

ADULT ATTACHMENT STYLE, SOCIAL SUPPORT,
AND EATING BEHAVIORS
IN UNIVERSITY WOMEN

By

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Abstract

This investigation explored the relationship between the interpersonal factors adult attachment style and quality of emotional and practical social support, and eating behaviours in a sample of 201 female undergraduates. Participants completed the Eating Disorder Examination Questionnaire (EDE-Q; Fairburn & Beglin, 1994), the Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991), the Relationship Scales Questionnaire (RSQ; Griffin & Bartholomew, 1994), and the Significant Others Scale (SOS; Power, Champion, & Aris, 1988). Moderate positive correlations were demonstrated between disordered eating, insecure adult attachment style, and dissatisfaction with emotional support. Simultaneous multiple regression analyses were computed to explore the influence of the predictor variables (adult attachment style and quality of social support) and the criterion variable (the severity of disordered eating). The results revealed that fearful adult attachment style predicted the severity of disordered eating. Two sets of multivariate analysis of variance (MANOVA) were used to examine mean differences in insecure attachment and quality of social support between the eating category groups of non disordered ($n = 28$), and disordered eaters ($n = 29$). Classification of the two eating groups was based on the DSM-IV criteria for an eating disorder (American Psychiatric Association, 1994), and the eating disorder continuum model (Scarano & Kalodner-Martin, 1994). Significant mean differences between the two eating groups were observed in adult attachment style but not in quality of social support. The results support the relevance of interpersonal factors to the experience of disordered eating in university women.

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Introduction

There is a sizeable amount of literature that speculates about the individual factors that contribute to eating disorders, however the nature and quality of interpersonal relations in this population remains unclear. In a recent investigation that compared interpersonal therapy (IPT) and cognitive-behavioral therapy (CBT), both demonstrated equal rates of efficacy in a clinical population of women with eating disorders (Fairburn et al., 1995). IPT focuses on the identification of the interpersonal problems that contribute to disordered eating, and the amelioration of these significant relationships (Fairburn, 1997), whereas CBT addresses the common behaviors and attitudes that are associated with extreme practices of weight control (Garner & Garfinkel, 1997). Thus, an exploration of the interpersonal beliefs and experiences of women who engage in disordered eating may increase our understanding of this complex problem and may have implications for research and practice in the field of counselling psychology. The purpose of the present study was to explore the associations between adult attachment style, perceived quality of social support, and the behaviors and attitudes characteristic of the eating disorder continuum in a sample of female university students.

Eating disorders have been a topic of concern on university campuses since the 1980s, when researchers began to document and unravel the complex etiology and maintenance of these psychologically and physically devastating experiences. DSM-IV (American Psychiatric Association, 1994) estimates that the prevalence rates of anorexia and bulimia nervosa are 1%, and 1 to 3%, respectively. The recovery rates of anorexia and bulimia are less than ideal, with a 10 year mortality rate of 7% in anorexics (Eckert, Halmi, Marchi, Grove, & Crosby, 1995), and 50% of bulimics report remission of symptoms following CBT treatment (Fairburn et al., 1995). Furthermore, severe physical and psychological consequences that include depression,

anxiety, and substance misuse are associated with disordered eating (Cooper, 1995; Holderness, Brooks-Gunn, & Warren, 1994).

It has been estimated that 4 to 20% of female university students practice intense patterns of disordered eating that include dieting, fasting, binge eating, and purging (Halmi, Falk, & Schwartz, 1981; Mann et al., 1997; Mintz & Betz, 1988; Patton, Johnson-Sabine, Wood, Mann, & Wakeling, 1990). A research strategy has been proposed that conceptualizes disordered eating along a continuum of behaviors and attitudes from unrestrained eating to clinical eating disorders such as anorexia and bulimia nervosa, and acknowledges the range of severity of eating disturbances that exists among the wider population of women (Mintz & Betz, 1988; Nylander, 1971; Scarano & Kalodner-Martin, 1994; Striegel-Moore, Silberstein, & Rodin, 1986; Tylka & Subich, 1998). Thus, female undergraduates who engage in high risk behaviors that are characteristic of an eating disorder, but whose symptoms are not at the required level of frequency or severity to fulfill the diagnostic criteria for a clinical eating disorder, are included in the present investigation. This sub-clinical group of disordered eaters that includes women who appear to be at risk for the development of an eating disorder warrants empirical attention and shifts the focus from DSM-IV eating disorders to a wider range of eating attitudes and behaviors (Fairburn & Beglin, 1990).

A multidetermined model that links individual, familial, and environmental factors involved in the etiology and maintenance of an eating disorder has been accepted by researchers (Garner & Garfinkel, 1985). Historically, some clinicians and researchers viewed the formation of an eating disorder as related to problems in separation and individuation from one's parents and a failure to achieve autonomy (Bruch, 1973). Parental separation-individuation difficulties have been documented among anorexic and bulimic university women, when compared to

controls (Smolak & Levine, 1993). Moreover, the transition from adolescence to adulthood is considered a particularly stressful time for some women who attend university and may place them at an increased risk for the development of an eating disorder as they attempt to establish relationships in a new and strange environment.

In women, the equating of healthy emotional and psychological development with the achievement of high levels of separation and individuation has become increasingly suspect. Feminist writers have questioned the degree of importance achieving independence holds for a woman's self esteem. Psychological theory is beginning to recognize the influence of the individuals' perceptions of and experiences with others as a factor in personality development (Guisinger & Blatt, 1994). Theorists suggest that women are relational in nature, and gain a sense of self worth from attaining and maintaining personal relationships (Gilligan, 1982). It is likely that individual beliefs about the oneself and others in relationships and the nature of the social environment are significant in the formation of a healthy sense of self (Striegel-Moore et al., 1986).

Researchers and practitioners in counselling psychology would like to expand the focus in the literature on DSM-IV diagnosed clinical eating disorders to a consideration of the spectrum of eating behaviours and effective counselling interventions to use with young adult female clients who engage in disordered eating. In female university students, despite the relatively low prevalence rates of DSM-IV diagnosed eating disorders, a large percentage of women engage in destructive eating patterns (Mann et al., 1997; Mintz & Betz, 1988). This group of high risk women requires empirical and clinical attention that has been absent from the literature. As the issue of eating disorders is largely a female phenomenon, it is highly relevant to frame the inquiry within an interpersonal framework that acknowledges the significance of

both individual beliefs and the nature of one's social environment. Adult attachment style is a rich construct that can be measured to assess beliefs about one's self worth, security, and perceptions of other's availability and dependability in significant relationships. The measurement of the perceived quality of emotional and practical social support in key current relationships of women who engage in a range of eating behaviours, provides us with their degree of satisfaction with this important aspect of their social environment. In the present study, I attempt to describe the interpersonal experience of female university students across a continuum of eating behaviours.

The following questions are addressed in the present study: What are the associations between adult attachment style, quality of social support, and eating behaviours in female university students? Does an insecure adult attachment style or quality of social support predict the severity of disordered eating? and Do female university students without eating problems differ in adult attachment style or quality of social support compared with female university students with disordered eating?

Literature Review

Research in the area of interpersonal factors associated with eating behaviours in women is limited. The interdisciplinary evidence derived from counseling psychology, clinical psychology, and psychiatry suggests that there are interpersonal difficulties associated with eating disorders. The literature reflects much variability and inconsistency in the methods used to identify and describe eating behaviours in women. Thus, throughout the present paper I use the terms eating disorder and disordered eating interchangeably, which reflects the state of the literature on this subject. In the literature, the definition of an eating disorder or disordered eating varies and is dependent on the investigator's conceptualization (i.e., DSM or a continuum), the characteristics of the sample (i.e., treatment group, community residents, high school students, or university students), and the type and specificity of the measure used (i.e. measurement of anorexia, bulimia or both). In order to support the hypothesis, I review investigations of girls and women who have not been diagnosed with a clinical eating disorder of anorexia or bulimia nervosa and those that have. First, I define and explain the eating disorder continuum model; a framework for the description and categorization of a range of eating problems that are believed to exist among women. Second, I outline and critique the literature that focuses on the interpersonal factors that includes: familial characteristics, and the nature and quality of relationships associated with eating disorders in patients, high school, and university students. Third, I introduce a theory of an overdeveloped social self in women with disordered eating (Striegel-Moore, Silberstein, & Rodin, 1993). Fourth, I describe the theory of adult attachment proposed by Bartholomew and Horowitz (1991), and review the literature on attachment and eating disorders. Finally, I provide a rationale for the exploration of the

associations between adult attachment style, social support, and eating behaviours in female university students.

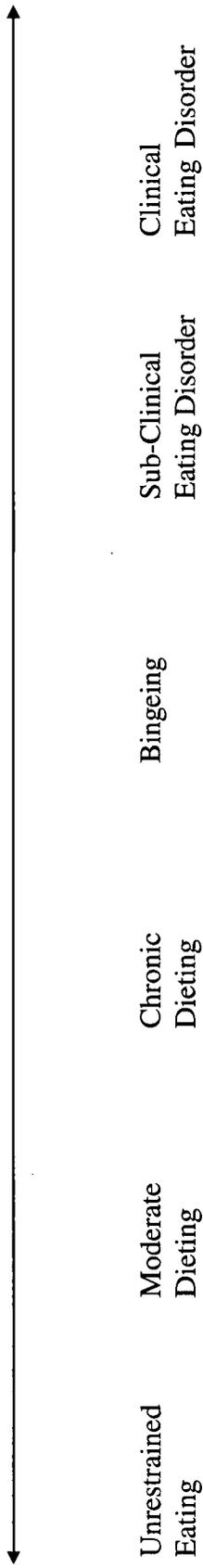
The Eating Disorder Continuum Model

Counselling psychologists have begun to utilize the eating disorder continuum model to investigate eating problems in university women (Mintz & Betz, 1988; Scarano, 1993; & Scarano & Kalodner-Martin, 1994). The continuum positions women along a line that ranges from unrestrained eating; that represents no eating problems, to the clinical eating disorders, anorexia and bulimia nervosa as outlined in the DSM-IV (American Psychiatric Association, 1994). An assumption of the model is that the severity of symptoms increase the further one moves along the continuum. Intermediate points on the continuum in order of severity include: moderate dieters, chronic or restrained eaters, bingers, and sub-clinical eating disorders. The characteristics of these subgroups remain under investigation but can be described partially by the following symptoms. Unrestrained eaters include those who do not report restriction of food intake, bingeing, purging, or preoccupation with weight. Moderate dieters include those who report restriction of food intake and preoccupation with weight. Chronic dieters include those who restrict food intake, fast, exercise, and are weight preoccupied. Bingers include those who are weight preoccupied and report binge episodes where they have eaten what others or themselves would describe as a large amount of food during which they experience a loss of control over eating (i.e., objective vs. subjective binge). Sub-clinical eating disorders include some or all of the following behaviours: subjective and/or objective binges with a loss of control experienced over the binge episode, the use of exercise, laxatives, diuretics or self induced vomiting to control weight or to counteract the effects of eating, restriction of food intake, fear of fat, weight and shape preoccupation, and undue importance placed on weight and

shape that has a negative impact on their self esteem. Those who are placed in the sub-clinical eating group are classified as disordered eaters but do not fully satisfy the diagnostic criteria for bulimia or anorexia nervosa of the DSM-IV (American Psychiatric Association, 1994). Because there are female undergraduates whose behaviours and attitudes could be classified as sub-clinical and of a lower severity than observed at treatment clinics for eating disorders, the eating disorder continuum appears to be a valid and useful model for the conceptualization of eating disturbances for this population.

Researchers have assumed that common behavioral and psychological dimensions underlie the continuum, and that the differences between the groups are characterized by degree and not type (Mintz & Betz, 1988; Scarano, 1993; Scarano & Kalodner-Martin, 1994). There remains however unanswered questions and inconclusive evidence for the hypothesis that significant differences exist between the groups that lie on the eating disorder continuum model (Scarano & Kalodner-Martin, 1994). Thus, the present study explores differences that may exist between non-disordered, unrestrained eaters and sub-clinical disordered eaters in a female university sample, two groups that lie at either end of the proposed continuum. Although the continuum conceptualization is fairly new and somewhat controversial, it appears to be a valid and useful model to describe eating disturbances among university women.

Figure 1: The Eating Disorder Continuum Model



Note. Adapted from "A Description of the Continuum of Eating Disorders: Implications for Intervention and Research"

by G. M. Scarano and C. R. Kalodner- Martin, 1994, Journal of Counseling and Development, 72, p. 356.

Interpersonal Factors in Eating Disorders

Investigations that have explored the nature of the social environment of eating disordered women (i.e., social network, conflictual interactions, social support, preoccupation other's perceptions), support the consideration of this dimension as a likely contributor to the struggle with food and weight (Grissett & Norvell, 1992; Striegel-Moore et al., 1993). For example, research has revealed that negative perceptions of oneself and others in relationships are present in clinical and university populations with eating disorder symptoms. The results of these studies are critiqued below and are broadly referred to as interpersonal factors in eating disorders grouped according to: (a) familial characteristics, (b) interpersonal relationships, and © social self.

Familial characteristics. There is some evidence that maladaptive interactive processes occur in families of individuals with anorexia and bulimia. Anorexic girls have been reported to be enmeshed with their families of origin, triangulated within the parental relationship, and often overprotected (Bruch, 1973; Minuchin, Rosman, & Baker, 1978). Bulimic adolescent girls have reported high levels of parental discord and negative, rejecting, and hostile familial environments (Humphrey, 1986; Strober & Humphrey, 1987). Although these studies have focused solely on girls, the familial backgrounds of adult anorexic and bulimic women may be related to the development of subsequent interpersonal relationships after leaving the parental home.

Interpersonal relationships. There is limited evidence that describes the quality and nature of social support for women with eating disorders. Eating disorders have been linked to poorer social functioning, higher frequencies of social isolation, relationship difficulties, and social phobia in studies of women who sought treatment for an eating disorder (Cooper, 1995;

Lacey, 1992). A recent study by Tiller et al. (1997) used the Significant Others Scale (SOS; Power, Champion, & Aris, 1988) to measure the emotional and practical aspects of present social support in the key relationships of women who were receiving treatment for anorexia nervosa and bulimia nervosa. Results indicated that women with anorexia ($n = 44$) and bulimia ($n = 81$) had smaller social networks, and less actual emotional and practical support than a comparison group of female university student controls ($n = 86$). Although those classified as bulimic were dissatisfied with their level of social support, the anorexic group felt it was adequate. The results of this study indicate that eating disorder patients had deficient social networks and a poorer quality of support compared to a sample of female university students, however because the study did not screen the university students for the presence of an eating disorder the results are inconclusive. Moreover, due to the cross-sectional design, the direction of the relationship between social support and eating disorders cannot be determined.

The results of two follow-up studies of patients with bulimia nervosa indicate that social factors are associated with recovery. Specifically in women with bulimia ($n = 50$) who were followed 10 years after treatment, results obtained from the Social Problems Questionnaire (SPQ; Corney & Clare, 1995) indicated that all of the 23 women who had recovered from bulimia also reported being in a satisfactory social relationship that included being married or common law. For those women who had never married or cohabited ($n = 7$), none were fully recovered at follow up (Collings & King, 1994). In a five year follow-up investigation of 32 patients with bulimia nervosa that utilized the SPQ, women who continued to experience bulimic symptoms reported more problems in the quality of their heterosexual relationships, and less time spent in social activities compared with women who reported recovery from bulimia (Reiss & Johnson-Sabine, 1995). Although both studies reported similar

results, the small size of the cohorts and attrition was a limitation. Out of the original sample of 50 patients seen initially, 44 and 32 patients, respectively, were assessed at follow-up. The studies' participants were originally recruited for a drug trial and selected from an eating disorder specialty clinic, therefore the results likely represent the more severe end of the eating disorder continuum.

In an investigation of 23 bulimic female undergraduates, a higher degree of social dependency was observed but no differences in the perceived level of social support when compared with a control group of 38 non bulimic women (Jacobson & Robins, 1989). In contrast, Grissett and Norvell (1992) found significant differences between bulimics and controls on responses to the Quality of Relationships Inventory (QRI; Pierce, Sarason, & Sarason, 1988), a scale that includes the measurement of the perceptions of availability for key relationships that include: mother, father, best friend, and romantic partner. Results indicated that bulimic female undergraduates ($n = 21$) perceived less support from family and friends, greater conflictual and negative interactions, and reduced social competence when compared with normal eaters ($n = 21$). A strength of this study was the additional assessment and corroboration of poor social competence with a 5 minute videotaped problem solving interaction that was judged by independent observers who were blind to the group membership (i.e., bulimic or control) of the participant. However, the cross-sectional design of the study does not permit any comment on the direction of the relationship between bulimia and social support.

Clinicians report the association of bulimic symptoms with higher degrees of interpersonal sensitivity, an excessive need for approval, the avoidance of conflict, and difficulty in identifying and asserting needs in female university students (Arenson, 1984;

Boskind-White & White, 1983; Bruch, 1975). However, these results are limited by the retrospective and subjective way the information has been gathered by those who treat women with eating disorders.

Overall, these findings support the potential contribution that the nature and quality of the social environment makes to eating disorders. Therefore, the present study explores differences in the nature and quality of social support in women across a range of eating behaviours and includes the comparison of the two groups at either end of the eating disorder continuum. The results of the present study have implications for a deeper understanding of the factors in the development and maintenance of eating disorders.

Social self. Research suggests that women with eating disorders have a higher degree of concern about how others see them and an overdeveloped social self that fuels a preoccupation with appearance (Striegel-Moore, Silberstein, & Rodin, 1993). To assess the hypothesis that a false sense of self was present in women with disordered eating, the Perceived Fraudulence Scale (PFS; Kolligan & Sternberg, 1991) and the Self-Consciousness Scale (SCS; Fenigstein, Scheier, & Buss, 1975) were administered to a group of bulimic patients ($n = 34$), high-EAT ($n = 33$), and control ($n = 67$) female university students. High-EAT students were those that scored above 20 on the Eating Attitudes Test (EAT; Garner & Garfinkel, 1979), a measure that is designed to identify the behaviours that are characteristic of an eating disorder. The control group included students that scored below 20 on the EAT and matched the bulimic patients or the high-EAT participants on the criteria of race, age, and body mass index. Results revealed that Perceived Fraudulence scale scores were significantly higher in the bulimic group. In addition, the bulimic and high-EAT groups reported higher scores on the Self-Consciousness and Social Anxiety subscales of the SCS (Fenigstein, et al., 1975) that increased as the severity

level of disordered eating rose. This study was unique in the recognition and inclusion of the high-EAT group whose scores fell between the bulimic and control groups on the measures of perceived fraudulence and disordered eating, results that support the presence of an eating disorder continuum.

In summary, the results of Streigel et al.'s (1993) study support the hypothesis that a sense of a false self (i.e., perceived fraudulence), and social anxiety are associated with the symptoms of bulimia nervosa, which remained significant even when the effects of psychiatric symptoms were controlled for. A limitation of this study was the lack of inclusion of other clinical populations (i.e., anorexics), in order to enable the extent that perceived fraudulence plays a unique role to bulimia. Moreover, the cross sectional design prevents the identification of the causal direction of the association between perceived fraudulence and bulimia nervosa.

Two smaller, less rigorous studies explored the associations between self esteem and themes of approval, and disordered eating. In a sample of 80 female undergraduates that included 30 bulimics, 22 binge eaters, and 28 controls, the results revealed that bulimics had lower self esteem scores on the Rosenberg Self Esteem Index (Rosenberg, 1979), and a higher scores on the Demand for Approval subscale of the Jones Survey of Beliefs and Feelings (Jones, 1968), than the control group (Katzman & Wolchik, 1984). In this instance, although identification of an eating disorder in the sample was based on the less stringent DSM-III criteria (American Psychiatric Association, 1980), the findings support the hypothesis of an over developed social self in women with eating disorders described in the previous study by Striegel-Moore et al (1993). An investigation by Friedman and Whisman (1998) provides additional support to this hypothesis. Themes of sociotrophy, measured by the Personal Style Inventory (PSI; Robins et al., 1994), where beliefs are present that endorse the importance of

gaining external acceptance and approval, were elevated and remained significant in female undergraduates that reported bulimic symptoms (Friedman & Whisman, 1998). The results of these two studies support the hypothesis that an insecure sense of self may be related to the experience of disordered eating in female university students.

In summary, the results of these studies that explore dimensions of the social self are limited by small sample sizes, variations in measurement of eating behaviours and social support, lack of inclusion of women with anorexia nervosa, and the lack of comparison to other clinical groups (i.e., depression) to examine the extent to which these factors are unique to women with eating disorders. Furthermore, because the studies are cross-sectional in design, the direction of relationship is unclear as to whether a false and insecure sense of self is a risk factor, or a consequence of an eating disorder.

Summary

Weight concerns and dieting are pervasive among female university students and are displayed in varying degrees of severity (Mintz & Betz, 1988; Striegel-Moore et al., 1986). The converging evidence points to the importance of interpersonal factors in the experience of disordered eating. Interpersonal relationships are significant to a woman's psychological well being, hence a critical analysis of their social world may be a useful endeavor. In women with eating disorders, their preoccupation with weight and shape may represent a response to a sense of a false self and social anxiety (Striegel-Moore et al., 1993) and a strategy to reduce the possibility of rejection, abandonment, and criticism. In order to gain external approval these women may resort to attempts to control their weight and shape aimed at the achievement of the ideal body, worthy of societal approbation, which for some women becomes difficult to contain.

Attachment Theory

Humans have a natural, biological tendency to establish bonds with other people (Bowlby, 1973). It is generally believed that early interactions between parent and child form the template for future adult functioning in relationships. It is theorized that the resultant interpersonal behaviors continue into significant adult relationships, and contribute to the quality and degree of support available (Bowlby, 1982). Bruch (1985) suggests that early interactions with others may form the foundation for maladaptive interpersonal responses and strategies, which then prevent the development of a secure sense of self in women with eating disorders (Bruch, 1985). Thus, the degree to which one is able to reach out and maintain intimate connections with current relationships and new people in an university environment (perhaps influenced by one's attachment style) may impact on eating behaviours and attitudes. For instance, if one feels unable to be authentic in social situations and/or freely seek support from others due to an insecure attachment style, the risk of developing an unhealthy relationship with food, in an effort to gain a sense of self worth, may increase.

A Four Category Model of Adult Attachment

Adult attachment provides a complex and comprehensive framework to enable us to increase our understanding of the individual and external factors that affect interpersonal the nature and quality of interpersonal relationships. Bartholomew and Horowitz's model (1991) incorporates the earlier investigations of parental attachment (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1982; Hazan & Shaver, 1987; Main, Kaplan, & Cassidy, 1985), and extends the theory into adult relationships to conceptualize Bowlby's concept of "internal working models" (Bowlby, 1980, 1982) into dimensional models of the self and others in relationships. Two key features of these working models are: " (a) whether or not the self is

judged to be worthy or the sort of person to which anyone, and the attachment figure in particular, is likely to respond to in a helpful way, and (b) whether or not it is believed or expected that the attachment figure is someone who responds to calls for support and protection” (Bowlby, 1973, p. 204).

Bartholomew and Horowitz’s (1991) model includes four categories of adult attachment (secure, preoccupied, dismissing, and fearful) that describe beliefs about self worth and others’ availability and dependability in relationships and strategies used to invite or avoid intimacy in key relationships. Underlying the four categories are positive and negative dimensions of the self and others that vary within each of the four categories. The “self” model elucidates the level of self worth and consequently the expectations of others’ availability, and is associated with the amount of anxiety and dependency present in close relationships. The “other” model indicates the degree to which others are expected to be available and supportive, and consequently impacts on strategies employed to seek or avoid intimacy (Griffin & Bartholomew, 1994).

These styles of relating can be broadly grouped into secure and insecure dimensions of attachment. For instance, those with secure attachment have a positive self and other model, view themselves and others positively, have close relationships, and an ability to realistically evaluate their own and others’ behaviors. The preoccupied group similarly views others in a positive light (i.e., positive other model), but a negative self model and correspondent low self worth promotes an excessive drive to seek approval. Their relationships are often characterized by over dependency. The two avoidant styles, the dismissive and fearful patterns, have underlying negative other models and therefore possess low expectations about others in relationships. Both of these groups avoid close relationships but they differ in their motivations

for doing so. The dismissing style de-emphasizes and denies the need for close relationships, and chooses to place a high degree of importance on independence and achievement that is fueled by a positive self model. The fearful prototype desires close relationships but avoids involvement, motivated by a fear of abandonment and rejection and a distrust of other people that is fueled by a negative self model and low self worth. Their relationships are often characterized by ambivalence and high degrees of insecurity and anxiety.

Indications of adult attachment style can help to elucidate the internal perceptions and beliefs women with eating disorders hold about themselves and others, and the strategies employed to seek or avoid intimate relationships. Bowlby (1982) wrote that attachment behaviors are activated during fearful and anxious situations. For those women who possess a healthy degree of self worth and a secure sense of self in relation to others, the challenges of adulthood can be conquered independent of an eating disorder. For those women who possess an insecure sense of self and others, stressful situations involving the formation and altering of significant relationships (i.e., in university), may activate characteristic coping responses and either increase or exacerbate vulnerability for the development or maintenance of the psychological and behavioral practices that are associated with eating disorders.

Attachment and Eating Disorders

Research to date has investigated primarily the nature of parental relationships and provides some support for insecure attachment in women with eating disorders. There are only a few studies that have explored the dimensions of adult attachment and disordered eating. In a longitudinal study of 137 female high school seniors, insecure parental and adult attachment predicted eating disorder symptomatology (Burge et al., 1997). The results revealed that 12 months later, the Communication subscale (i.e., the degree of comfort and ease felt in

communication with one's parents) of the Inventory of Parent Attachment (IPPA; Armsden & Greenberg, 1987) ($b = .55$, $p < .01$) and Close subscale (i.e., the degree of intimacy present in relationships) of the Revised Adult Attachment Scale (RAAS; Collins & Read, 1990) ($b = .46$, $p < .01$) were the strongest attachment predictors of eating disorder symptomatology. The Communication subscale of the IPPA accounted for 19% of the variance in the regression model that included the subscales of the IPPA (Armsden & Grenberg, 1987). The Close subscale accounted for 21% of the variance in the regression model that included the subscales of the RAAS (Collins & Read, 1990). Although the results demonstrated an association between insecure attachment and eating disorders, it failed to identify a specific relationship. The results revealed that insecure attachment also predicted to a similar degree depression, anxiety, and substance abuse. Furthermore the significance of the results are limited by the small ratio of participants to the number of statistical analyses performed on the data.

Heesacker and Neimeyer (1990) assessed eating disorders and insecure attachment in 183 undergraduate women. Women with higher Drive for Thinness subscale scores on the Eating Disorder Inventory (EDI; Garner, Olmsted, & Polivy, 1983), and the Eating Attitudes Test (EAT; Garner & Garfinkel, 1979), demonstrated higher mean scores on the Insecure Attachment subscale of the Bell Object Relations Inventory (BOORTI; Bell, Billington, & Becker, 1986). Higher levels of Insecure Attachment is indicative of ambivalent and painful interpersonal relationships, fear of abandonment, and desperate longings for closeness (Bell et al., 1986). The concurrent design of this study prevents the identification of the direction of the proposed relationship between disturbances in object relations and eating disorders.

Armstrong and Roth (1989) used a semiprojective test to measure anxiety about separation in 33 female eating disorder patients. Ninety-six percent of the sample appeared to

demonstrate excess attachment and anxiety observed in their responses to pictorial separation events. In this study, the researcher failed to provide the reader with a clear and consistent description of insecure attachment. In an investigation that used the Parental Attachment Questionnaire (PAQ; Kenny, 1990), patients with eating disorders ($n = 68$) were less securely attached to their parents than college women ($n = 162$) (Kenny & Hart, 1992). These results provide limited support for insecure parental attachment in women with eating disorders.

In a study of the intimate sexual relationships of 360 female undergraduates, an insecure romantic attachment style characterized by high anxiety, lower comfort levels for intimacy, and fewer beliefs in the trustworthiness and dependability of one's partner was associated with bulimic symptoms (Evans & Wertheim, 1998). The Close, Depend, and Anxiety subscale scores on the Adult Attachment Style questionnaire (AAS; Collins & Read, 1990), were significantly correlated with bulimic symptoms ($r = .27$; $r = .31$; $r = .31$; $p < .001$, respectively), and the Drive for Thinness and Body Dissatisfaction subscales of the Eating Disorder Inventory (EDI; Garner & Garfinkel, 1983). The Social Anxiety subscale of the SCS (Fenigstein et al., 1975) was the strongest predictor of bulimia ($r = .47$, $p < .001$) in this investigation. These results suggest that lower degrees of comfort with closeness, more negative beliefs about others' dependability, and higher degrees of anxiety about abandonment in intimate relationships are associated with bulimia nervosa in a population of female undergraduates. Although the results support an association between problems in intimacy and eating disorders, the direction of the relationship cannot be assessed due to the concurrent nature of the study.

In summary, although it is difficult to compare these studies due to methodological and measurement differences, the evidence seems to support the hypothesis that an insecure sense of self and doubts about significant others' trustworthiness and dependability may be related to

eating disorders. Studies of parental attachment and eating disorders should be interpreted cautiously because of differences in the two constructs of adult and parental attachment. Adult attachment style is developmental in nature and it is assumed that the quality of early parental relationships contributes to its development however, the focus of this inquiry is to determine the predominant adult attachment style or way of being within the context of the present nature of close adult relationships, which can include friends, family, and/or romantic partners. Parental attachment studies typically have been retrospective and limit the inquiry to the perceptions of the nature and quality of past parental attachments.

One of the strengths of Bartholomew and Horowitz's (1991) model of adult attachment is that the model recognizes two types of insecure adult attachment (i.e., preoccupied and fearful), unlike other measures outlined in the literature review. The preoccupied and fearful insecure adult attachment styles both share a common insecurity and anxiety about interpersonal relationships. Whereas preoccupied attachment includes a compulsive drive towards connection with others, fearful attachment style is ambivalent and creates actions to avoid and to seek intimacy. Fearful individuals acknowledge the need for and desire interpersonal connection but their ability to reach out can be hampered by a fear of hurt, rejection, and abandonment. Insecurity and anxiety may prevent the adoption and creation of new relationships, a developmentally crucial step for women, and promote a sense of isolation that increases the risk for the development of an eating disorder. The present study increases the depth of inquiry in attachment via the identification of two styles of insecure attachment.

Summary

The literature review reveals an association between an insecure sense of self in relationships and disordered eating in women, however the direction of the relationship cannot

be identified due to the cross sectional design of the previous investigations. Although there are a few studies that incorporate the eating disorder continuum conceptualization, the literature on the topic is dominated by the study of eating disorder patients who present for treatment at hospital clinics. Furthermore, a consistent and comprehensive method used to identify the various forms of disordered eating is absent from the literature as a whole. Therefore, in this study a global and specific self-report measure was chosen in order to attempt to capture the presence and frequency of the key behaviours, attitudes, and feelings that are characteristic of a range of eating disturbances (EDE-Q; Fairburn & Beglin, 1994).

There is evidence in the literature of associations between insecure parental attachment and eating disorders in girls and adult women (Armstrong & Roth, 1989; Becker, Bell, & Billington, 1987; Heesacker & Neimeyer, 1990; Kenny & Hart, 1992). The empirical evidence to date is limited by the variations in the measurement and choice of attachment patterns investigated (i.e., parental vs. adult attachment and objective vs. projective instruments). In the present study, I explore the specific associations and differences in four adult attachment style categories for the sample as a whole and for two groups of women at opposite ends of the eating disorder continuum, to deepen the consideration of the interpersonal factors that may be linked to this phenomenon.

Insecure adult attachment styles demonstrated in key significant adult relationships, are not limited to parents (i.e., siblings, friends, and romantic partners), and its implications for the significance of existing relationships and social functioning remains unexplored. Present perceived satisfaction and level of emotional and practical support across a range of relationships that includes parents, peers, and romantic partners is a consideration incorporated into this investigation.

There have been no attempts to date to explore the associations between adult attachment style that use Bartholomew and Horowitz's model (1991), and the eating disorder continuum in a sample of university women. In this investigation, I explore the associations between adult attachment style, perceived quality of social support, and a range of eating behaviours in a female university sample.

Hypotheses

The purpose of the present study was to examine the relationships between adult attachment style, social support, and the eating disorder continuum, in an attempt to further understand the social world of women who experience disordered eating, and to explore differences between those with and without eating problems. This study asked the questions: Are there associations between adult attachment style, quality of social support, and disordered eating? Does adult attachment style and social support predict the severity of disordered eating? Do individuals without eating problems compared with those with sub-clinical eating disorders differ in perceptions of the self and others in relationships and the level and degree of satisfaction with emotional and practical social support? In this descriptive, exploratory investigation I attempt to illuminate these complex relationships.

With regard to adult attachment style, social support, and disordered eating it was expected that :

1. There would be significant moderate positive correlations between insecure adult attachment styles, dissatisfaction with social support, and disordered eating. All of the variables were measured via self-report. The variables for adult attachment style were the combined mean score for each of the four attachment styles derived from responses to the Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991), and the Relationship Scales Questionnaire (RSQ; Griffin & Bartholomew, 1994). Social support; the level of perceived dissatisfaction with emotional and practical support, was calculated by the discrepancy between actual and ideal emotional and practical support, reported on the Significant Others Scale (SOS; Power, Champion, & Aris, 1988). Disordered eating was measured with the Eating Disorder Examination Questionnaire Global score (EDE-Q; Fairburn & Beglin, 1994), derived from the

mean of the 5 subscales of the EDE-Q, an index of the overall severity of eating disorder symptoms.

2. There would be a significant linear relationship between the predictor variables (adult attachment style and the quality of social support) and the criterion variable (the severity of disordered eating). The combined mean scores for the 4 attachment styles, based on responses to the RQ (Bartholomew & Horowitz, 1991), and the RSQ (Griffin & Bartholomew, 1994) and the Global score of the EDE-Q (Fairburn & Beglin, 1994) were used to test Hypothesis #2. Quality of social support; the level of perceived dissatisfaction with emotional and practical support, was calculated by the discrepancy between actual and ideal emotional and practical support, reported on the Significant Others Scale (SOS; Power, Champion, & Aris, 1988).

3. With regard to adult attachment style and social support, it was expected that women with disordered eating, compared with women without disordered eating:

1. would demonstrate significant mean differences on adult attachment styles, structural support (size of social network), actual and ideal levels of emotional and practical social support, and quality of social support. Those individuals who reported disordered eating would have higher mean scores of insecure adult attachment (i.e., fearful and preoccupied adult attachment styles), higher dissatisfaction with actual and ideal emotional and practical support, lower actual emotional and practical support, and a lower degree of structural support (the number of support persons ranging from 1 to 6), than individuals who reported an absence of disordered eating.

Adult attachment styles were measured with the RQ (Bartholomew & Horowitz, 1991), and the RSQ (Griffin & Bartholomew, 1994), combined mean score for each of the 4 attachment styles. Social support was measured with the SOS (Power, Champion, & Aris,

1988). The 2 eating groups were created based on the responses to the EDE-Q (Fairburn & Beglin, 1994), and the characteristics of the unrestrained and sub-clinical eating groups of the eating disorder continuum model (Mintz & Betz, 1988; Scarano & Kalodner-Martin, 1994).

Method

Participants

The participants were 201 female undergraduates from the University of British Columbia, Canada, who volunteered to participate in a study on Interpersonal Relationships and Eating Concerns of University Women. Participants were recruited from various groups on campus and included: Sociology, Nursing, Social Work, and Psychology students, varsity athletes, students living in residences, members of Sororities and Phrateries, and respondents to posters displayed in the women's washrooms on campus. The mean age of the participants was 21 years ($SD = 4.77$), and ages ranged from 18 to 47 years. The mean body mass index (BMI) score was 22 ($SD = 3.12$), and scores ranged from 16 to 42. Eighty percent of the women listed their ethnic group Canadian, 14% Asian, 4% European, and 2% Other. Twenty-five percent were in their 1st year of university, 34% in their 2nd year, 20% in their 3rd year, 17% in their 4th year, and 4% in their 5th or 6th year. Out of 268 surveys distributed, 201 were returned, for a 75% return rate.

Design

Data were collected via a cross-sectional, non random survey of female undergraduates during the months of October and November, 1998. Participants were invited to complete a confidential survey questionnaire package on Interpersonal Relationships and Eating Concerns of Female University Students. Participants were told that it would take approximately 30 minutes to complete. The rationale for the design was to gain a perspective on the frequencies of behaviors and attitudes characteristic of the eating disorder continuum, hence the sampling of various groups on campus, to reflect hypothetically varying degrees of risk and symptom levels.

In order to maximize the identification of mean group differences within the sample of 201, I created two distinct groups of non-disordered and disordered eaters. The criteria for inclusion into an eating group were based on responses to the EDE-Q and DSM-IV criteria, and other research in the field that describes the eating disorder continuum model (Mintz & Betz, 1988; Mintz, Mulholland, Schneider, & O'Halloran, 1997; Scarano & Kalodner-Martin, 1994). Two groups were created from the sample; a Non-Disordered Eating group ($n=28$) and a Disordered Eating ($n=29$) group.

Non-disordered eaters. The non-disordered eaters met the following criteria. They (a) did not report any purging behaviours of self-induced vomiting, laxative or diuretic use, or exercise as a means of controlling weight or shape, or to counteract the effects of eating, (b) did not report any bingeing episodes where they experienced a sense of losing control (25%, $n= 7$ of the non-disordered group reported "eating what others would consider a large amount of food," an objective binge with a maximum frequency of 1 day in the past 28 days); (c) scored less than or equal to 0.6 on the Restraint subscale of the EDE-Q, which indicates a frequency of less than 1 out of the past 28 days spent in behaviours of restricting food intake, and (d) scored less than or equal to 1 on the Shape and Weight subscales of the EDE-Q, which indicates a frequency of 0 or 1 day(s) out of the past 28 days where they felt dissatisfied with their weight or shape. The inclusion of non-disordered eaters into the investigation was designed to assist in exploring the effects of disordered eating on the variables of adult attachment style and quality of social support.

Disordered eating group. The Disordered Eating group is similar to the Eating Disorder Not Otherwise Specified Category in the DSM-IV and the Sub-clinical Eating Disorder Group on the eating disorder continuum model (American Psychiatric Association, 1994; Scarano &

Kalodner-Martin, 1994), where there are symptoms that clearly indicate disordered eating patterns with distress and disruption of daily activities, but of insufficient severity to warrant a diagnoses of anorexia nervosa or bulimia nervosa. The disordered eaters met some or all of the following criteria. They demonstrated (a) elevated Restraint, Eating Concern, Weight, and/ or Shape EDE-Q subscale scores that indicates behaviors, attitudes, and feelings associated with disordered eating at least 50% of the time, (b) objective and/or subjective bingeing accompanied by a sense of losing control over eating, and (c) purging behaviours of self-induced vomiting, laxative, diuretic, and/or exercise as a means of controlling their weight or shape or to counteract the effects of eating.

Measures

Demographics questionnaire. Information was collected on students' age, year in university, and ethnic group (Appendix B). Participants were asked to record their current height and weight, which was converted to a body mass index (BMI) score (weight in kilograms divided by the square of height in metres) to determine if participants were underweight, normal weight, or overweight. BMI scores below 20 indicate a participant is underweight, scores between 20 and 25 indicate normal weight, and scores above 25 indicate overweight (Health and Welfare Canada, 1988).

Adult attachment prototypes. The Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991) and the Relationship Scales Questionnaire (RSQ; Griffin & Bartholomew, 1994) were used to measure adult attachment style (Appendix D & E). The RQ is a self-classification measure of adult attachment style that first asks respondents to select one of the four paragraphs that "best describes them or is closest to the way they generally are in relationships," and then asks participants to indicate to what extent each of the four descriptive

paragraphs corresponds to their general relationship style, on a 7-point Likert scale ranging from 1 = not at all like me to 4 = somewhat like me, to 7 = very much like me. The RSQ is a self report measure comprised of 30 items rated on a 5-point Likert scale, from 1 = not at all like me to 5 = very much like me, which measures feelings about past and present close relationships with respect to the four adult attachment styles. The four prototypes of adult attachment include: secure, dismissing, preoccupied, and fearful. For example, the dismissing prototype reads as follows: I am comfortable without close relationships. It is very important to me to feel independent and self-sufficient, and I prefer not to depend on others or have others depend on me.

The adult attachment style category is computed for each case by combining scores on the RQ and the RSQ. The RQ scores for each of the four paragraphs that describe each attachment style (scores range from 1 to 7) is combined with the four mean adult attachment subscale scores of the RSQ (scores range from 1 to 5) to provide a continuous measure of adult attachment style (Scharfe & Bartholomew, 1994). The number of RSQ scale items for each attachment style are: secure (5 items), preoccupied (4 items), fearful (4 items), and dismissing (5 items). The attachment prototype score that is highest indicates the group to which the case belongs. For each of the four attachment styles, scores range from 1 to 6, with higher scores indicating greater attachment. In cases where there are equal ratings for two or more attachment styles, the paragraph selected on the RQ indicates the category of membership.

Bartholomew (1991) reported moderate stability ratings over a 2 month period for the attachment prototypes: secure, $r = .71$; dismissive, $r = .49$; preoccupied, $r = .59$; and fearful, $r = .64$ in a university sample. More recently, it was reported that 63% of females retained the same RQ self-classification over an 8 month interval (Scharfe & Bartholomew, 1994). Test-

retest reliability of the RSQ is $r = .53$ for women over an eight month interval (Griffin & Bartholomew, 1994).

Construct validity of the four attachment prototypes is supported by low intercorrelations between the attachment categories, and negative correlations observed between the opposing attachment prototypes, secure and fearful ratings, $r = -.55$, $N = 75$; and the preoccupied and dismissing ratings, $r = -.55$, $N = 75$, in a sample of university students (Bartholomew & Horowitz, 1991). Convergent validity of the four attachment prototypes has been demonstrated across methods of measurement that include: self report, family, and peer interviews. Discriminant validity has been indicated by the relatively small correlations noted between the attachment dimensions within the above methods (Griffin & Bartholomew, 1994).

Disordered eating. Eating disorders were measured utilizing the Eating Disorder Examination Questionnaire (EDE-Q; Fairburn & Beglin, 1994), a self-report version of the structured clinical interview, which permits the quantification of symptoms characteristic of an eating disorder that include: dieting, fasting, binge eating, purging, and a loss of control over eating (Appendix C). The EDE-Q consists of 38 questions and is scored on five subscales: Restraint, Eating Concern, Overeating, Shape Concern, and Weight Concern. The Restraint subscale (5 items) measures the extent to which a person attempts to restrict their food intake. The Eating Concern subscale (5 items), measures disruptive preoccupation with thoughts of eating, that include: fear of losing control while eating, concern about eating in front of others, and guilt about eating. The Overeating subscale (5 items), quantifies binge eating through the assessment of the occurrence of objective binges (consumption of large amounts of food), a loss of control experienced during the binge episode, and if these two things happen together. The Shape Concern (8 items) and Weight Concern (5 items) subscales, measure disruptive

preoccupation with shape or weight and include questions about the degree of dissatisfaction with shape or weight, the desire to be thinner, feeling fat, fear of becoming fat, and the degree of importance given to shape or weight in one's overall self evaluation. Scores for each of the subscale items range from 0 to 28 days, which are converted to a 7-point scale ranging from 0 to 6. The scores are converted to the 7-point scale as follows: 0 days = 0, 1 to 5 days = 1, 6 to 11 days = 2, 12 to 16 days = 3, 17 to 22 days = 4, 23 to 27 days = 5, and 28 days = 6. Possible obtained values for each subscale range from 0 to 6, with higher numbers indicating greater symptom severity. The EDE-Q global score is the mean of the 5 subscales and is calculated to provide an indication of the overall severity of symptoms. The global score may range from a low of 0 to a high of 6. Higher scores indicate greater severity of disordered eating.

The structured clinical interview has demonstrated construct validity (Fairburn & Beglin, 1994), and is considered the gold standard in standardized instruments for the assessment of eating disorders (Fairburn & Cooper, 1993). The EDE-Q has been validated against the interview (Fairburn & Wilson, 1993). Although the EDE-Q is based on DSM-IV criteria for diagnosis of eating disorders (American Psychiatric Association, 1994), in this case it was not possible to adhere to the guidelines for the assessment of the behaviors over a three month period, as the EDE-Q asks for respondents to report the frequency of symptoms in the last 28 days.

Social support. Social support was measured by the Significant Others Scale (SOS; Power, Champion, & Aris, 1988). The SOS assesses five emotional and five practical support functions in six potentially important relationships: mother, father, spouse or partner, closest sibling, best friend, and one other close friend. Self-report ratings are made on a 7-point Likert scale (ranging from never = 1, to always = 7), for five emotional and practical functions

(Appendix F). Participants are instructed to leave the column blank if there is no such person in their life. Emotional functions include; share feelings with, and practical functions include get financial help. Participants are asked to record the actual level of support received, and the ideal level of support. Scores for each support figure for each of the five emotional and five practical functions range from 1 = never to 7 = always. Composite measures for emotional (summing items 1 to 5) and practical support (summing items 6 to 10) are generated. Mean total scores, which can range from 1 to 7, are derived for actual and ideal levels of perceived emotional and practical support across the 6 relationships. The participants dissatisfaction with emotional and practical support across the 6 relationships is computed from the discrepancy between the actual and ideal scores of emotional and practical support. Scores for dissatisfaction with emotional and practical support range from 0 to 6. Structural support is measured by the number of support figures the individual rates, and ranges from 1 to 6. Six month test-retest reliability is good ranging from $r = .73$ to $r = .83$ across the four support scores (actual vs. ideal, emotional vs. practical) (Power et al., 1988).

Data Analysis

Data were analyzed using the 1998 software version of SPSS Base 8.0. The data were examined to determine whether they met the assumptions of multiple regression and multivariate analysis of variance. Relationships between the variables were checked for the presence of curvilinear relationships. Distributions of the independent and dependent variables were assessed for normality and the degree of skewness and kurtosis present. Box plots for all of the variables were examined for the presence of outlier scores greater than 3 SD from the mean. Scatterplots of residual scores i.e., differences between the predicted and obtained values for the criterion variable for the regression equation, were checked for normality. Cronbach

alpha co-efficients and inter-item correlations were computed and checked as an indication of the internal consistency and reliability of the measures used in the investigation. Descriptive statistics including the means, standard deviations, and frequencies for the variables of adult attachment style, social support, and disordered eating were calculated to provide information and comparison of the sample used in the investigation to other literature.

Pearson product-moment correlations were computed to examine the relationships between the variables of adult attachment style, dissatisfaction with emotional and practical social support, and disordered eating (Hypothesis 1). To test hypothesis 2, simultaneous multiple regression analyses were computed to explore the relationships of the predictor variables insecure adult attachment styles (i.e., fearful and preoccupied) and dissatisfaction with emotional and practical support, and the criterion variable the severity of disordered eating (assessed with the global score on the EDE-Q). To test Hypothesis 3, two sets of multivariate analysis of variance (MANOVA) were used to examine mean differences between the non-disordered and disordered eating groups. For both MANOVA, the independent variable was eating group. For the first MANOVA the dependent variables were the four adult attachment styles. For the subsequent MANOVA the eight dependent variables were: the number of support figures (degree of structural support), actual and ideal levels of emotional and practical support reported across the relationships, dissatisfaction with emotional and practical social support, and the combined dissatisfaction score for emotional and practical social support.

For the multiple regression analysis, the ratio of participants to predictor variables corresponded to the rule of thumb set out by Tabachnick and Fidell (1983) (i.e., to increase sample size by at least 20 cases for each variable). When no more than 20% of the scale items for the predictor variables were missing, a midpoint was taken. In calculating the means of the

subscales and the global scores of the variables, when at least 50% of the items were rated, a score was obtained by dividing the resulting total by the number of rated items, or subscales completed (Fairburn & Wilson, 1993; Griffin & Bartholomew, 1991; Power et al., 1988). No participants had missing data for the measure of disordered eating. No participants had missing data for the items that comprise the four adult attachment subscales of the RSQ. For eight cases, there were equal scores on two adult attachment styles obtained when the RQ and RSQ continuous ratings were combined. In these instances, the adult attachment style that was selected from the four paragraphs on the RQ was used to assign them to a category. Of these eight cases; three were assigned to the secure, one to the dismissing, three to the fearful, and one to the preoccupied category. For six of the eight cases there was a tie between secure and dismissing ($n=3$) or fearful and dismissing ($n=3$), and in two cases a tie between preoccupied and fearful. On the measure of social support, one case was dropped from the analysis due to greater than 50% of missing data.

Results

Descriptive Statistics

Means and standard deviations for the disordered eating and social support variables are given in Tables 1 and 2. Means, standard deviations, and frequencies of the four Adult Attachment Styles are given in Table 3.

Disordered Eating

The means and frequencies of the behaviours of food restriction, fasting, bingeing, and purging corresponded to other research in the field (Koszewski, Newell, & Higgins, 1990; Kurth, Krahn, Nairn, & Drenowski, 1995; Mintz & Betz, 1988), and support a continuum model of eating behaviours among female undergraduates. For the total sample of 201, 56% reported that they consciously try to restrict the amount of food they eat and 17% admitted to fasting for 8 hours or more to influence their shape or weight. The frequencies for purging behaviours were: 6% report self-induced vomiting, 2% laxative use, 1.5% diuretic use, and 37% exercise to control their shape or weight or to counteract the effects of eating. Fifty percent responded yes to the question Have there been times when you have eaten what other people would regard as an unusually large amount of food? (objective binge), the frequency ranged from 1 to 50 episodes in the past 28 days. Sixteen percent reported a sense of having lost control during the binge. Twenty-six percent of the participants reported episodes of eating where they experienced a sense of losing control but did not eat a large amount (subjective binge), the frequency ranged from 1 to 20 days out of the past 28. Mean BMI was 22 (SD = 3.12), with BMI scores ranging from 16 to 42. Sixty-one percent of participants reported a strong desire to lose weight, 81% reported feeling fat, 64% reported feeling guilt about their weight and shape, and for 24% of the sample preoccupation with food, weight, and/or shape

Table 1

Means, Standard Deviations, and Alphas for the EDE-Q Subscales

Subscale	<u>M</u>	<u>SD</u>	Range	Cronbach's Alpha
Global	1.33	1.11	0 - 4.5	0.91
Restraint	1.29	1.35	0 - 5.6	0.93
Shape Concern	2.19	1.54	0 - 6	0.92
Weight Concern	1.82	1.57	0 - 6	0.92
Overeat	0.56	0.77	0 - 3.6	0.95
Eating Concern	0.81	1.05	0 - 4.6	0.91

Note. N = 201.

Table 2

Means, Standard Deviations, and Alphas for the Variables of Social Support

Type of support	<u>M</u>	<u>SD</u>	Cronbach's Alpha
Actual emotional	4.83	1.07	0.71
Ideal emotional	5.83	0.08	0.61
Dissatisfaction emotional	1.06	0.57	0.77
Actual practical	5.02	1.06	0.69
Ideal practical	5.73	1.09	0.60
Dissatisfaction practical	0.79	0.50	0.76
Dissatisfaction total	1.86	0.98	0.81
Structural	5.41	0.79	0.68

Note. Dissatisfaction emotional (actual emotional - ideal emotional), Dissatisfaction practical (Actual Practical - Ideal Actual), and Dissatisfaction total (Dissatisfaction with Emotional + Dissatisfaction with practical support), Structural (number of support figures reported, values range from 1 to 6). Results reported for 200 cases. One case deleted due to insufficient number of scored items.

Table 3

Means, Standard Deviations, and Frequencies of the Adult Attachment Styles

Attachment Style	<u>M</u>	<u>SD</u>	% of Total <u>N</u>
Secure	3.54	0.77	52% (<u>n</u> = 106)
Preoccupied	2.71	0.82	11% (<u>n</u> = 23)
Fearful	2.70	1.11	21% (<u>n</u> = 42)
Dismissing	3.19	0.72	15% (<u>n</u> = 30)

Note. Scores of adult attachment style are the combined means of the continuous ratings of the four attachment styles of the RQ and RSQ measures.

interfered with their ability to concentrate on their studies or other activities. Forty-five percent reported moderate to significant dissatisfaction with their weight and 53% reported moderate to significant dissatisfaction with their shape.

Table 4 presents the characteristics of the non-disordered and disordered eating groups. Seventy-one percent of the total sample fell at various points along the continuum between normal and disordered and reported intermediate beliefs and behaviours around food and their weight and shape. This group was not included in the MANOVA. The means of the EDE-Q subscales were lower for the non-disordered group when compared to the normals reported in the literature where the EDE was utilized (Cooper et al., 1989; Fairburn & Cooper, 1993). For the disordered eating group, the means of the EDE-Q subscales were higher than the norms of eating disordered groups described in the literature that utilized the EDE interview (Cooper et al., 1989; Fairburn & Cooper, 1993; Wilson & Smith, 1989). This is not unexpected as the EDE-Q is a self-report measure.

The Disordered Eating Group was comprised of 29 cases with symptoms that included: restricting, fasting, bingeing, purging, and elevated subscale scores to indicate disordered eating behaviours, attitudes, and feelings of sufficient severity to warrant inclusion in this group. Forty-one percent ($n=12$) reported subjective and/or objective bingeing and self-induced vomiting to counteract the effects of eating or to control shape or weight. Of these 12, 6 used exercise and 1 used diuretics in addition to self-induced vomiting. Seven of the 12 had Shape and Weight subscale scores above 3, 3 had scores above 4, and 2 had scores above 5. Twelve of the 29 cases in the Disordered Eating group had elevated Restraint subscale scores; 5 above 3, 5 above 4, and 2 above 5. Of these 12; 3 reported subjective and/or objective binges, laxative, and exercise to control their weight or shape or to counteract the effects of eating, 1 reported

Table 4

Behavioural Data for the Disordered Eating Group (n = 29)

Behaviour	Percentage	<u>M</u> Frequency	Range
Fasting	55% (<u>n</u> = 16)	9	1- 22
Objective Binge	66% (<u>n</u> = 19)	4.2	1- 8
Subjective Binge	69% (<u>n</u> = 20)	7.5	1- 20
<u>Self-Induced</u>			
Vomiting	41% (<u>n</u> = 12)	4.9	1-10
Laxatives	10% (<u>n</u> = 3)	5	4- 6
Diuretics	10% (<u>n</u> = 3)	10	1- 20
Exercise	66% (<u>n</u> = 19)	10.5	3- 28

Note. Fasting indicates a minimum of 8 hours in which nothing is eaten in order to influence shape or weight. An objective binge refers to an episode of eating what others would consider to be a large amount of food and a loss of control experienced during the binge. A subjective binge refers to an episode of eating where a loss of control is experienced during eating but a large amount of food is not consumed. The mean frequencies for bingeing are the number of mean episodes reported in the past 28 days. The mean frequencies for the other behaviours are the mean number of days in the past 28 that the behaviours occurred.

diuretic use and subjective binges, 1 reported diuretic use, exercise, and subjective and objective binges, 2 reported subjective binges, 1 reported exercise, and 4 reported exercise and/or subjective and objective binges. Five cases out of the 29 in the disordered eating group reported objective and/or subjective binges with a sense of losing control over one's eating. Of these five; one reported objective binges, and three reported objective and subjective binges. All five had Shape and Weight subscales above 4, three had Eating Concern subscales scores above 3, and one had a score above 3 on the Overeating subscale. In order to test the viability of the two eating groups, an ANOVA was used to test the mean differences between groups on the means of all subscales of the EDE-Q, BMI scores, and age. All of the effects were statistically significant and the differences were observed in the expected direction. There were no significant differences between the two groups with respect to age (Table 5).

Adult Attachment Style and Social Support

Of the total sample of 201, 52% reported secure, 11% reported preoccupied, 21% fearful, and 15% dismissing adult attachment styles, which has been replicated in other investigations of similar samples (Hazan & Shaver, 1987). The means for the variables of perceived actual emotional and practical social support were slightly lower (4.8 vs. 5.1 and 5.0 vs. 5.5) in one comparison, and slightly higher in another (4.8 vs. 4.2 and 5.0 vs. 4.4). Perceived ideal emotional and practical support showed similar comparisons with lower means in one instance (5.8 vs. 6.3 and 5.7 vs. 6.3) and similarly higher compared to the other group (5.8 vs. 5.3 and 5.7 vs. 4.9). The means for the dissatisfaction with emotional and practical support were comparable to norms reported for 2 samples of female students (Power, et al., 1988; Tiller, et al., 1997).

Table 5

EDE-Q Subscale, Age, and BMI Scores for the Non-Disordered (n = 28)
and Disordered (n = 29) Eating Groups

Measure	Non-Disordered		Disordered		F(1, 55)
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	
Global	0.16	0.13	3.27	0.77	434.56**
Restraint	0.08	0.16	3.32	1.19	201.88**
Shape	0.39	0.32	4.50	1.16	323.19**
Eating Concern	0.04	0.08	2.72	1.17	163.56**
Overeat	0.06	0.13	1.63	0.92	79.67**
Weight	0.24	0.26	4.17	1.19	290.69**
BMI	20.74	2.65	24.22	4.58	12.01*
Age	20.18	3.60	21.71	6.44	1.16

Note. BMI = body mass index score.

* $p < .001$. ** $p < .0001$.

Hypotheses

Hypothesis # 1. It was hypothesized that there would be significant moderate positive correlations between insecure adult attachment styles, dissatisfaction with social support, and disordered eating. Significant moderate positive correlations were observed between disordered eating and preoccupied ($r = .27, p < .01$) and fearful adult attachment style ($r = .34, p < .01$), and dissatisfaction with emotional support ($r = .26, p < .01$). Significant moderate negative correlations were observed between disordered eating and secure adult attachment style ($r = -.30, p < .01$) and secure adult attachment style and dissatisfaction with emotional ($r = -.37, p < .01$), and dissatisfaction with practical support ($r = -.31, p < .01$) (Table 6), although not hypothesized. These findings provide support for Hypothesis # 1.

Hypothesis # 2. A simultaneous multiple regression was conducted to test whether the predictor variables, insecure adult attachment style (preoccupied and fearful combined RQ and RSQ scores), and dissatisfaction with emotional and practical support (the two discrepancy scores of actual vs. ideal levels of emotional and practical support), predicted the overall severity of disordered eating (global subscale score of the EDE-Q). Table 7 is a summary of the findings from the multiple regression analysis predicting severity of disordered eating. The equation predicting disordered eating reached significance, $F(5, 194) = 7.13, p < .001$. One variable, fearful adult attachment style [$t(5, 194) = 2.90, p < .01$] was significantly related to severity of disordered eating. Entering the five predictor variables in the regression equation produced an R^2 of .16. Therefore, only a small amount of variance (16%) in disordered eating is accounted for, particularly by fearful adult attachment style. Taking into account the other variables in the model, the results indicate that fearful adult attachment style is associated with greater severity of disordered eating. These findings provide limited support for the hypothesis.

Table 6

Pearson Product Moment Correlations for the Eating, Attachment Style, and Social Support Variables

Variable	1	2	3	4	5	6	7
1. Global EDE-Q	-	-	-	-	-	-	-
2. Secure	-.30**	-	-	-	-	-	-
3. Preoccupied	.27**	-.31**	-	-	-	-	-
4. Fearful	.34**	-.80**	.38**	-	-	-	-
5. Dismissing	.09	-.40**	-.17*	.50**	-	-	-
6. Dissatisfaction practical	.12	-.40**	.24**	.30**	.16*	-	-
7. Dissatisfaction emotional	.27**	-.37**	.42**	.42**	.07	.68**	-

Note. Global EDE-Q = global subscale score of Eating Disorder Examination Questionnaire; Secure, Preoccupation, Fearful, and Dismissing = four adult attachment combined mean scores of the RQ and the RSQ; Dissatisfaction -practical support (actual practical - ideal practical support); Dissatisfaction-emotional (actual emotional support - ideal emotional support).

* $p < .05$. ** $p < .01$.

Table 7

Multiple Regression Analysis for the Predictors of Disordered Eating

Source	<u>Standard Error</u>	<u>Beta</u>	<u>t</u> (df = 5, 194)	<u>p</u> <
Preoccupied	0.11	0.12	1.43	0.15
Fearful	0.09	0.27	2.90	0.01
Dismissing	0.13	0.03	-0.30	0.76
Dissatisfaction-practical	0.20	0.10	-1.11	0.27
Dissatisfaction-emotional	0.19	0.17	1.70	0.09

Note. N =201. Preoccupied = preoccupied adult attachment style,

Fearful = fearful adult attachment style, Dismissing = dismissing adult attachment style. Beta is the standardized regression coefficient.

Percentage of variance in Disordered eating accounted for by the regression equation ($R^2 = .16$).

Overall F (5, 194) = 7.127, p < .001.

Hypothesis # 3. It was expected that there would be significant mean differences observed in women with and without disordered eating on the variables of adult attachment style and social support. Specifically, women with disordered eating would demonstrate higher mean scores of insecure adult attachment compared to women without disordered eating. Two one-way multivariate analysis of variances (MANOVAs) were used to compare the two eating groups on the measures of adult attachment style and quality of social support. The first MANOVA was computed for the four adult attachment styles, that examined the differences between the non-disordered and disordered eating groups. A significant overall group effect was found, $F(1, 55) = 9.15, p < .0001$. One-way univariate analysis indicated significant mean differences on the secure, preoccupied, and fearful adult attachment styles, indicating that there were differences between the groups on adult attachment style in the expected direction (Table 8). Women in the disordered eating group demonstrated significantly higher mean scores of preoccupied and fearful attachment style and significantly lower mean scores on secure attachment style, compared with women in the non-disordered eating group.

A second MANOVA was computed for the social support variables that examined the differences between the two eating groups. It was expected that there would be significant mean differences between women in the disordered eating group and women without disordered eating on the variables of actual levels of emotional and practical support, structural support (smaller social networks), and dissatisfaction with emotional and practical support. A nonsignificant overall group effect was found, $F(1, 54) = 1.22, p > .25$, which indicates there was no support for the hypothesis. Although the multivariate analysis was not significant, one-way univariate analyses indicated a significant difference between the two groups for dissatisfaction with emotional support, $F(1, 54) = 3.91, p < .05$ (Table 9). The disordered eating

Table 8

ANOVA of the Adult Attachment Styles for the Eating Groups

	Non-Disordered		Disordered		<u>F</u> (1, 55)
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	
Secure	3.78	0.78	3.09	0.54	15.39 **
Preoccupied	2.39	0.56	2.98	0.76	10.91*
Fearful	2.21	0.91	3.48	0.81	30.80 **
Dismissing	3.18	0.70	3.44	0.63	2.18

Note. * $p < .01$. ** $p < .001$.

Table 9

ANOVA of the Social Support Variables for the Non-Disordered (n = 28)
and Disordered (n = 29) Eating Groups

<u>Variable</u>	<u>Non-Disordered</u>		<u>Disordered</u>		<u>F (1, 55)</u>
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	
Actual emotional	4.90	0.90	4.67	0.82	1.09
Ideal emotional	5.82	0.93	5.92	0.87	1.87
Dissatisfaction emotional	0.96	0.68	1.29	0.56	3.91*
Actual practical	5.12	0.79	5.04	0.86	0.12
Ideal practical	5.85	0.83	5.86	0.92	0.00
Dissatisfaction practical	0.79	0.49	0.83	0.50	0.17
Dissatisfaction total	1.75	1.12	2.12	0.90	1.80
Structural	5.43	0.63	5.46	0.64	0.04

Note. Dissatisfaction emotional (Actual emotional - ideal emotional); Dissatisfaction practical (Actual practical - ideal practical); Dissatisfaction total (Dissatisfaction emotional + Dissatisfaction practical); Structural is the mean number of relationships reported (maximum value = 6).

* $p < .05$.

group had higher means of dissatisfaction with emotional support than the non-disordered group. Given the number of variables examined, the results should be interpreted cautiously.

Discussion

The results of the present study provide some support for the claim that interpersonal factors are associated with the experience of disordered eating in female university students. The frequencies and range of eating problems demonstrated support for the eating disorder continuum model, and are consistent with research that uses similar methodologies to investigate the phenomenon in university women (Kurth et al., 1995; Mintz & Betz, 1988).

Adult Attachment and Disordered Eating

The results demonstrated some support for associations between insecure adult attachment style and disordered eating. Statistically significant positive correlations were observed between disordered eating and the insecure adult attachment styles; preoccupied and fearful. As expected, the secure adult attachment style demonstrated a statistically significant negative correlation to disordered eating. Fearful adult attachment style was especially relevant to the group of disordered eaters and predicted the severity of disordered eating in the multiple regression analysis, with other forms of attachment and social support also in the model. The multivariate analysis of variance demonstrated statistically significant mean differences between non-disordered and disordered eaters. Female undergraduates with disordered eating scored higher on the insecure adult attachment styles of preoccupied and fearful, compared with women without eating problems.

Although the present findings do not imply causality, they support other research that has examined the role of interpersonal factors and disordered eating among female university students. In similar samples of female university students, students with disordered eating demonstrated lower self esteem, a higher need for approval, higher levels of interpersonal sensitivity, interpersonal distrust, public self consciousness and social anxiety, and an

overdeveloped social self when compared to normal eaters (Grissett & Norvell, 1992; Katzman & Wolchik, 1989; Striegel-Moore, et al., 1984; Striegel-Moore, 1986). Other studies of female university students have identified an avoidance of conflict and difficulty in the identification and assertion of needs in women with eating disorders that parallels the avoidant perspective of the fearful attachment style (Arenson, 1984; Boskind-White & White, 1983; Katzman & Wolchik, 1989). These interpersonal features that have been observed in female university students with disordered eating seem to converge with the description of the fearful and preoccupied adult attachment styles.

Fearful and preoccupied adult attachment styles share a negative self model that is characterized by low self worth and anxiety about others' availability and dependability in relationships. The two styles differ in that preoccupied individuals tend to seek out intimacy in close relationships, which can appear as dependency. Whereas fearful individuals recognize the potential of intimacy in relationships, but due to an underlying negative other model, avoid these possibilities. This negative other model reinforces a tendency to avoid close relationships for fear of being rejected and/or abandoned. Fearful attachment can be conceptualized as lacking a secure sense of self, a characteristic that has been observed and documented in other studies of women with eating disorders (Bruch, 1973). Perhaps fearful adult attachment promotes feelings of confusion and insecurity about one's role in relationships that is intensified by the process of beginning university in the strange, threatening, and novel environment. Future research should explore whether this experience is perceived as stressful for some, and increases the likelihood that a young female university student may abuse food as a method of coping and to increase social security through attempts aimed at the maintenance and achievement of the approved societal female form.

Although the findings of the present study provide some convergence with research that demonstrates associations between insecure parental attachment and eating disorders in university women (Heesacker & Neimeyer, 1990), the comparison of the present study to investigations of parental attachment is weakened by differences in focus. The focus of the present study was to determine the predominant adult attachment style in the context of key relationships. Parental attachment typically considers the nature and quality of past parental relationships.

Most likely, it is judicious to place these results within the framework of feminist, interpersonal, and personality theory that explores the experience of disordered eating among university women. To date, there is limited research into adult attachment and disordered eating. The present study demonstrates that women who experience disordered eating have higher levels of insecure adult attachment compared to female university students without disordered eating. It appears that some female university students who feel anxious and insecure about themselves and others interpersonally, also struggle with disordered eating. The experience of disordered eating is secretive, isolating, and shameful, especially among those who compulsively binge and purge through self-induced vomiting, and may contribute to fears of rejection and/or abandonment that constitute the fearful attachment style. Fearful attachment may constitute a risk factor for female university students to develop or intensify eating problems, however the cross-sectional design of this study precludes any causal inference.

My findings support the idea that female university students with the characteristics of disordered eating, regardless of whether they restrict, binge, and/or purge, have common feelings of low self worth, and anxiety and doubt about gaining security in relationships with other people. In summary, the findings of the present study suggest that interpersonal factors

hold some relevance to disordered eating and that there are meaningful differences in perceptions of one self and others in close relationships between groups of normal and disordered eaters.

Future research is needed to clarify the interpersonal beliefs and experiences of university female students with disordered eating. It is likely that the experience of disordered eating is diverse and multifaceted and affected by additional environmental factors that were not considered in the present study. It may be useful to measure the associations between adult attachment beliefs concurrently with social functioning, stress, and depression using a longitudinal design to assist in clarifying the nature and strength of the proposed relationships.

Social Support and Disordered Eating

In general, my findings did not support the expected association between the quality of social support (i.e., number of support figures available, ideal and actual emotional and practical support), and disordered eating. Dissatisfaction with emotional support was the only aspect of support that demonstrated statistically significant positive correlations with disordered eating. When attachment styles were included as predictor variables, dissatisfaction with social support did not demonstrate a significant contribution to the severity of disordered eating in the multiple regression analysis. The results of the multivariate analysis of variance did not support differences in the overall perceived quality of social support between women who did not report disordered eating and women with disordered eating. The students with disordered eating did not demonstrate differences in their expectations of the support that ideally should be provided by the significant people in their lives. The findings of the present study do not suggest that female university students have fewer support figures or feel dissatisfied with the available

emotional and practical social support across parental, peer, and romantic relationships, compared with students who do not have eating disturbances.

The choice of measurement tool and time of data collection may explain the failure of the present study to identify deficits in social support in female university students who reported disordered eating. A measure of domain specific social support was utilized and asked the participants to record their perceptions of support for 10 emotional and practical functions across six different relationships. Other social support measures concentrate on global perceptions of overall support available where participants record their sense of the general negativity or positivity of their social world (Sarason, Pierce, & Sarason, 1990). In contrast, domain specific social support measures may tap into one's history with particular people and are less indicative of a general view of their social world (Davis, Morris, & Kraus, 1998). The distinction between these two types of support could have affected the non-significant differences between the non-disordered and disordered eating groups with respect to their relationship quality observed in the present study. Also, the level of stress at the time of survey completion was not recorded. The results of this study may have differed as stress may have a moderating effect on the perceived quality of social support. Data were collected primarily in early October, a time of the university calendar which is not typically the most stressful for students.

The present study failed to replicate other studies that demonstrated significant differences between non eating disordered women and samples of women presenting for treatment at eating disorder clinics with respect to the size of social network and/or the perceived quality of social support (Reiss & Johnson-Sabine, 1995; Tiller et al., 1997). My findings may reflect differences in populations and therefore the severity of eating disorder

symptoms measured. Perhaps the women in the disordered eating group did not have the severe level of symptoms required to produce the degree of isolation and poor quality of social support that has been reported in the previous study. The results of the present study are similar to one other study of university students that also failed to find deficient social support in women with bulimic symptoms (Jacobsen & Robins, 1989). Future research that incorporates a measure of global support and stress is required to assist in clarifying the contribution that quality of social support might make to the experience of disordered eating.

Limitations

Typical of many surveys of this type, a limitation of the study was the inability to test associations between adult attachment style, social support, and anorexia nervosa due to the low prevalence rate for this type of eating disorder. The results are purely correlational and the cross sectional design of the present study does not permit causal inference. Moreover, the results can only be generalized to undergraduate female university students. There were insufficient numbers to create the membership size required to explore significant group differences between all of the eating groups purported to lie on the continuum of disordered eating. The data collection instruments were self-report in nature, therefore their accuracy in measuring the behaviors associated with disordered eating is suspect and affected by denial and/or distortion of symptoms, likely in particular in women with anorectic tendencies (Vitousek, Daly, & Heiser, 1991).

Clearly, the questions and hypotheses raised in this discussion are exploratory in nature. An investigation linking adult attachment style and disordered eating that utilizes the four category model (Bartholomew & Horowitz, 1991), and makes predictions about the differences between non-disordered and disordered eaters is new territory. Any findings made here require

replication using multiple measures of adult attachment and disordered eating. Prospective studies that incorporate quantitative and qualitative methods are needed to further examine and verify the relationship of adult attachment style to disordered eating in university women. Quantitative methods could incorporate the measurement of interpersonal stressors and their relationship to adult attachment style, disordered eating, and relationship-focused coping. Adequate numbers for each group on the continuum of disordered eating would permit the exploration of the differences and similarities in interpersonal beliefs and functioning dependent on eating disorder symptoms using quantitative methods. Qualitative methods could assist in the comprehension of the underlying, salient dynamics of interpersonal relationships that contribute to the experience of disordered eating.

Implications

The results of this study have implications for theory, research, and practice in the field of Counselling Psychology; particularly in the area of women's health. It is generally understood by researchers and clinicians working in the area that an increased attention is required to the spectrum of disordered eating that more realistically mirrors the population of young women. The high frequency of weight and shape dissatisfaction, fear of fat, and problematic eating behaviours warrant further investigations into the experience of disordered eating and the factors that prevent and/or protect female university students from moving further along the continuum. Attention to the social context that surrounds disordered eating may begin to unravel and address the factors that maintain and reduce the devastating psychological and physical effects of an eating disorder. An insecure orientation towards interpersonal relationships, coupled with the shame and anxiety often associated with an eating disorder, may inhibit the ability to seek social support for this serious problem. In therapy, a

counsellor cognizant of this knowledge can communicate an attitude that recognizes the developmental and psychological importance of healthy and supportive interpersonal relations. Beliefs and expectations about the client's role in the therapeutic and personal relationships could be examined in addition to the identification and manipulation of distorted thoughts regarding food, weight, and shape; that are commonly shared by women with disordered eating. Future research that explores the role of attachment beliefs to the recovery process, may provide us with clues in how to intervene and release the grip of disordered eating in female university students.

The examination in research and practice of influential environmental factors provides a welcome shift from the focus on describing the symptoms and causes of eating disorders that is typical of some of the research and practice in this area. We are now more aware of the developmental importance that the creation and maintenance of relationships represents to women. Because there is some evidence that supports the relevance of social support for psychological well being, it makes sense to address this need, especially with women who often feel trapped and isolated as they struggle with disordered eating. Efficacy studies that suggest that interpersonal therapy is as effective as cognitive behavioural therapy in reducing bulimic symptoms, lend support to the relevance of the facilitation of a positive and supportive social world for women with disordered eating. It is believed that the inclusion and acknowledgment of the interpersonal context can broaden and enrich the conceptualization of this complex and multidetermined problem, and offer a significant contribution to the psychological, emotional, and physical health of young women who struggle with an eating disorder.

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Appendix B: Demographics Questionnaire

Interpersonal Relationships and Eating Habits of Female University Students

Please complete the following background information.

Current year in University (Please Circle): 1 2 3 4

What is your age in years? _____

To which ethnic group do you belong? (Please circle)

African Canadian European Middle Eastern South East Asia South Asia Other

Where is your birthplace? _____

How many years have you lived in Canada? _____

Marital Status (Please Circle): Single Married/Common Law Divorced
Separated

Do you live with your parents or parent? (Please Circle):

Yes No

To the nearest inch or centimetre, what is your current height?

Inches _____ Centimetres _____

To the nearest pound or kilogram, what is your current weight?

Pounds _____ Kilograms _____

What is your desired weight?

Pounds _____ Kilograms _____

Appendix C: The Eating Disorder Examination Questionnaire

EDE - Q

Please complete all of the following questions.

ON HOW MANY OF DAYS OUT OF THE PAST 28 DAYS

1. Have you been consciously trying to restrict the amount of food you eat to influence your shape or weight? _____ days
2. Have you gone for long periods of time (8 hours or more), without eating anything in order to influence your shape or weight? _____ days
3. Have you tried to avoid eating foods which you like in order to influence your weight or shape? _____ days
4. Have you tried to follow definite rules regarding your eating in order to influence your weight or shape, for example, a calorie limit, a set amount of food, or rules about what you should eat? _____ days
5. Has thinking about food or its calorie content interfered significantly with your ability to concentrate on things you are interested in, for example, read, watch TV, follow a conversation? _____ days
6. Have you had a definite fear that you may not be able to either resist or stop eating? _____ days
7. Have you experienced a loss of control over eating? _____ days
8. Have you had any episodes of binge eating? _____ days
9. Have you eaten in secret? _____ days
10. Have you had a definite desire for your stomach to be flat? _____ days
11. Have you had a definite desire for your stomach to feel empty? _____ days
12. Has thinking about shape or weight interfered with your ability to concentrate on things you are interested in, for example, read, watch TV, or follow a conversation? _____ days
13. Have you had a definite fear that you may gain weight or become fat? _____ days
14. Have you felt fat? _____ days
15. Have you had a strong desire to lose weight? _____ days
16. On what proportion of times that you have eaten have you felt guilty because of your weight or shape? (Please circle)
 - 0 - None of the times
 - 1 - A few of the times
 - 2 - Less than half of the times
 - 3 - Half the times
 - 4 - More than half the times
 - 5 - Most of the time
 - 6 - Every time
17. Have there been times when you have eaten what other people would regard as an unusually large amount of food? (Please circle) 0 - No 1 - Yes
18. How many episodes described in question 17 have you had over the past four weeks? _____ episodes

19. During how many of these episodes of overeating did you have a sense of having lost control ? (Please Circle) _____ episodes
20. Have you had other episodes of eating in which you had a sense of having lost control but have not eaten an unusually large amount of food ? 0 - No 1 - Yes
21. How many such episodes described in question 20 have you had over the past four weeks ? (Please Circle) _____ episodes
22. Over the past four weeks, have you made yourself sick (vomit), as a means of controlling your shape or weight or to counteract the effects of eating? (Please Circle) 0 - No 1 - Yes
23. On how many days out of the past 28 have you done this ? _____ days
24. Have you taken laxatives as a means of controlling your shape or weight or to counteract the effects of eating ? 0 - No 1 - Yes
25. On how many days out of the past 28 have you done this? _____ days
26. Have you taken diuretics (water pills), as a means of controlling your shape or weight or to counteract the effects of eating ? 0 - No 1 - Yes
27. On how many days out of the past 28 have you done this ? _____ days
28. Have you vigorously exercised as a means of controlling your shape or weight or to counteract the effects of eating ? 0 - No 1 - Yes
29. On how many days out of the past 28 have you done this ? _____ days

OVER THE PAST FOUR WEEKS (28 DAYS)

- | | Not at
all | Slightly | Moderately | Significantly
all | | | |
|---|---------------|----------|------------|----------------------|---|---|---|
| 30. Has your weight influenced how you think about (judge) yourself as a person ? (Please Circle) | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| 31. Has your shape influenced how you think about (judge) yourself as a person ? | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| 32. How much would it distress you if you had to weigh yourself once a week for the next four weeks ? | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| 33. How dissatisfied have you felt with your weight ? | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| 34. How dissatisfied have you felt with your shape ? | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| 35. How thin have you wanted to be ? | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

OVER THE PAST FOUR WEEKS (28 DAYS)

Not at Slightly Moderately Significantly
all

36. How concerned have you been about other people seeing you eat?
(Only circle 4, 5, or 6 if you have avoided some occasions)

0 1 2 3 4 5 6

37. How uncomfortable have you felt seeing your body; for example, in the
mirror, in shop window reflections, while undressing, taking a bath or shower ?
(Only circle 4, 5, or 6 if you have avoided some occasions)

0 1 2 3 4 5 6

38. How uncomfortable have you felt about others seeing your body; for example,
in communal changing rooms, when swimming, or wearing tight clothes ?
(Only circle 4, 5, or 6 if you have avoided some occasions)

0 1 2 3 4 5 6

Appendix D : Relationship Scales Questionnaire

RSQ

Please read each of the following statements, and rate the extent to which each describes your feelings about close relationships. Think about all of your close relationships, past and present, and respond in terms of how you generally feel in these relationships.

	Not at all like me		Somewhat like me	Very Much like me	
1. I find it difficult to depend on other people.	1	2	3	4	5
2. It is very important to me to feel independent.	1	2	3	4	5
3. I find it easy to get emotionally close to others.	1	2	3	4	5
4. I want to merge completely with another person.	1	2	3	4	5
5. I worry that I will be hurt if I allow myself to become too close to others.	1	2	3	4	5
6. I am comfortable without close emotional relationships.	1	2	3	4	5
7. I am not sure that I can always depend on others to be there when I need them.	1	2	3	4	5
8. I want to be completely emotionally intimate with others.	1	2	3	4	5
9. I worry about being alone.	1	2	3	4	5
10. I am comfortable depending on other people.	1	2	3	4	5
11. I often worry that romantic partners don't really love me.	1	2	3	4	5
12. I find it difficult to trust others completely.	1	2	3	4	5
13. I worry about others getting too close to me.	1	2	3	4	5
14. I want emotionally close relationships.	1	2	3	4	5
15. I am comfortable having other people depend on me.	1	2	3	4	5
16. I worry that others don't value me as much as I value them.	1	2	3	4	5
17. People are never there when you need them.	1	2	3	4	5
18. My desire to merge completely sometimes scares people away.	1	2	3	4	5
19. It is very important to me to feel self-sufficient.	1	2	3	4	5
20. I am nervous when anyone gets too close to me.	1	2	3	4	5
21. I often worry that romantic partners won't want to stay with me.	1	2	3	4	5
22. I prefer not to have other people depend on me.	1	2	3	4	5
23. I worry about being abandoned.	1	2	3	4	5
24. I am somewhat uncomfortable being close to others.	1	2	3	4	5

	Not at all like me		Somewhat like me	Very Much like me	
25. I find that others are reluctant to get as close as I would like.	1	2	3	4	5
26. I prefer not to depend on others.	1	2	3	4	5
27. I know that others will be there when I need them.	1	2	3	4	5
28. I worry about having others not accept me.	1	2	3	4	5
29. Romantic partners often want me to be closer than I feel comfortable being.	1	2	3	4	5
30. I find it relatively easy to get close to others.	1	2	3	4	5

Appendix E : Relationship Questionnaire

RELATIONSHIP QUESTIONNAIRE

PLEASE READ DIRECTIONS!!!

Following are descriptions of four general relationship styles that people often report. Please read each description and CIRCLE the letter corresponding to the style that best describes you or is closest to the way you generally are in your close relationships.

- A. It is easy for me to become emotionally close to others. I am comfortable depending on them and having them depend on me. I don't worry about being alone or having others not accept me.
- B. I am uncomfortable getting close to others. I want emotionally close relationships, but I find it difficult to trust others completely, or to depend on them. I worry that I will be hurt if I allow myself to become too close to others.
- C. I want to be completely emotionally intimate with others, but I often find that others are reluctant to get as close as I would like. I am uncomfortable being without close relationships, but I sometimes worry that others don't value me as much as I value them.
- D. I am comfortable without close emotional relationships. It is very important to me to feel independent and self sufficient, and I prefer not to depend on others or have others depend on me.

RELATIONSHIP QUESTIONNAIRE con't

Please rate each of the following relationship styles according to the extent to which you think each description corresponds to your general relationship style. Please circle the number selected.

Style A. It is easy for me to become emotionally close to others. I am comfortable depending on them and having them depend on me. I don't worry about being alone or having others not accept me.

Not at all like me			Somewhat like me			Very Much like me
1	2	3	4	5	6	7

Style B. I am uncomfortable getting close to others. I want emotionally close relationships, but I find it difficult to trust others completely, or to depend on them. I worry that I will be hurt if I allow myself to become too close to others.

Not at all like me			Somewhat like me			Very Much like me
1	2	3	4	5	6	7

Style C. I want to be completely emotionally intimate with others, but I often find that others are reluctant to get as close as I would like. I am uncomfortable being without close relationships, but sometimes worry that others don't value me as much as I value them.

Not at all like me			Somewhat like me			Very Much like me
1	2	3	4	5	6	7

Style D. I am comfortable without close emotional relationships. It is very important to me to feel independent and self sufficient, and I prefer not to depend on others or have others depend on me.

Not at all like me			Somewhat like me			Very Much like me
1	2	3	4	5	6	7

Appendix F: Significant Others Scale

Part 1: Actual Support

Listed below are some potentially important relationships in your life. For each person, please rate on a 1 to 7 scale (see below), how well he/she provides the type of help (actual support) that is described. The ratings are:

1 Never
 2
 3
 4 Sometimes
 5
 6
 7 Always

NOTE: Please leave the section blank if there is no such person in your life.

To what extent can you.... Romantic Partner Mother Father Closest sibling Best Friend Second Best Friend

	1	2	3	4	5	6	7
Trust, talk to honestly, & share feelings with....							
Lean on & turn to during hard times..							
Get reassurance, & a good feeling about you							
Get physical comfort							
Resolve disagreements							
Get financial and practical help							
Get suggestions, advice, feedback							
Socialize with							
Get help in an emergency							
Share interests and hobbies							

