) category and Whites to the Secure (68.5%) category.

The overall pattern was similar across the attachment dimensions i.e., Depend (24.1%), Anxiety (6.9%) and Close (69%). However, there were considerable differences between the race groups. Only 49% of Blacks were classified as Close versus 81% for Whites and 74% for Indians. With regard to the insecure attachment dimensions, the Black sample also reflected greater membership than the other two, with 37.8% belonging to the Depend dimension and 13.5% classified according to the Anxiety dimension. Thus, findings in the literature that there are often more intra-cultural differences within the population of a country than between culturally divergent countries, were confirmed in the current study (van Ijzendoorn & Kroonenberg, 1988).

In a breakdown of these differences, Whites scored significantly higher than the Black sample group on the Close attachment dimension. It was observed on the Depend attachment dimension that Blacks scored significantly higher than Whites and Whites scored significantly higher than Indians. The Anxiety attachment dimension revealed that Blacks scored significantly higher than Whites or Indians. Thus, the results reported in section 4.4.2 confirm Hypothesis 3 in that significant differences were found between the race groups in terms of the classification of participants into three attachment dimensions.

The fact that the Black group was more frequently categorised as belonging to the two insecure attachment styles /dimensions and the White group was more frequently characterised as belonging to a secure attachment style /dimension raises some important questions around the cross-cultural applicability of Ainsworth's attachment classifications. As already mentioned the literature supports the notion of variations in attachment classification across cultures within the same environment, but this does little to substantiate whether these variations are indeed valid. In particular the idea of a secure attachment relationship appears to be based on the presumption that one, or only a few, caregiver/s participate in the formation of secure attachments. Amongst the Black population in South Africa, child rearing is often considered to be the responsibility of the entire family or surrounding community (Berg, 2003). Thus the mechanism of attachment may be considered more complex as a larger number of caregivers participate in establishing crucial relationships with infants and children in providing the necessary 'security' for healthy psychological development. In this way the definition of what constitutes secure and insecure attachment may vary greatly across cultures and sub-cultures. Caution should be taken in randomly applying these Western standards across all cultures.

5.3 INTERRELATIONSHIP BETWEEN DISORDERED EATING AND ATTACHMENT

As discussed in section 2.3 of the literature review, Biggs (1999) found a relationship between disordered eating and parental attachment. More specifically, she reported that greater attachment was inversely related to disordered eating. This study set out to examine this relationship more closely. In the use of the CRQ and the AAS, the concept of attachment was broadened and an attempt was made to distinguish between secure and insecure attachment, and further between the two types of insecure attachment. Hypotheses 2a, 2b and 2c were derived from a number of international studies that have considered the relationship between eating disorders and attachment (Evans & Wertheim, 1998; Latzer et al., 2002; Sharpe et al., 1998; Tucker & McNamara, 1995).

Overall, the correlations between the full-scale EDI 1 and AAS sub-scales support the relationships reflected between disordered eating and attachment in the literature. It seems as if a weak negative correlation (-.34, $p < .01$) was confirmed between the more secure or Close attachment dimension and disordered eating. Conversely a positive relationship was observed between the insecure attachment dimensions of Depend (.35, $p < .01$) and Anxiety (.40, $p < .01$) with Disordered Eating.

Hypothesis (2a) was confirmed as an association was demonstrated between the EDI 1 sub-scales and the CRQ attachment styles of secure, avoidant and anxious /ambivalent. Despite the limitations of a categorical measure, a strong association was demonstrated between attachment and disordered eating in that 73% of participants were correctly classified into their attachment styles when calculated by EDI 1 scores.

Hypothesis (2b) was confirmed in that the disordered eating attitudes, behaviours and psychological correlates, as measured by the full-scale EDI 1, were negatively correlated with the secure attachment dimension of Close. Collins and Read (1990) describe the Close factor as being reflective of the extent to which participants were comfortable with closeness and intimacy. Specifically it indicates that a person categorised as being 'Close' is comfortable with closeness, able to depend on others and not worried about being abandoned or unloved.

Subsequent analysis of the relationship between the Close attachment dimension and each of the EDI 1 sub-scales revealed three further significant relationships. The strongest negative correlation was between Interpersonal Distrust and Close. It is logical that this psychological construct, which considers an individual's sense of alienation and reluctance to form close relationships, would be inversely related to being comfortable with closeness. A moderate negative correlation was found with the Ineffectiveness sub-scale, reflecting an inverse relationship between feeling insecure and worthless and the Close attachment characteristic of being unafraid of being abandoned and unloved. Finally a weak negative correlation was observed between Interoceptive Awareness and the Close attachment dimension. This psychological construct considers the extent to which one lacks confidence in recognising and accurately identifying emotions which would seem to be a necessary prerequisite for forming close and intimate relationships.

In logical contrast and almost as a corollary to the above, insecure attachment dimensions were observed to be positively correlated with higher levels of disordered eating (see section 4.5.2, table 29). Significant positive correlations were found between the Depend attachment dimension and the psychological constructs of Ineffectiveness, Perfectionism, Interpersonal Distrust and Interoceptive Awareness. These psychological correlates of disordered eating

consider one's level of insecurity or worthlessness, personal preoccupation with achievement, being alienated and disconnected in relationships, and an inability to accurately identify one's emotions, respectively. The strongest correlation was that between Interpersonal Distrust and the Depend sub-scale. The Depend attachment factor is characterised by uncertainty about the extent to which others can be trusted and depended upon to be available when needed. Thus higher scores on the above-mentioned EDI 1 sub-scales would be positively related to an individual's uncertainty about the availability and trustworthiness of those with whom they have significant relationships.

Of the three AAS attachment dimensions, Anxiety was most strongly correlated with the full-scale EDI. This was further substantiated by significant positive correlations with six of the EDI sub-scales. These included Drive for Thinness, Bulimia, Ineffectiveness, Maturity Fears, Interpersonal Distrust and Interoceptive Awareness. Of these the strongest relationship was indicated between Anxiety and Interoceptive Awareness. This attachment dimension relates to anxiety in relationships, such as the fear of being abandoned and unloved. Thus the characteristic doubt in one's ability to accurately recognise and identify one's own emotions – defined by Garner and Olmstead's (1984) Interoceptive Awareness construct – can in this way be extended to uncertainty in identifying others' emotions and thus correlates positively with the fear of being abandoned or loved.

With regard to the interrelationship between attachment and disordered eating, table 30 of the results section revealed some important additional findings. Correlations between the full-scale EDI 1 and the AAS by race group revealed a similar pattern across the groups – a negative relationship with the Close dimension and positive relationships with the insecure attachment dimensions of Depend and Anxiety. However, the only significant correlation for

the Black group was between the full scale EDI 1 and Anxiety. There were no significant correlations for the Indian group. Yet all three attachment dimensions were significantly correlated with the EDI 1 for the White group. This can perhaps be attributed to the relatively small sample sizes of the Black and Indian groups. However, it may also be concluded that the racial differences in the distribution of participants across the attachment dimensions significantly impacts on the interrelationship between disordered eating and attachment.

5.4 LIMITATIONS OF THIS STUDY

The uneven and small sample sizes across the race groups are problematic and make comparisons between the groups difficult on the measures of disordered eating, attachment and their inter-relationship. Furthermore, participants in each group were not matched for factors such as age, socio-economic status, urban/ rural origins and family structure. The impact of these confounding variables is therefore unclear. This convenience sample does not accurately reflect the demographics of the South African population, and therefore the generalisability of these findings is limited.

The utility of the EDI 1 is limited and merely alludes to the levels of disordered eating within this sample. It cannot be construed as a validated indicator of eating disorder pathology within this non-clinical sample. While scores above the cut-off points used in this study indicate high risk groups, follow-up interviews with high scorers would be needed to make a clinical diagnosis of anorexia or bulimia nervosa. The lack of normed data for this measure in South Africa suggests that the conclusions of this study should be interpreted with caution.

In particular this was reflected in the lower levels of reliability of the eight sub-scales of the EDI 1 reported for the Indian (.64) and Black (.66) groups than for the White (.79) group.

The conceptual understanding of attachment as applied to this study is informed by the work of Bowlby (1969) and Ainsworth et al. (1978) and conceptualised as an enduring affective bond, which serves as a secure base in providing emotional support and fostering autonomy. Within this conceptualisation of attachment, self-report measures such as the CRQ and AAS are thought to limit the validity of the findings by eliciting subjective interpretations from the participants which may not be objectively accurate.

In addition to this, the findings of Waters et al. (2000) and Hamilton (2000) support the presumption that attachment is stable across the life span. However they indicate that negative life events (such as loss of a parent, parental divorce, life-threatening illness, parental psychiatric disorder or different forms of abuse) can result in a change of attachment classification. This factor was not considered in the current study and therefore these findings may not accurately reflect the childhood attachment classifications of these participants. Furthermore, the measures of attachment used in this study focussed on exploring attachment in relation to love relationships or relationships with partners as it was thought to be of relevance for this sample of late adolescents and young adults. Notwithstanding the support of the continuity between romantic attachment styles and early attachment patterns with primary caregivers (Collins & Read, 1990; Hartup & Rubin, 1986; Hazan & Shaver, 1987), this relationship continues to be explored. Thus any conclusions drawn with regard to the relationship between disordered eating and attachment styles remain tenuous.

Substantial research is available on the validity of Ainsworth's attachment style classifications across cultures (see section 2.2.5). However its applicability to a population as diverse and complex as South Africa's requires further exploration. This limits the accuracy of conclusions drawn about the relationship between disordered eating and attachment in this context.

The most obvious methodological limitation is the correlational design of this study. The findings of this study reflect correlational associations between the variables and hence the causal relationship between disordered eating and attachment cannot be determined. Although attachment theory focuses on the role of the parent-child relationship as an important determinant of psychological adjustment, it is equally plausible that the causal chain is reversed. In this way the direction of the relationship is unclear and it is possible that disrupted attachment patterns occur as a result of pervasive symptoms of an eating disorder as opposed to contributing to, or being causative of, its development.

A number of studies have established a relationship between insecure attachment styles and psychopathology in general. Some progress has been made in linking attachment to depression (Cummings & Cicchetti, 1990; Radke-Yarrow, Cummings, Kuczynski, & Chapman, 1985), oppositional and conduct disorders (Greenberg, Speltz, & De Klyen, 1993; Lyons-Ruth, 1996), abuse and maltreatment (Cicchetti & Barnett, 1991; Lynch & Cicchetti, 1991), and personality pathology (Nakash-Eiskovits, Dutra, & Westen, 2002). It is thus possible in the present study that the primary relationship exists between disrupted attachment and psychological distress more broadly. While the psychological constructs of Ineffectiveness, Interpersonal Distrust and Interoceptive Awareness contributed most significantly to the relationship between disordered eating and attachment, it is possible that

feelings of inadequacy and worthlessness, mistrust of others, and difficulty in identifying and dealing with emotions are common to many psychological problems. In this way these factors may not be considered unique to disordered eating, but rather exist at the core of psychological disturbance more generally.

The use of race as a variable in this study is an oversimplification and conceals underlying cultural and socio-economic differences with each nominal race group. A more sophisticated categorisation by culture was beyond the scope of the present study. Nevertheless, if clinical and research attention is brought to race with regard to eating disorder pathology in South Africa, this nominal categorisation has served some purpose.

5.5 IMPLICATIONS OF THIS STUDY

The findings of this study concur with a number of South African studies and indicate a significant level of disordered eating among black South African women (le Grange et al., 1998; Marais et al., 2002; NEDCC, 1996; Wassenaar et al., 2000). On average the higher mean scores on seven of the eight EDI 1 sub-scales reported for Black students, suggests that they are at an increased risk of developing an eating disorder in comparison to their Indian and White peers. In addition to this, significantly higher mean scores were observed for black women students on the Bulimia sub-scale, not previously seen in earlier comparative South African studies. This suggests that there may be a temporal trend towards increased eating disorder pathology in acculturating societies.

This would seem to implicate the need for prevention programmes that provide psycho-education on the nature and symptoms of eating disorders through guidance programmes at

schools and at university campus clinics and student counselling centres. Health professionals should be made aware that eating disorders can no longer be considered a white, middle-class phenomenon, and increased sensitivity to its prevalence in all race groups should be encouraged. In terms of future planning, specialised eating disorder clinics should be considered particularly in the public sector where there appears to be a critical shortage of specialised facilities.

The design of this study does not allow for any inferences of causality between the observed variables. Nevertheless a relationship between disordered eating and attachment has been found to exist and may have useful therapeutic implications. The family therapy approach of Minuchin et al. (1978) places eating disordered behaviour squarely within the context of interpersonal transactional conflicts that exist between parents and adolescents. In this way attachment patterns can be used as a means of understanding family interactions in order to plan treatment strategies that involve change at the level of the structure and functioning of the family system. Furthermore, signs of disrupted attachment may direct the therapist towards intervening between parent and child at the level of the dysfunctional interaction pattern.

Psychotherapeutic interventions with adult eating disorders might also explore the attachment anxieties suggested by this study, in a holistic approach to the treatment of eating disorders once manifest symptomatology has improved.

5.6 RECOMMENDATIONS FOR FUTURE RESEARCH

The limitations discussed in section 5.4 above suggest valuable areas for future research. A number of South African studies have explored the incidence of disordered eating across race groups. However, these investigations have exclusively focussed on non-clinical, high school or university students. Research into the prevalence of clinically diagnosed eating disorders of those individuals who present at clinics, hospitals, and in private practice, would be useful in indicating the extent to which there is an increase in incidence and prevalence among 'non-white' groups. In the absence of normative data, this would go a long way to provide comparative data of the EDI 1 scores for a clinical sample. The findings of this study, together with previous research (le Grange et al., 1998; Marais et al., 2002; NEDCC, 1996; Wassenaar et al., 2000) suggests that there may be a temporal increase in the likelihood or risk of black girls and women developing an eating disorder. However, with the exception of a few case studies, almost no data indicates whether this remains a risk or has in fact become a reality in terms of the incidence of clinically diagnosed eating disorders. Further, the EDI 1 needs to be validated on a cross-cultural South African sample.

With regard to attachment, data that accurately reflects the applicability of Ainsworth's attachment classifications in the South African context needs to be considered. Measures such as the Adult Attachment Interview (AAI; George, Kaplan & Main, 1985; Main & Goldwyn, 1991) would be useful in more accurately assessing attachment to caregivers by considering the functioning of internal working models through the use of in-depth interviews and not merely self-report questionnaires.

> "The interview (AAI) is designed to elicit the individual's account of his or her childhood attachment and separation experiences, together with his or her evaluations of the effects of those experiences on present functioning." (Fonagy et al., 1996, p. 22)

The findings of this study, together with Biggs (1999), have revealed an association between attachment styles /dimensions and disordered eating that are relevant to etiological hypotheses but cannot demonstrate causal relationships. Longitudinal studies, although difficult to conduct in terms of time and financial constraints, would be valuable in exploring the direction of the relationship and attempt to establish causality. Parent-child attachment could initially be assessed using the Strange Situation Procedure (Ainsworth et al., 1978). Thereafter, attachment could be reassessed at regular intervals to identify any changes in parental attachments over time. Those adolescents who have demonstrated a consistent history of disrupted attachments could then be monitored in order to determine whether they were, in fact, more likely than others to develop disordered eating behaviour. It would also be useful to consider the implication of disrupted attachment on disordered eating behaviour for relationships with mothers and fathers separately.

Other valuable research should compare parent-adolescent attachment in eating disordered adolescents with the attachment patterns that accompany adolescents with other psychiatric disorders. Both longitudinal and comparative studies would more directly assess the contribution of disrupted parent-adolescent attachment to the development of disordered eating as opposed to other psychiatric illness in general. Such a sample should accurately reflect the demographics of the South African population, and in this way multi-racial differences can also be examined.

5.7 SUMMARY AND CONCLUSION

Research indicates that increasing levels of disordered eating are observed across all race groups in South Africa (Hooper & Garner, 1986; le Grange et. al., 1998; Marais et al., 2002; Szabo & Hollands, 1997; Wassenaar et al., 2000). Developing societies appear to be particularly vulnerable to the effects of acculturation, which seem to impact on the levels of disordered eating that are observed.

The findings of this study support the above. Disordered eating was measured by Garner and Olmstead's (1984) Eating Disorder Inventory. The results indicated that Black female university students scored highest on seven of the eight EDI 1 sub-scales in comparison to their Indian and White peers. Some unique observations, not previously reported, were found. Higher levels of bulimic behaviour were observed for Black students than the other race groups. Although the exact meaning of this remains unclear, it does suggest a higher prevalence in the physical correlates or indicators of bulimic-pattern disordered eating among this black, female university sample. In addition to this, a change in the pattern of the psychological indicator of Interpersonal Distrust was observed when compared to findings of Wassenaar et al. (2000). Wassenaar et al., (2000) found that Indians scored highest on Interpersonal Distrust, which suggests their greater reluctance to form close relationships and an inability to feel comfortable in expressing emotions toward others. In the current study Blacks scored higher than Indians and significantly higher than Whites on this sub-scale. These results were surprising at first, particularly when we consider South Africa's new democracy and that Black South Africans are legally no longer as marginalised as during the Apartheid years. This seems to suggest that the psychological effects of discrimination may remain long after the origin of oppression is dismantled. Alternately, it might indicate that

young Black women face complex pressures in the 'new' South Africa that continue to maintain their sense of alienation and discomfort in expressing emotions and forming close relationships, when measured on Western instruments .

The second aspect of this study examined the relationship between disordered eating and attachment. The risk factors implicated in the development of disordered eating include sociocultural, developmental, familial and biological factors (White, 1992). Attachment disturbances do not attempt to provide a complete explanation of the risk factors associated with eating disorders, nor do they exclude the role of other factors. In this study, the correlational design has prevented any prediction of the possible pathways of causality between disrupted attachment patterns and disordered eating. However, in agreement with a previous South African study conducted by Biggs (1999), the current study has implicated a significant relationship between disordered eating and attachment. In particular, low scores (insecure attachment patterns) on attachment and high scores on disordered eating were significantly associated.

Furthermore, a consideration of different styles /dimensions of attachment in relation to disordered eating found a negative relationship between the EDI 1 sub-scales and the healthier, more secure pattern of the 'Close' attachment dimension. Conversely, a positive relationship was reported between the EDI 1 sub-scales and the insecure attachment dimensions of 'Depend' and 'Anxiety'. This pattern was noted for all race groups. In particular, significant relationships on all three of the attachment dimensions were reported for the EDI 1 sub-scales of Ineffectiveness, Interpersonal Distrust and Interoceptive Awareness. This suggests a significant association between the psychological struggles implicated in disordered eating (i.e., feelings of inadequacy and worthlessness, mistrust of

others, and difficulty in identifying and dealing with emotions) and unhealthy or insecure attachment patterns.

As already mentioned the suitability of attachment measures and classifications to the South African context needs to be explored further. In addition to this, future studies would need to control for comorbid psychopathology of participants in an attempt to extricate the specific relationship (if any) between disordered eating and attachment.

Notwithstanding these limitations, attachment theory is well researched and can offer a considerable contribution to the theoretical understanding, therapeutic intervention and identification of psychological risk factors in disordered eating.

In conclusion, this study found an association between disordered eating and problematic attachment patterns. A number of recommendations have been made in terms of the improvement of the methodological design and the exclusion of extraneous variables to guide future research in this area.

It appears promising that a link can be made between early attachment relationships and the development of an eating disorder:

> "It can therefore be supposed that the lack of self-confidence and insecurity which pervade the personality of anorexics and bulimics may depend on relationships experienced in childhood, during which parents did not represent a secure basis. The quality of the attachment developed by these subjects from their first experiences may be considered a co-factor in the onset of their disorder." (Ramacciotti, Sorbello, Pazzagli, Vismara, Mancone & Pallanti, 2001, p.166).

REFERENCES

Abrams, K. K., Allen, L. R., & Gray, J. J. (1993). Disordered eating attitudes and behaviors, psychological adjustment, and ethnic identity: A comparison of black and white female college students. International Journal of Eating Disorders, 14, 49-57.

Ainsworth, M. D. S. (1991). Attachments and other affectional bonds across the life cycle. In C. Murray Parkes, J. Stevenson-Hinde, & P. Marris (Eds.), Attachment across the life cycle, (pp.9-32). Mackays of Chatham PLC: Kent.

Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). Patterns of attachment: a psychological study of the strange situation. Hillsdale: Erlbaum.

American Psychiatric Association (2000). Diagnostic and statistical manual of mental disorders (4th ed., text revision). Washington, DC: Author.

Anastasi, A. (1988). Psychological testing. (6th ed.) Englewood Cliffs: Macmillan Publishing Co., Inc.

Armstrong, J. G., & Roth, D. M. (1989). Attachment and separation difficulties in eating disorders: A preliminary investigation. International Journal of Eating Disorders, 8(2), 141-155.

Ballot, N. S., Delaney, N. E., Erskine, P. J., Langridger, P. J., Smit, K., van Niekerk, M. S., Winters, Z. E., & Wright, N. C. (1981). Anorexia nervosa: A prevalence study. South African Medical Journal, 59, 992-993.

Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles in young adults: A test of a four-category model. Journal of Personality and Social Psychology, 62, 226-244.

Becker, A. E., & Hamburg, P. (1996). Culture, the media, and eating disorders. Harvard Review of Psychiatry, 4, 163-166.

Bee, H. L. (1995). The developing child. (7th ed.). New York: Harper Collins College Publishers.

Bemis, K. M. (1978). Current approaches to the etiology and treatment of anorexia nervosa. Psychological Bulletin, 85(3), 593-617.

Berg, A. ((2003). Beyond the dyad: Parent-infant psychotherapy in a multicultural society – reflections from a South African perspective. Infant Mental Health Journal, 24(3), 265-277.

Beumont, P. J. V. (1970). Anorexia nervosa: A review. South African Medical Journal, 44, 911-915.

Beumont, P. J. V., George, G. C. W., Smart, D. E. (1976). "Dieters" and "vomiters" and "purgers" in anorexia nervosa. Psychological Medicine, 6, 617-622.

Biggs, T. A. (1999). Parent-adolescent attachment and disordered eating: a nonclinical sample. Unpublished Masters Thesis, Clinical Psychology. Pietermaritzburg: University of Natal.

Blum, G. S. (1953). Psychoanalytic theories of personality. New York: McGraw-Hill.

Bowlby, J. (1969). Attachment and loss: Volume 1. Attachment. New York: Basic Books.

Bowlby, J. (1973). Attachment and loss: Volume 2. Separation anxiety and anger. New York: Basic Books.

Bowlby, J. (1979). By ethology out of psychoanalysis: An experiment in interbreeding. Animal Behavior, 28, 649-656.

Bretherton, I. (1985). Attachment theory: Retrospect and Prospect. Monographs of the Society for Research in Child Development, 50(1/2), 3-35.

Bretherton, I. (1991). The roots and growing points of attachment theory. In Murray Parkes, C., Stevenson-Hinde, J., & Marris, P. (Eds.), Attachment across the life cycle, (pp.9-32). Mackays of Chatham PLC: Kent.

Bruch, H. (1973). Eating disorders: Obesity, anorexia nervosa, and the person within. New York: Basic Books.

Collins, N.L., & Read, S.J. (1990). Adult attachment, working models, and relationship quality in dating couples. Journal of Personality and Social Psychology, 58, 644-663.

Cicchetti, D., & Barnett, D. (1991). Attachment organization in preschool aged maltreated children. Development and Psychopathology, 3, 397-411.

Cummings, E. M., & Cicchetti, D. (1990). Attachment, depression, and the transmission of depression. In M. T. Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), Attachment in the preschool years (pp.339-372). Chicago: University of Chicago Press.

Dare, C., & Crowther, C. (1995). Psychodynamic models of eating disorders. In G. Szmukler, C. Dare, & J. Treasure (Eds.), Handbook of Eating Disorders: Theory, Treatment and Research, (pp.125-139). John Wiley & Sons Ltd.

Dare, C., & Eisler, I. (1997). Family therapy for anorexia nervosa. In P. E. Garfinkel & D. M. Garner (Eds.), Handbook of treatment for eating disorders, (2nd ed., pp.307-324). New York: Guilford Press.

Davis, C., & Yager, J. (1992). Transcultural aspects of eating disorders: A critical literature review. Culture, Medicine and Psychiatry, 16, 377-394.

Dolan, B. (1991). Cross-cultural aspects of anorexia nervosa and bulimia: A review. International Journal of Eating Disorders, 10, 67-78.

Evans, L., & Wertheim, E. H. (1998). Intimacy patterns and relationship satisfaction of women with eating problems and mediating effects of depression, trait anxiety and social anxiety. Journal of Psychosomatic Research, 44, 355-365.

Feeney, J. A., & Noller, P. (1996). Adult attachment. Thousand Oaks: Sage.

Fitzgibbon, M. L., Spring, B., Avellone, M. E., Blackman, L. R., Pingitore, R., & Stolley, M. R. (1998). Correlates of binge eating in Hispanic, Black and White women. International Journal of Eating Disorders, 24, 43-52.

Fonagy, P., Leigh, T., Steele, M., Steele, H., Kennedy, R., Mattoon, G. et al. (1996). The Relation of attachment status, psychiatric classification, and response to psychotherapy. Journal of Consulting and Clinical Psychology, 64(1), 22-31.

Garner, D. M., Garfinkel, P. E., Schwartz, D., & Thomson, M. (1980). Cultural expectations of thinness in women. Psychological Reports, 47, 483-491.

Garner, D. M., Olmstead, M. P., & Polivy, J. (1983). Development and validation of a multidimensional eating disorder inventory for anorexia nervosa and bulimia. International Journal of Eating Disorders, 2, 15-34.

Garner, D. M., & Olmstead, M. P. (1984). Manual for Eating Disorder Inventory (EDI). USA: Psychological Assessment Resources Inc.

George, C., Kaplan, N., & Main, M. (1985). The adult attachment interview. Unpublished manuscript, University of California at Berkeley, Department of Psychology, Berkeley, CA.

Gordon, R. A. (2000). Eating Disorders: Anatomy of a Social Epidemic. (2nd ed.). Oxford: Blackwell.

Gordon, R. A. (2001). Eating disorders East and West: A culture-bound syndrome unbound. In M. Nasser, M. A. Katzman, & R. A. Gordon (Eds.), Eating Disorders and Cultures in Transition, (pp.1-15). Hove: Brunner-Routledge.

Greenberg, J. R., & Mitchell, S. A. (1983). Object relations in psychoanalytic theory. Cambridge: Harvard University Press.

Greenberg, M. T., Speltz, M., & De Klyen, M. (1993). The role of attachment in early development of disruptive behavior problems. Development and Psychopathology, 5, 191-214.

Grossman, K., Grossman, K. E., Spangler, G., Suess, G., & Unzner, L. (1985). Maternal sensitivity and newborns' orientation responses as related to quality of attachment in Northern Germany. In I. Bretherton & E. Waters (Eds.), Growing points of attachment theory and research. Monographs of the Society for Research in Child Development, 50(1-2, Serial No. 209),(pp. 233-256).

Halmi, K. A. (1995). Current concepts and definitions. In G. Zmukler, C. Dare, & J. Treasure (Eds.), Handbook of Eating Disorders: Theory, Treatment and Research. Chichester: John Wiley & Sons.

Hamilton, C. E. (2000). Continuity and discontinuity of attachment from infancy through adolescence. Child Development, 71(3), 690-694.

Hartup, W., & Rubin, Z. (Eds.). (1986). Relationships and development. Hillsdale: Erlbaum.

Harwood, R. L. Miller, J. G., & Irizarry, N. L. (1995). Culture and attachment: Perceptions of the child in context. New York: Guilford Press.

Hazan, C., & Shaver, P. (1987). Conceptualizing romantic love as an attachment process. Journal of Personality and Social Psychology, 52, 511-524.

Hazan, C., & Zeifman, D. (1999). Pair bonds as attachments: Evaluating the evidence. In J. Cassidy, & P. R. Shaver (Eds.), Handbook of attachment (pp.336-354). New York: Guilford.

Hooper, M. S. & Garner, D. M. (1986). Applications of the Eating Disorders Inventory to a sample of black, white and mixed race schoolgirls in Zimbabwe. International Journal of Eating Disorders, 5, 161-168.

Kenny, M. E., & Hart, K. (1992). Relationship between parental attachment and eating disorders in an inpatient college sample. Journal of Counseling Psychology, 39(4), 521-526.

Klein, J. (1987). Our need for others and its roots in infancy. New York: Tavistock/ Routledge.

Klohnen, E. C., & John, O. P. (1998). Working models of attachment: A theory-based prototype approach. In J. A. Simpson & W. S. Rholes (Eds.), Attachment theory and close relationships (pp.115-140). New York: Guilford.

Kog, E. & Vandereycken, W. (1985). Family characteristics of anorexia nervosa and bulimia: A review of the research literature. Clinical Psychology Review, 5, 159-180.

Kumanyika, S. K., Morrsink, C., & Agurs, T. D. (1992). Models of dietary and weight change in African-American women: Identifying cultural components. Ethnicity and Disease, 2, 166-175.

Lamb, M. E., Thompson, R. A., Gardner, W., & Charnov, E. L. (1985). Infant-mother attachment: The origins and developmental significance of individual differences in Strange Situation behavior. Hillsdale: Erlbaum.

Latzer, Y., Hochdorf, Z., Bachar, E., & Canetti, L. (2002). Attachment style and family functioning as discriminating factors in eating disorders. Contemporary Family Therapy, 24(4), 582-99.

Lynch, M., & Cicchetti, D. (1991). Patterns of relatedness in maltreated and nonmaltreated children: Connections among multiple representational models. Development and Psychopathology, 3, 207-226.

Lyons-Ruth, K. (1996). Attachment relationships among children with aggressive behavior problems: The role of disorganized early attachment patterns. Journal of Consulting and Clinical Psychology, 64, 64-73.

le Grange, D. (1993). Family therapy outcome in adolescent anorexia nervosa. South African Journal of Psychology, 23(4), 174-179.

le Grange, D., Tibbs, J., & Selibowitz, J. (1995).Eating attitudes, body shape and self-disclosure in a community sample of adolescent girls and boys. Eating Disorders, 3(3), 253-264.

le Grange, D., Telch, C. F., & Tibbs, J. (1998). Eating attitudes and behaviours in 1435 South African caucasian and non-caucasian college students. American Journal of Psychiatry, 155, 250-254.

Main, M. (1996). Introduction to the special section on attachment and psychopathology: 2. Overview of the field of attachment. Journal of Consulting and Clinical Psychology, 64(2), 237-243.

Main, M., & Goldwyn, R. (1991).Adult attachment classification system, version 5. Unpublished manuscript, University of California, Berkeley.

Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood, and adulthood: A move to the level of representation. In I. Bretherton & E. Waters (Eds.), Monographs of the Society for Research in Child Development, 50(1-2, Serial No. 209), (pp.66-106).

Marais, D. L., Wassenaar, D. R., & Kramers, A. L. (2003). Acculturation and eating disorder symptomatology in Black men and women. Eating and Weight Disorders, 8(1), 44-54.

Minuchin, S., Rosman, B. L., & Baker, L. (1978). Psychosomatic families: Anorexia nervosa in context. London: Harvard University Press.

Mitchell, B. (2004). Towards a cross-cultural validation of the Eating Disorders Inventory: A pilot study. Unpublished master's thesis, University of KwaZulu-Natal, Pietermaritzburg.

Miyake, K., Chen, S. –J., & Campos, J. J. (1985). Infant temperament, mother's mode of interaction, and attachment in Japan: An interim report. In I. Bretherton & E. Waters (Eds.), Growing points of attachment theory and research. Monographs of the Society for Research in Child Development, 50(1-2, Serial No. 209), 276-297.

Moreno, J. K., Selby, M. J., Aved, K., & Besse, C. (2000). Differences in family dynamics among anorexic, bulimic, obese and normal women. Journal of Psychotherapy in Independent Practice, 1(1), 75-87.

Mumford, D., Whitehouse, A., & Choudry, I. (1992). Survey of eating disorders in English-medium schools in Lahore, Pakistan. International Journal of Eating Disorders, 11, 173-184.

Nakash-Eisikovits, O., Dutra, L., & Westen, D. (2002). Relationship between attachment patterns and personality pathology in adolescents. Journal of the American Academy for Child and Adolescent Psychiatry, 41(9), 1111-1122.

Nasser, M. (1986). Comparative study of the prevalence of abnormal eating attitudes among Arab female students in both London and Cairo universities. Psychological Medicine 16, 621-625.

NEDCC (1996). The NEDCC survey of South African female students using Garner's Eating Disorder Inventory. Unpublished manuscript, University of Natal, School of Psychology, Pietermaritzburg.

Nelson Mandela/HSRC Study of HIV/AIDS (2002). South African national HIV prevalence, behavioural risks and mass media household survey. Retrieved, November 11, 2004, from http://www.hsrcpublishers.co.za/hiv.html

Norris, D. L. (1979). Clinical diagnostic criteria for primary anorexia nervosa. South African Medical Journal, 56, 987-993.

O'Kearney, R. (1996). Attachment disruption in anorexia nervosa and bulimia nervosa: A review of theory and empirical research. International Journal of Eating Disorders, 20, 115-127.

Radke-Yarrow, M., Cummings, E. M., Kuczynski, L., & Chapman, M. (1985). Patterns of attachment in two- and three-year-olds in normal families and families with parental depression. Child Development, 56, 884-893.

Ramacciotti, A., Sorbello, M., Pazzagli, A., Vismara, L., Mancone, A., & Pallanti, S. (2001). Attachment processes in eating disorders. Eating and Weight Disorders 6, 166-170.

Rholes, W. S., Simpson, J. A., & Stevens, J. G. (1998). Attachment orientations, social support, and conflict resolution in close relationships. In J. A. Simpson & W. S. Rholes (Eds.), Attachment theory and close relationships (pp.115-140). New York: Guilford.

Rosnow, L. R., & Rosenthal, R. (1996). Beginning behavioral research: A conceptual primer. (2nd ed.) Englewood Cliffs: Prentice-Hall, Inc.

Sagi, A., Lamb, M. E., Lewkowicz, K. S., Shoham, R., Dvir, R., & Estes, D. (1985). Parent-infant interaction in families on Israeli kibbutzim. International Journal of Behavioral Development, 8(3), 273-284.

Scalf-McIver, L., & Thompson, J. K. (1989). Family correlates of bulimic characteristics in college females. Journal of Clinical Psychology, 45 (3), 467-472.

Schmitt, D. P., Alcalay, L., Allensworth, M., Allik, J., Ault, L., Austers, I., et al. (2004). Patterns and universals of adult romantic attachment across 62 cultural regions: Are models of self and of other Pancultural constructs? Journal of Cross-Cultural Psychology, 35(4), 367-402.

Selvini-Palazzoli, M. (1974). Self-starvation: From the intrapsychic to the transpersonal. London: Chancer Press.

Sharpe, T., Killen, J. D., Bryson, S. W., Shisslak, C. M., Estes, L. S., Gray, N. et al. (1998). Attachment style and weight concerns in preadolescent and adolescent girls. International Journal of Eating Disorders, 23, 39-44.

Silverstein, B., & Perlick, D. (1995). The cost of competence: Why inequality causes depression, eating disorders and illness in women. New York: Oxford University Press.

Smith, J. E., & Krejci, J. (1991). Minorities join the majority: Eating disorders among Hispanic and Native American youth. International Journal of Eating Disorders, 10, 179-186.

South Africa Government Online (2004). South African Government Information: The land and its people. Retrieved, November 11, 2004, from http://www.info.gov.za/aboutsa/landpeople.htm#census.

Sperling, M. B., & Berman, W. H. (Eds.). (1994). Attachment in adults: Clinical and developmental perspectives. New York: The Guilford Press.

SPSS for Windows, Released. 11.05 2002. Chicago: SPSS, Inc.

Striegel-Moore, R. H., Schreiber, G. B., Pike, K. M., Wilfley, D. E., & Rodin, J. (1995). Drive for thinness in black and white preadolescent girls. International Journal of Eating Disorders, 18(1), 59-69.

Swartz, L. (1985). Anorexia nervosa as a culture-bound syndrome. Social Science and Medicine, 20, 725-730.

Szabo, C. P., & Hollands, C. (1997). Abnormal eating attitudes in secondary-school girls in South Africa - a preliminary study. South African Medical Journal, 87, 524-530.

Szabo, C. P., & le Grange, D. (2001). Eating Disorders and the politics of identity: The South African experience. In M. Nasser, M. A. Katzman, & R. A. Gordon (Eds.), Eating Disorders and Cultures in Transition, (pp.24-33). Hove: Brunner-Routledge.

Tucker, T. W., & McNamara, K. (1995). Assessing the relationship between parents' object relations and their daughters' eating disturbances. International Journal of Eating Disorders, 3, 311-323.

van Ijzendoorn, M. H., & Kroonenberg, P. M. (1988). Cross-cultural patterns of attachment: A meta-analysis of the Strange Situation. Child Development, 59, 147-156.

Ward, A., Ramsay, R., & Treasure, J. (2000). Attachment research in eating disorders. British Journal of Medical Psychology, 73, 35-51.

Wassenaar, D. R., Le Grange, D., Winship, J., & Lachenicht, L. (2000). The prevalence of eating disorder pathology in a cross-ethnic population of female students in South Africa. European Eating Disorders Review, 8, 225-36.

Waters, E., Hamilton, C. E., & Weinfeld, N. S. (2000). The stability of attachment security from infancy to adolescence and early adulthood: General introduction. Child Development, 71(3), 678-683.

Waters, E., Merrick, S., Treboux, D., Crowell, J., & Albersheim, L. (2000). Attachment security in infancy and early adulthood: A twenty-year longitudinal study. Child Development, 71(3), 684-689.

Weiss, R. S. (1991). The attachment bond in childhood and adulthood. In Murray Parkes, C., Stevenson-Hinde, J., & Marris, P. (Eds.), Attachment across the life cycle, 9-32. Mackays of Chatham PLC: Kent.

White, J. H. (1992). Women and eating disorders, part I: Significance and sociocultural risk factors. Health Care for Women International, 13, 351-362.

Whiting, J.L. (1995). Dissertation Abstracts International: Section B: The Sciences & Engineering, 55(7-B), 3031.

Winship, J. R. (1996). Cross-cultural variation in disordered eating attitudes and behaviours: A study of female university students in KwaZulu-Natal. Unpublished Masters Thesis, University of Natal (Pietermaritzburg).

Yager, J. (1982). Family issues in the pathogenesis of anorexia nervosa. Psychosomatic Medicine, 44, 43-60.

APPENDIX A

Dear Participant/Respondent

I am currently completing a Masters degree in Clinical Psychology. I am conducting research in the area of Eating Disorders. I am specifically interested in exploring the relationship between eating behaviours /attitudes and patterns of attachment.

I would greatly appreciate if you would consider assisting me by completing the following questionnaire. It will take approximately twenty minutes of your time.

The questionnaire consists of a biographical data sheet, and three self-administered questionnaires. The information that you provide will be treated confidentially and will only be viewed by myself and my supervisor, Dr Doug Wassenaar. It is optional for you to provide your name and contact details so that I may contact you should your results prove to be significantly high.

If the completion of this questionnaire raises any concerns, please contact me or make use of on campus resources such as the Student Counselling Centre, tel. 230 25233.

Yours Faithfully

Melanie Jorgensen Email: meljorgy@ananzi.co.za

APPENDIX B

Informed Consent

I understand that by completing the attached questionnaire I am participating in research on disordered eating and attachment.

I understand that my participation involves completing a biographical data sheet and three self-report questionnaires.

I understand that my name will not be known to the researcher, unless I voluntarily provide my contact details. All information provided will be treated as private and confidential. Follow-up by the researcher will only take place should my results prove to be significantly high.

I realise that my participation is voluntary and I am willing to participate in this research.

Signed: _____ **Date:** _____

APPENDIX C

Please complete as honestly, accurately and openly as possible.

Biographical Data Sheet

Name (Optional): _____

Contact no. /Email (Optional): _____

Age: _____

Approximate height: _____

Approximate weight: _____

Highest past weight (excluding pregnancy): _____

How long ago? _____

For how long did you weigh this weight? _____

Lowest previous adult weight? _____

For how long did you weigh this weight? _____

What do you consider your ideal weight? _____

Age at which weight problems began (if any)? _____

Race: (Please circle) Black Coloured

Indian White

Other _____

APPENDIX D

Close Relationships Questionnaire

Hazan and Shaver (1987)

Which one of the following three descriptions best describes your feelings? (Please tick the **most relevant** description)

1. I find it relatively easy to get close to others and am comfortable depending on them and having them depend on me. I don't often worry about being abandoned or about someone getting to close to me.

2. I am somewhat uncomfortable being close to others; I find it difficult to trust them completely, difficult to allow myself to depend on them. I am nervous when anyone gets too close, and often, love partners want me to be more intimate than I feel comfortable being.

3. I find that others are reluctant to get as close as I would like. I often worry that my partner doesn't really love me or won't stay with me. I want to feel completely united with another person, and this desire sometimes scares people away.

As a child (under age 12) which parent were you close to?

Mother

Father

If neither, please specify _____

APPENDIX E

Close Relationships Questionnaire (cont.)

Attachment History Variables

Hazan and Shaver (1987)

Please tick only those qualities that best describe your relationship with your parent/caretaker when you were a young child.

1. Affectionate parental relationship
2. Respectful mother
3. Intrusive (domineering) mother
4. Caring father
5. Demanding mother
6. Loving father
7. Humorous father
8. Confident mother
9. Unhappy parental relationship
10. Accepting mother
11. Caring parental relationship
12. Responsible mother
13. Affectionate father
14. Sympathetic father
15. Strong-minded mother
16. Disinterested mother
17. Unresponsive father
18. Unfair father
19. Humorous mother
20. Likeable mother
21. Respected mother
22. Rejecting mother

APPENDIX F

Adult Attachment Scale

Collins and Read (1990)

For each statement please indicate the extent to which that statement is characteristic or typical of your feelings.

Scale:
1. Not at all characteristic
2. Infrequently characteristic
3. Sometimes characteristic
4. Frequently characteristic
5. Almost always characteristic

1. I find it difficult to allow myself to depend on others ___
2. People are never there when you need them ___
3. I am comfortable depending on others ___
4. I know that others will be there when I need them ___
5. I find it difficult to trust others completely ___
6. I am not sure that I can always depend on others to be there when I need them ___
7. I do not often worry about being abandoned ___
8. I often worry that my partner does not really love me ___
9. I find others are reluctant to get as close as I would like ___
10. I often worry my partner will not want to stay with me ___
11. I like to feel completely united with friends/partners, as though we are one person ___
12. My desire to feel completely united with close friends/partners sometimes scares them away ___
13. I find it relatively easy to get close to others ___
14. I do not often worry about someone getting too close to me ___
15. I am somewhat uncomfortable being close to others ___
16. I am nervous when anyone gets too close ___
17. I am comfortable having others depend on me ___
18. Often, love partners want me to be more intimate than I feel comfortable being ___

APPENDIX G – EDI 1

APPENDIX G – EDI 1

This is a scale which measures a variety of attitudes, feelings and behaviours. Some of the items relate to food and eating. Others ask you about yourself. There are no right or wrong answers so try very hard to be completely honest in your answers. Results are confidential.

Read each question and tick the box which applies best to you.
Please answer each question very carefully. Thank-you.

Scale:
1. Always
2. Usually
3. Often
4. Sometimes
5. Rarely
6. Never

1. I eat sweets and carbohydrates without feeling nervous.	1	2	3	4	5
2. I think my stomach is too big.	1	2	3	4	5
3. I wish that I could return to the security of childhood.	1	2	3	4	5
4. I eat when I am upset.	1	2	3	4	5
5. I stuff myself with food.	1	2	3	4	5
6. I wish that I could be younger.	1	2	3	4	5
7. I think about dieting.	1	2	3	4	5
8. I get frightened when my feelings are too strong.	1	2	3	4	5
9. I think that my thighs are too large.	1	2	3	4	5
10. I feel ineffective as a person.	1	2	3	4	5
11. I feel extremely guilty after over-eating.	1	2	3	4	5
12. I think that my stomach is just the right size.	1	2	3	4	5
13. Only outstanding performance is good enough in my family.	1	2	3	4	5
14. The happiest time in life is when you are a child.	1	2	3	4	5
15. I am open about my feelings.	1	2	3	4	5
16. I am terrified of gaining weight.	1	2	3	4	5
17. I trust others.	1	2	3	4	5
18. I feel alone in the world.	1	2	3	4	5
19. I feel satisfied with the shape of my body.	1	2	3	4	5
20. I feel generally in control of things in my life.	1	2	3	4	5
21. I get confused about what emotion I am feeling.	1	2	3	4	5
22. I would rather be an adult than a child.	1	2	3	4	5
23. I can communicate with others easily.	1	2	3	4	5
24. I wish I were someone else.	1	2	3	4	5
25. I exaggerate or magnify the importance of weight.	1	2	3	4	5
26. I can clearly identify what emotion I am feeling.	1	2	3	4	5
27. I feel inadequate.	1	2	3	4	5
28. I have gone on eating binges where I have felt that I could not stop.	1	2	3	4	5
29. As a child, I tried very hard to avoid disappointing my parents and teachers.	1	2	3	4	5
30. I have close relationships.	1	2	3	4	5
31. I like the shape of my buttocks.	1	2	3	4	5
32. I am preoccupied with the desire to be thinner.	1	2	3	4	5
33. I don't know whats going on inside me.	1	2	3	4	5
34. I have trouble expressing my emotions to others.	1	2	3	4	5
35. The demands of adulthood are too great.	1	2	3	4	5
36. I hate being less than best at things.	1	2	3	4	5
37. I feel secure about myself.	1	2	3	4	5
38. I thinkg about bingeing (overeating).	1	2	3	4	5
39. I feel happy that I am not a child anymore.	1	2	3	4	5
40. I get confused as to whether or not I am hungry.	1	2	3	4	5
41. I have a low opinion of myself.	1	2	3	4	5
42. I feel that I can achieve my standards.	1	2	3	4	5
43. My parents have expected excellence of me.	1	2	3	4	5
44. I worry that my feelings will get out of control.	1	2	3	4	5
45. I think my hips are too big.	1	2	3	4	5
46. I eat moderately in front of others and stuff myself when they are gone.	1	2	3	4	5
47. I feel bloated after eating a small meal.	1	2	3	4	5
48. I feel people are happiest when they are children.	1	2	3	4	5
49. If I gain a pound, I worry that I will keep gaining.	1	2	3	4	5

Scale:
1. Always
2. Usually
3. Often
4. Sometimes
5. Rarely
6. Never

50. I feel that I am a worthwhile person.	1	2	3	4	5
51. When I am upset, I don't know if I am sad, frightened or angry.	1	2	3	4	5
52. I feel that I must do things perfectly or not do them at all.	1	2	3	4	5
53. I have thoughts of trying to vomit in order to lose weight.	1	2	3	4	5
54. I need to keep people at a certain distance (feel uncomfortable if someone tries to get too close.)	1	2	3	4	5
55. I think that my thighs are just the right size.	1	2	3	4	5
56. I feel empty inside (emotionally).	1	2	3	4	5
57. I can talk about personal thoughts or feelings.	1	2	3	4	5
58. The best years of your life are when you become an adult.	1	2	3	4	5
59. I think my buttocks are too large.	1	2	3	4	5
60. I have feelings that I can't quite identify.	1	2	3	4	5
61. I eat or drink in secrecy.	1	2	3	4	5
62. I think my hips are just the right size.	1	2	3	4	5
63. I have extremely high goals.	1	2	3	4	5
64. When I am upset, I worry that I will start eating.	1	2	3	4	5

Additional comments or information:

THANK-YOU FOR YOUR CO-OPERATION