STRESS, COPING, AND EATING BEHAVIORS AMONG FEMALE ATHLETES IN EMERGING ADULTHOOD

By

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Abstract

This investigation explores the interpersonal stress and coping process of female athletes during emerging adulthood and across the eating disorder continuum. Respondents in this cross-sectional study were 223 female competitive athletes (mean age = 20.9 years, SD = 1.61) attending the University of British Columbia. It was hypothesized that while controlling for depression, female athletes who remembered critical comments by peers, family, or significant others about her body, shape, or weight, would report greater disordered eating, compared with female athletes who did not remember critical comments.

It was also hypothesized there would be a statistically significant linear relationship between the predictor variables daily hassles, coping strategies (behavioral disengagement, mental disengagement, active coping, instrumental social support, emotional social support, planning, restraint coping, suppression of competing activities, religion, positive reinterpretation and growth, acceptance, denial, and relationship-focused coping) and the criterion variable, the severity of eating disordered behavior, controlling for the effects of depression.

An analysis of covariance (ANCOVA) was used to examine mean differences on disordered eating (covariate depression) between those individuals who remembered critical comments by peers, family or significant others (coaches) about their body shape or weight and those female athletes who did not remember critical comments. Participants with critical comments had a higher level of disordered eating (i.e., EDE-Q). A hierarchical multiple regression (HMR) found once the variance attributed to depression was controlled for, severity of critical comment was significantly positively
related to disordered eating. A second HMR was conducted to test whether the 15 predictor variables predicted overall severity of disordered eating, after controlling for depression. Once the variance attributed to depression was controlled for greater daily hassles, mental disengagement, positive growth and reinterpretation coping strategies and less use of active coping strategies predicted greater disordered eating. The results support the relevance of interpersonal stress, a few unique coping skills and depression in the experience of disordered eating of female athletes attending university. Implications for theory, research, and treatment are discussed.
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Introduction

There is a vast amount of literature that implicates the stress process and interpersonal factors in the etiology of eating disorders, however, the nature and quality of these factors and their influence on the development of eating disorders during adolescence and emerging adulthood is unclear (Arnett, 2000). For example, female undergraduates who were identified as being at risk for eating disorders reported stress as a major concern and considered themselves to be ineffective at coping (Klemchuk, Hutchinson, & Frank, 1990). This suggests that women with eating disorders may use maladaptive coping strategies (Cattanach & Rodin, 1988). Thus, the purpose of this study is to explore associations among stressors, and coping strategies, and disordered eating in a sample of university female athletes. The terms eating disorder and disordered eating are used interchangeably in this paper, to reflect current terminology.

The accepted etiology of eating disorders is based on a multidimensional model that links three common predisposing domains (i.e., individual, family, and sociocultural) (Garner & Garfinkel, 1985) with precipitating factors such as stressors (e.g., life events, daily hassles). Lazarus (1991) considers psychological stress to reflect a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being. Richard Lazarus's cognitive theory of psychological stress and coping is transactional in that the person and the environment are viewed as being in a dynamic, mutually reciprocal

1. For 100 years researchers have defined adolescence as 12-23 years (Hall, 1904; Stanrock, 1990) but recently have distinguished the later years (18-25 years) as emerging adulthood (Arnett, 2000). Emerging Adulthood is defined as the period between 18-25 years of age, based on recent changes in demographics, subjectivity, and identity exploration.
bidirectional relationship (Lazarus & Folkman, 1984). Lazarus identifies two processes, cognitive appraisal and coping, as critical to the stressful person-environment relationship and their immediate and long-term outcomes.

The literature on the nature and type of stressor and their relationship to disordered eating is unclear. Hansel and Wittrock (1997) suggest that binge eaters appraise life event stressors across settings as more stressful than normal eaters. However, the results of life event research are difficult to interpret because of inconsistencies in defining eating disorder onset, and research designs that lack matched controls. There is evidence that close interpersonal relationships are common stressors among adolescent girls and women who have eating disorders in emerging adulthood (Schmidt, Tiller, Andrew, & Treasure, 1997; Strober, 1984; Welch et al., 1997).

An important consideration may be the type of stressor young women with eating disorders experience. Eating disorder symptoms among adolescent girls appear to be more strongly related to level of daily hassles than to traumatic events (Swearingen & Cohen, 1985). Shatford and Evans (1986) examined both life events and daily hassles and found that daily hassles, in particular were associated with disordered eating. In addition, for young females with clinically diagnosed eating disorders, a chance (and often relatively innocuous) remark about the female’s body may act as a stressor (Lask and Bryant-Waugh, 2000) and predict the onset of disordered eating (Stice, 1998). In the case of bulimia nervosa (BN), the comment is often from family and peer members (Palmer, 1998; Stice, 1998). In an exploratory pilot study, I interviewed four young women who revealed that comments made by peers, family, and significant others (i.e.,
coach) about their body, shape, or weight were experienced as pivotal stimuli. Thus, the relationship between daily hassles, negative remarks by significant others, and disordered eating are examined in this study.

Coping is defined as cognitive and behavioral efforts to manage external and internal demands that tax or exceed an individual’s resources (Coyne, Aldwin, & Lazarus, 1981). Coping traditionally has two major functions: dealing with the problem that is causing the distress (problem-focused coping) and regulating emotion (emotion-focused coping) (Lazarus & Folkman, 1984). The use of emotion-focused coping among adolescent girls (Fryer, Waller, & Kroese, 1997) and a form of emotion-focused coping (i.e., escape-avoidance), has been associated with disturbed eating habits in young women (Ghaderi & Scott, 2000).

More recent research suggests that there is a third function of coping called relationship-focused coping, which is aimed at the maintenance of relationships (O’Brien & DeLongis, 1991, 1996, 1997). Relationship-focused coping refers to coping efforts to manage, regulate, or preserve relationships during stressful periods. Evidence suggests that females who develop eating disorders find interpersonal conflicts stressful (Pike, 1995) and compared with normal eaters perceive more conflict in their relationships (Grissett & Norvell, 1992). Consistent with clinical impressions, Pike found that adolescent girls with disordered eating had difficulty expressing conflict in relationships. Yet, relationship-focused coping strategies have not been examined among the eating disorder population.

Further evidence of the role that interpersonal relationships play in eating disorders is revealed in research comparing interpersonal therapy (IPT) and cognitive-
behavioral therapy (CBT) for adult women (see Appendix K for descriptions). The results revealed equal rates of efficacy (Fairburn et al., 1995). IPT is a therapeutic approach which focuses on interpersonal problems that appear to have caused and maintained the eating disorder. IPT in modified form has also shown promise for use for adolescent girls with eating disorders (Robin, Gilroy, & Dennis, 1999). Thus, interpersonal problems appear to be a common stressor for female adolescent with disordered eating.

In general, individuals with eating disorders experience significantly more dysphoric and fluctuating moods than controls (Cattanach et al., 1988). During emerging adulthood when dysphoria increases with age (Schraedley, Gotlib, & Hayward, 1999), women may be predisposed to appraise and cope ineffectively with stressful experiences. Katzman and Wolchik (1985) provide evidence that depression is likely to interfere with coping responses to stress in women with eating disorders. Thus, in the present study depressed mood is controlled for.

Athletes are an important subsample of women that have received a considerable amount of media attention regarding disordered eating. However, despite the media attention, there is a paucity of research on the topic. Studies have reported that high-school athletes are at a greater risk for the development of eating disorders, compared with high-school non-athletes when they begin training in one particular sport at an elite level (Fulkerson, Keel, Leon, & Dorr, 1999). Thus, the current investigation aims to enhance our understanding of the relationship between female athletes and eating disordered behaviors.
Summary and Rationale

Researchers and practitioners have called for an expansion of the DSM-IV (American Psychiatric Association, 1994) criteria for eating disorders to include a broader spectrum of eating behaviors. Due to the role of stress and coping in disordered eating behaviors an important theoretical framework for studying this phenomenon is Richard Lazarus’s (1991) model of the stress process. Little is known about the etiology of eating disturbances in women in the emerging adulthood years and even less is known about athletes and eating disorders. Stress symptoms appear to be more strongly related to daily hassles than to traumatic events (Swearingen and Cohen, 1985). Thus, the relationship of daily hassles and critical comments about the female’s body among women with disordered eating requires examination. Finally, despite evidence that women with disordered eating have strained interpersonal relationships, relationship-focused coping has not been researched among this population. Therefore, the present study focuses on the interpersonal stress process of female athletes during emerging adulthood (19-25 years) across the eating disorder continuum (Schmidt et al., 1997; Welch et al., 1997).

The following questions are addressed in the present study: Are critical comments by friends, family, and significant others about the young female athlete’s body, shape, or weight associated with disordered eating, after controlling for depression? To what extent is the perceived severity of the critical comment by friends, family and significant others about the female athlete’s body, shape, or weight associated with disordered eating after controlling for depression? To what extent are
daily hassles and coping strategies (used with interpersonal stress) associated with disordered eating for female athletes after controlling for depressed mood.
Literature Review

Several studies have focused on psychosocial stress as an important factor associated with eating disorders. Yet the literature is confusing and contradictory, making it difficult to assess the importance of stress in the etiology and maintenance of eating disorders (Cattanach et al., 1988). Moreover, a review of the literature suggests that the assessment of eating disorders and descriptions of both precipitating and maintaining factors are variable and inconsistent. For example, the definition of an eating disorder varies with the researcher's standpoint (DSM-IV, or a continuum), characteristics of the sample, and measurement tools used to assess individuals. Thus, in the present study, the terms eating disorder and disordered eating are used synonymously, and reflect the current terminology.

In the following review of the literature, I first review studies focused on adolescent, emerging adulthood, and adult women who vary across the disordered eating continuum, ranging from clinical to unrestrained behaviors, and then specifically focus on female athletes. Then, I review the literature on the stress process (e.g., stressors, coping strategies) and adolescence, emerging adulthood, and adult women, as well as the links between depression and eating disorders. Next, based on the evidence that interpersonal problems are a common stressor, I justify a focus on interpersonal coping (relationship-focused coping). Finally, I provide a rationale for associations between the stress process (stressors, coping strategies, and social coping resources), dysphoria, and eating behaviors in adolescent girls and women in emerging adulthood.
The Eating Disorder Continuum Model

The development of disordered eating has been studied as a continuum of problem eating behaviors (Mintz, O’Halloran, Mulholland, & Paxton, 1997; Scarano & Kalodner-Martin, 1994). The continuum (see Figure 1 below) is based on the assumption that the severity of the eating disorder increases as one moves from non-eating disordered to clinical eating disorders, anorexia, and bulimia as outlined in the DSM-IV.

*Figure 1 – The Eating Disorder Continuum Model*

| Unrestrained Eating | Moderate Dieting | Chronic Dieting | Bingeing Eating Disorder | Sub-Clinical Eating Disorder | Clinical Eating Disorder (AN & BN) |


Unrestrained eaters are those who do not report food restriction. Moderate dieters are 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 describe as a large amount of food during which they experience a loss of control over eating (objective or subjective). Those placed in the sub-clinical group are considered disordered eaters but do not fully satisfy the diagnostic criteria for anorexia and bulimia of the DSM-IV. Sub-clinical eating disorders include some of or all of the following behaviors; 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 self esteem.

The underlying behavioral and psychological dimensions and the differences between the groups are characterized by degree and not type (Scarano & Kalodner-Martin, 1994) but there are still many unanswered questions regarding differences between the groups. Thus, in the present study, I draw on an eating disorder continuum rather than clinical eating disorder classifications.

*Adolescence and Emerging Adulthood Eating Disorders*

In the general female population, there has been a significant increase in eating disorders for the 15 through 24 year-old-group (Steiner & Lock, 1998). More specifically the incidence rates for anorexia nervosa (AN) have increased from 1955 to 1984 among those aged 10 to 19 years, but not among adults 20 years and older (Fisher et al., 1995). AN is considered the third most common psychiatric condition in adolescence (Lucas, Beard, O'Fallon, & Kurlan, 1991). For the past 100 years of research, the adolescence period has been defined as 12 to 23 years (Hall, 1904; Stanrock, 1990). Recently 18 to 25 years has been identified as a specific period called emerging adulthood due to distinct demographics, subjectivity, and identity exploration (Arnett, 2000). A key feature of emerging adulthood is that it is a period of life that offers the most opportunity for identity exploration in the areas of love, work, worldwide views, and risk-taking behaviors. Some risk-taking behaviors commence during adolescence and peak during emerging adulthood (Arnett, 2000).
The incidence of bulimia nervosa (BN) is at least 13 per 100,000 and anorexia nervosa (AN) is 8 per 100,000 population per year among females and probably reflects an underestimation of the phenomena (Hock, Treasure, & Katzman, 1998). The lifetime prevalence for BN is approximately 1% to 2%, for AN 0.2% (Jarman & Walsh, 1999) and 2% to 5% for binge-eating disorder in young females (Stice, 1999). Onset of BN and binge eating disorder occurs during adolescence and young adulthood with average onset between 18 and 24 years. The recovery rates are poor, with a 10-year mortality rate of 6% to 10% for AN, and 50% remission of symptoms for BN. Less is known about binge-eating disorder (Stice, 1999). In addition, there is an association between eating disorders and depression, self-harm, suicidal thoughts (Jarman & Walsh, 1999), and abuse of alcohol (Striegel-Moore & Hyudic, 1993).

A large number of adolescents and girls and women in emerging adulthood have disordered eating but do not meet the strict DSM-IV criteria (Fisher et al., 1995). Nearly one in five, 16-year-old girls have significant concerns about weight (Cooper & Goodyer, 1997). 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 at sub-clinical levels (Mann et al., 1997). Thus, the current study focuses on a population of women during emerging adulthood that represent a wide range of eating attitudes and behaviors across a broad continuum of eating disordered behaviors.

Female Athletes

Over the past 20 years there has been a growing interest in the eating behaviors and attitudes of athletes. Current estimates indicate a prevalence range of 1% to 62%. These wide-ranging estimates are due to three factors: (a) differences in screening
instruments used, (b) definitions of “eating disorder” employed, and (c) athletic population studied (Sundgot-Borgen, 1993). Smolak, Murren, and Ruben (2000) point out that there is a paucity of data available on athletes and eating disorders despite the media attention. The one large scale (n = 562) North American study of varsity college athletes indicated that 10.85% of the females reported binge eating on a weekly basis, 5.52% reported purging (vomiting, laxative, diuretics), 1.1% met the criteria for BN, and none met the criteria for AN (Johnson, Power & Dick, 1999). However, the authors suggest these estimates were conservative, because of the tendency for elite athletes to underreport disturbed eating attitudes and habits. There is a growing body of evidence to suggest that the incidence of subclinical eating disorders among active women is increasing and may exceed that of clinical eating disorders (Sundgot-Borgen, 1993).

In addition, there is a higher incidence of disordered eating (both clinical and subclinical eating disorders) in women participating in sports in which a lean physique is considered advantageous and the norm (Beals & Manore, 1999). Studies report that high-school athletes are at a greater risk for the development of eating disorders than high-school non-athletes when they begin training in one particular sport at an elite or competitive level (Fulkerson et al., 1999; Graber, Brooks-Gunn, & Warren, 1999). In contrast, researchers have suggested that athletic participation benefits both physical and emotional health and that athletes may have a psychological hardiness that helps them to manage stress (Dishman, 1992). However, research in this area is plagued by small samples, poor design, use of different measures and definitions of eating disorders, a focus on clinical descriptions (Smolak et al., 2000; Sundgot-Borgen, 1993) and does not control for depression.
A recent meta-analysis of 34 studies, comparing athletes \( (n = 8,858) \) with nonathletes \( (n = 2,459) \), showed athletes to be at greater risk for eating disorders than nonathletes (Smolak et al., 2000). The results of the meta analysis revealed that Cohen’s effect size was statistically significant, \( d = .07, z = 2.98, p < .01 \), but the effect was extremely small and marked by heterogeneity, \( \chi^2 (33) = 303.31, p < .001 \). Therefore the differences in this study were not accounted for by the categories “athlete and nonathlete” but by other characteristics (i.e., elite level, lean sports, aesthetic sports, pressure from coaches, peers and parents, personality, performance anxiety, body concerns). Elite athletes, especially those in sports emphasizing thinness were identified as at risk, \( d = .28, z = 8.70, p < .001 \). The results indicated that there was a small but significant protective effect for female athletes participating in nonelite, nonlean sports, \( d = -.22, z = -3.81, p < .01 \), and for highschool girls participating in nonelite sports, \( d = -.14, z = -3.53, p < .001 \). The authors concluded that it is not sports participation per see that creates the problem and note other studies that have identified individual personality, pressure from coaches and parents and peers, or actual demands of the sport as possible contributors (Berry & Howe, 2000; Ottis et al., 1997; Sundgot-Borgen, 1994; Williamson et al., 1995). The limitations of this meta-analysis include the poor quality of the data as many studies had small sample sizes, no control groups, and used unstandardized measures of eating problems.

Another study reported that school athletes were not at a greater risk for the development of eating disorders until they begin training in one particular sport at an elite or competitive level (Fulkerson et al., 1999). High school athletes identified by the school athletic department from 14 different sports \( (n = 318) \) were randomly matched
with nonathletes, \( n = 360 \), and compared on the Eating Disorders Inventory (EDI; Garner, Olmsted, & Polivy, 1983), the Restraint Scale (Restraint: Polivy, Herman, & Howard, 1988), DSM-III-R Risk Symptoms Checklist (ED Checklist; Leon, Fulkerson, Perry & Cudeck., 1993), The Multidimensional Personality Questionnaire (MPQ; Tellegen, 1982), and the Body Mass Index (BMI). The overall MANOVA for the test of mean differences of EDI scale scores between the athletes and nonathletes was significant \( (\text{Wilks } \lambda = .95, p < .05) \). The MANOVA effect for mean differences in scores between athletes and nonathletes on the Restraint Scale, ED Checklist, and BMI was not significant. The authors concluded that for the majority of eating-disordered behaviors and attitudes there are no significant differences between athletes and nonathletes. The authors suggested that the participants were not “elite” and that those athletes training in one particular sport in a highly competitive environment may be at greater risk for eating disorders. A limitation of this study is that eating disorders were not operationalized along a continuum, thus subclinical behaviors were not identified. The study also did not control for the effects of depression.

In summary, there is a paucity of research on athletes and eating disorders. The research that does exist is inconsistent and often suffers from methodological flaws. Preliminary evidence suggests that eating disorders are more prevalent among the competitive athletic population where the lean physique is advantageous. No studies to date have examined athletes along a broad spectrum of eating behaviors and attitudes or controlled for the effects of depression. Nor have studies examined how athletes with eating disorders deal with stressors and the coping strategies they utilize. The results of
the present study may help further our understanding of the factors associated with eating disorders for the female athletes.

**Theoretical Model**

The cognitive theory of psychological stress and coping is transactional in that the person and the environment are viewed as being in a dynamic, mutually reciprocal, bidirectional relationship (Lazarus & Folkman, 1984). The theory identifies two processes, cognitive appraisal and coping, as critical components of the stressful person-environment relationship. Cognitive appraisal is a process through which the person evaluates whether a particular encounter with the environment is relevant to his or her well-being, and if so, in what way.

Coping is defined as cognitive and behavioral efforts to manage external and internal demands that tax or exceed the individual’s resources (Coyne et al., 1981). Lazarus posits that coping has two major functions: dealing with the problem that is causing the distress (problem-focused coping) and regulating emotions (emotion-focused coping) (Lazarus & Folkman, 1984). More recent research suggests that there is a third function of coping “relationship focused,” which is aimed at the maintenance of relationships (O’Brien & DeLongis, 1991). Cognitive appraisal and coping are transactional variables, in that they refer not to the environment or to the person alone, but to the interaction of both in a given transaction. For example, an appraisal of threat is a function of a specific set of environmental conditions that are appraised by a particular person with particular psychological characteristics. Similarly, coping consists of the specific thoughts and behaviors a person is using to manage the demands of a person-environment transaction that has relevance to his or her well-being. There is
some evidence that processes involving coping, may be deficient among bulimic populations (Cattanach et al., 1988).

**Stressors**

The literature on the nature and type of stress and eating disorders is unclear. There are four types of social stressors that can be distinguished by their level and manner of impact on psychological adjustment: Circumscribed Stressors (Traumatic events), Daily Stressors (hassles), Induced Transitions, and Developmental Transitions (Farber, Primavera, & Felner, 1983). Most of the research on stress and disordered eating examines life events or life events and daily hassles together. However, Shatford and Evans (1986) analyzed life hassles separately from life events and found that a high frequency and greater severity of daily hassles predicted disordered eating. Sources of stress may be related to the onset of life transitions, that require adjustment and adaptation over a period of time (i.e., starting a new school or parental divorce) as well as those that are relatively discrete events (i.e., auto accident) (Farber et al., 1983). Because adolescence and emerging adulthood are developmental stages that are characterized by change, it is important to distinguish the stress of normal expectable developmental changes from those induced by external circumstances (i.e., puberty versus parental divorce). Adolescent stress symptoms appear to be more strongly related to day-to-day conflicts (hassles) than to traumatic events (Swearingen & Cohen, 1985) and daily stressors are better predictors of psychopathology (Compas, Forsythe, & Wagner, 1988; Rowlison & Felner, 1988). Thus, the focus of this study is on daily hassles, and particularly interpersonal stressors because evidence suggests that daily hassles and interpersonal stressors are related to disordered eating.
Hansel and Wittrock (1997) suggest that binge eaters appraise stressors across settings as more stressful than normal eaters. For clinically diagnosed eating disorders, commonly a chance (and often relatively innocuous) remark about the girl’s body acts as a stressor (Lask & Bryant-Waugh, 2000; Palmer, 1998) and precipitates the onset of disordered eating (Stice, 1998). Related to this issue, women have been shown to have lower levels of discrepancy between their actual-self and the hopes and wishes that they believed others desired of them than their own hopes and wishes for themselves. This other ideal-discrepancy has been associated with distress in women but not in men. (Moretti, Rein, & Wiebe, 1998). In the case of BN, sometimes the comment is from a family and peer (Palmer, 1998; Stice, 1998). No one particular stressor has been associated with onset of AN (Lask & Bryant-Waugh, 2000). However, research on BN and AN onset is challenging because of difficulties in defining onset of the disorder, given the low numbers of individuals with clinical eating disorders (Welch et al., 1997). Furthermore the research on stressors and onset of disordered eating does not control for depression.

To date, research on life events and BN are difficult to interpret because most do not involve controlled comparison groups (Welch et al., 1997). Welch et al. researched a community based sample of bulimic women (BN; \( n = 102, M \text{ age} = 23.7 \text{ years}, SD = 4.9 \)) and controls (\( n = 204, \) matched to the BN participants ages) using semi-structured interview techniques and found that more life events were reported the year before onset of disordered eating, when compared with controls. Life events were those that were relevant to the adolescent girls and young women and were discrete. For example, moving that resulted in a change of school or friends, significant physical illness,
pregnancy, grief (death of someone close), beginning, or ending a relationship with a boyfriend, sexual abuse or physical abuse. The findings are consistent with a linear trend describing the relationship between the number of life events and case status, such that the greater the number of events, the greater the likelihood of a participant being a BN case, $\chi^2 (1, N = 298) = 17.48, p < .001$. In this study, onset was defined as the age of the woman when her eating first became significantly disordered (i.e., she began one or more of the following forms of behavior: sustained dieting lasting 3 months or more to control her shape or weight; self-induced vomiting or laxative use to control shape or weight; or regular episodes of 'objective' eating for a period of 3 months or more).

Onset age was determined by the life event that the women with BN ($M =$ age 16 years, $SD = 3.9$) identified as the first feature of an eating disorder (i.e., prolonged dieting, regular overeating, self-induced vomiting or laxative use, history of AN/low weight maintenance). Events especially common among BN cases were disruption of family and social relationships, and threat to physical safety. This study was retrospective in design and thus subject to bias related to recall. The interview techniques attempted to minimize bias by accepting events that were clearly definable and discrete. A second limitation was that the interviewers were not blind to the case status of the participants. Minimization of bias was attempted through discussions with raters after each interview and a flexible but standard approach was used. The study did not examine daily hassles and the authors did not control for the effects of depression.

Another study (Schmidt et al., 1997) examined life events and onset of eating disorders within a clinical population (AN; $n = 72$; BN; $n = 29$, $M$ age = 20 years). The data were compared to a community sample from the Camberwell cohort of Brown and
Harris (1978). This cohort included data on 28 women of comparable age and social class background. However, to better match the data on sexuality characteristics a more recent cohort of single mothers or women with husbands in manual occupations who took part in an intergenerational study in Islington in the late 1980s was used. This cohort was a very different social class to the participants. An extended version of the Life Events and Difficulties Schedule (LEDS; Brown & Harris, 1978), a semi-structured interview technique, was utilized. Onset was defined as: weight loss of greater than 15%, amenorrhoea, the start of binges or self-induced vomiting, or laxative abuse, whichever occurred first. Serious life stresses occurred most commonly in the area of close relationships with family and friends (AN = 36%; BN = 41%) followed by health problems (AN = 28%; BN = 35%). The AN group were indirectly involved in the relationship problems, which was usually between two or more significant others (triangulation); whereas with the BN group, individuals were directly involved with relationship problems. Overall 67% to 76% experienced at least one severe event in the year before onset. Life events were rated as severe if they continued to have a high threat rating for at least 10 to 14 days after the event had occurred. The authors suggested that severe life stress is important in the onset of eating disorders but did not examine daily hassles. Two other limitations of the study were that depression was not controlled for and eating disorders were not operationalized along a continuum and thus subclinical participants were excluded.

Schmidt, Troop, and Treasure (1999) reanalyzed previously published data (Schmidt et al., 1997) to examine whether differences between emerging adulthood women whose eating disorder did or did not develop in response to a severe stressful
event and found no difference. The LEDS was used to assess the range of life event stressors. Because severe life events and gross deficits in parenting did not seem to be responsible for onset of eating disorders in this clinical group, it was concluded that other mechanisms were responsible. To shed light on what mechanisms contribute to the onset of eating disorders, the authors suggested that future studies should include measurement of more subtle variables, such as critical comments about weight and shape. Limitations of this study include a small adult clinical sample that was not matched with a control group. Age of onset was defined according to clinical terms and may have been later than initial eating disturbances or problems that may be associated with a stressor. Furthermore, the clinical definition of onset may have precluded events that occurred earlier in life that contributed to the eating disorder symptoms. Also, severely ill women may fail to remember events or report events that are relevant. Finally, this study did not control for depression and did not operationalize eating disorders along a continuum, thus individuals with subclinical symptoms of eating disordered behavior were excluded.

Similarly, Strober (1984) studied a clinical population of female adolescents ($M_{\text{age}} = 15.6$ years) and found that those with BN (DSM-III; $n = 25$) experienced significantly more life stress than those with AN (DSM-III; $n = 25$) in a 6-month period preceding onset. A semistructured interview drawn from Coddington (1971) was used to assess 42 life events during the 18 months prior to the onset of the eating disorder. Total LCU score was correlated with a four-point rating of the severity of depression of participants at intake, reasoning that the most highly stressed participants would also exhibit increased signs of depressive affect. Bulimics experienced 2.5 times the
magnitude of life stress observed in normal adolescents for a similar time period. Life Change Units (LCU) and severity of BN were significantly correlated, \( r (23) = .58, p < .01 \). Results of the analysis of variance (ANOVA) revealed a substantial difference between the two groups. A Group by Time ANOVA with repeated measures on the time factors showed a strong main effect of Group, \( F (1, 48) = 142.87, p < .001 \), and a significant Group by Time interaction, \( F (2, 96) = 4.23, p < .025 \), indicating that the BN group experienced considerably more stressful life event changes prior to illness onset, compared with restricters, and that the two groups differed with respect to the temporal pattern of LCU scores.

Stress events experienced more frequently by participants with BN included alienation by peers, marital discord, bickering with parents, personal illness requiring hospitalization, serious illness in a parent, involvement with drugs, increased absence of father from the home, and personal disappointment in the area of school activities.

Onset was defined as the date of appearance of compulsive dieting and preoccupation with "fat." Alternatively, onset for participants who experienced bulimic episodes before the development of anorectic symptoms was defined as the date of appearance of binge eating. Only participants relatively early in their illness were studied (less than one year). Two strength of this study were the inclusion of participants who were within one year of the onset of their illness and partialing out depression. A limitation of this study was the small number of participants. In addition, researchers could not be sure participant's life event accounts were not biased by recall effects. The literature indicates BN and AN tend to be biased in the direction of over-reporting (BN) versus under-reporting (AN) (Strober, 1983). Finally, eating disorders were not operationalized
along a continuum and thus information about subclinical forms of eating disorders was not available.

Tanofsky-Kraff, Wilfrey, and Spurrell, (2000) studied female undergraduate responses to interpersonal stress ($M$ age = 18.5, years, $SD = 0.9, N = 82$). The study required participants to be subjected to one of four group experiments; control, failure manipulation, speech threat manipulation, and interpersonal manipulation. The interpersonal manipulation ($n = 22$) involved having their remarks dismissed in conversation with confederates. After the manipulation, participants completed a Sensation Questionnaire (Heatherton, Striepe, & Wittenberg, 1998) designed to assess mood states. Participants then completed a “taste perception” task, which involved eating ice cream. Finally, the Revised Restraint Scale (RSS; Herman & Polivy, 1980) was given to assess dieting and demographics. Surprisingly, a 2 (restraint) by 4 (condition) ANOVA on grams of ice cream eaten revealed no differences between amount of ice cream eaten by restrained and unrestrained eaters. An independent sample t-test conducted on the group that received the interpersonal manipulation found that restrainers ate more when faced with personally stressful situations, $t (20) = 2.32, p < .05$. The strengths of this study were the use of control groups and the experimental design. However, because of the small sample size, definitive conclusions can not be drawn from these data. The authors also did not examine the influence of mood on eating behaviors. However, this study suggests interpersonal stressors warrant further investigation and may be an important factor associated with female eating disorders.

Some studies have looked at life event schedules as measures of stress, however, Compas et al. (1987) and Rowlison and Felner (1988) suggest that daily hassles are
better predictors of psychopathology than life events. Rosen, Compas, and Tacy (1993) examined the relationship between stress, psychological distress, and eating symptoms over 4 months with 143 adolescent females (Mage = 15.9 years, SD = 1.1, grades were as follows 9th = 15%, 10th = 26%, 11th = 36%, and 12th = 23%). Participants completed the Eating Attitudes Test (EAT-26; Garner, Olmsted, Bohr, & Garfinkel, 1982), and the Adolescent Perceived Events Scale (APES; Compas, Davis, Forsythe, & Wagner, 1987) to indicate which of 205 major events and daily hassles occurred in the last 3 months. The effects of stress (205 major events and daily hassles over the past 3 months) and psychological symptoms on eating disorder symptoms at Time 2 were examined controlling for Time 1 eating disorder symptoms. Hierarchical multiple regression (HMR) analysis showed that both baseline level of eating disorder symptoms and Time 2 stress emerged as significant unique predictors of eating disorder symptoms at Time 2.

The authors also looked at the effects of eating disorder symptoms on stress (205 major events and daily hassles over the past 3 months) and psychological symptoms at Time 2, controlling for Time 1 stress and psychological symptoms. Stress was entered in the second step (HMR) due to its established relation with psychological symptoms. Time 2, stress emerged as a significant unique predictor of psychological symptoms at Time 2 and eating disorder symptoms at Time 2 accounted for a significant amount of the unique variance in stress at Time 2.

The effects of stress and psychological symptoms at Time 1 were used to predict eating disorder symptoms at Time 2, controlling for prior levels of eating disorder symptoms. This design is less affected by possible confounds between the dependent
and independent variables than when they are assessed concurrently. Only the baseline level of eating disorder symptoms was a significant unique predictor, $R^2 = .21$, $p < .0001$, furthermore psychological symptoms did not contribute significantly to the prediction of future eating disorder symptoms.

Next, the effects of Time 1 eating disorder symptoms and stress (205 major events and daily hassles over the past 3 months) as predictors of psychological symptoms at Time 2 were examined, with psychological symptoms at Time 1 controlled. Stress and eating disorders symptoms were entered in the second and third steps, respectively. The baseline predictor variable psychological symptoms was a significant predictor, $R^2 = .05$, $p < .01$, and the unique contribution of Time 1 stress approached significance, $R^2 = .03$, $p < .06$.

The Time 1 eating disorder symptoms and psychological symptoms were entered as predictors of stress (205 major events and daily hassles over the past 3 months) at Time 2 (4 months later) with Time 1 controlled for. Eating disorder symptoms at Time 1 accounted for a significant amount of unique variance in stress at Time 2, $R^2 = .05$, $p < .01$, even beyond the incremental contribution of baseline stress, $R^2 = .15$, $p < .001$, and psychological symptoms, $R^2 = .061$, $p < .01$. Thus, the results of the prospective analyses indicate that stress and psychological symptoms do not contribute uniquely to the prediction of future levels of eating disorder symptoms. In contrast, eating disorder symptoms were found to contribute uniquely to the prediction of future stress levels, but not psychological symptoms. Thus, eating disorders may predict stressful life events and daily hassles rather than, stress predicting eating disorders.
Furthermore, post hoc regression analyses of eating disorders and psychological symptoms failed to show concurrent and prospective relationships between the two predictor variables, when other predictor variables were controlled. The authors suggested the possibility that these relations were accounted for by the shared variance of one or both of these variables with stress. One limitation of the study was the lack of control for the effects of depression on eating disorders and stressors. Another limitation of this study was the inability of the stress checklist (APES) to distinguish between life events and daily hassles. Thus, from the data provided it was not possible to determine if life events or daily hassles (intensity or frequency) or a combination are more relevant to adolescent experiences. In addition, the generalizability of the data to other populations is limited, as the sample was restricted to adolescents residing in live-in preparatory schools. However, there are two characteristics of this population that make them more representative of the emerging adulthood than the adolescence period; the sample lived demographically away from their families and thus had greater freedom to explore identity factors.

Wolff, Crosby, Roberts, and Wittrock (2000) used daily monitoring of stress, coping, mood, and eating behavior in binge eating (n = 20, M age = 19.5 years) and nonbinge eating (n = 20, M age = 21.3 years) college women over 21 days. A t-test indicated there were no significant differences in age t (37) = -1.94, p < .063. The Daily Stress Inventory (DSI; Brantley & Jones, 1989) was used to assess stress from daily activities over 7 consecutive days. Two scores were derived from the DSI, one derived from the event (i.e., total number of stressful events experienced) and the Impact (i.e., a scale ranged from 1 occurred but was not stressful to 7 caused me to panic). The Daily
Coping Questionnaire (DCQ; Stone & Neale, 1984) asked participants to describe their most bothersome event of the day. Eight coping strategies were presented, and participants indicated which of the eight they used to deal with the bothersome event. In addition, a ninth category was added (i.e., I tried to make myself feel better by eating, drinking, smoking, using drugs, etc.). The Profile of Mood State (POMS; Lorr & McNair, 1971) and Daily Eating Measure (Cochrane, et al., 1996) were used in the study.

A multilevel analysis was used to compare binge eaters and controls on measures of daily stress, mood, coping and eating behaviors using SAS Proc Mixed. The dependent variables for between-group comparisons included the DSI (stress), DCQ (coping), mood measure, and daily eating measure. The modeling included a random intercept and a random effect for study day and fixed effect for study group (binge versus control). The binge group reported higher stress ratings for its most bothersome event of the day, \( F(1, 735) = 17.08, p < .0001 \). Between-group comparison for the DSI revealed significant differences for the total number of stressful events, \( F(1,735) = 17.27, p < .0001 \), and the impact score for these events, \( F(1,735) = 30.91, p < .0001 \), with a higher number of stressful events and a greater impact of these events reported for the binge group. On binge days, the number of stressors varied (e.g., hurried to meet a deadline, was criticized or verbally attacked) and was similar to nonbinge days, but the women perceived them to be more intense. This suggests that women who binge eat have a higher stress level overall and appraise stressful events as more severe than women who report having normal eating patterns.
A strength of the study is the investigation of daily stressors (hassles) and their severity. The authors did not base their study on Lazarus's model and this limited the theoretical strength of their study. Procedures to ensure accuracy of the daily monitoring method were a concern. The average total number of days on which respondents provided ratings was 18 of the possible 21 days. Thus, researchers need to develop objective ways of knowing whether participants completed the monitoring correctly and at the specified time of day they were instructed to do so. Finally, the authors did not conceptualize eating disorders along a continuum of eating behaviors; thus, a narrow range of eating behaviors was examined in this study. This study needs to be replicated to encompass a wider range of eating behaviors.

Shatford and Evans (1986) reported two studies drawing on a nonclinical sample of female students. In study 1, female introductory psychology students \( (N = 144, M \text{ age} = 19.4 \text{ years}) \) completed The Daily Hassles Scale (Kanner, Coyne, Schaefer, & Lazarus, 1981), The Psychiatric Epidemiology Research Interview (Peri; Dohrenwend, Krassnoff, Askenasy, & Dohrenwend; 1978), Measures of Coping (Billings & Moos, 1981), Ways of Coping (Schaefer et al., 1983), The Beck Depression Inventory-Short Form (BDI-SF; Beck & Beck, 1972), the Survey of Eating Patterns, and six other measures representative of the stress process. The authors used a causal modeling approach (LISREL) to analyze the data. The proposed model revealed that: environmental stressors (life events, daily hassles, and severity of hassles), and depression (depression and risk for depression) were associated with BN and maladaptive coping strategies (i.e., avoidance coping). The results of the analysis also indicated that life hassles contributed to BN.
In Study 2, the model was cross-validated with female undergraduate introductory psychology students \((N = 150)\) on the same variables as in Study 1. Coping responses were found to play an important role in mediating between environmental stressors (life events, daily hassles, and severity of hassles) and BN. The model indicated that coping skills were a mediator of stress and that a high frequency of environmental stressors, particularly frequency and intensity of daily hassles and/or presence of depression predicted the expression of BN. A strength of this study is that the authors provide sufficient data to distinguish which type of stressor, life events or daily hassles, and the frequency or severity of daily hassles associated with coping and BN. Furthermore, the type of life events frequently cited by participants were moving away from home and breaking up with a boyfriend. These two events are more characteristic of the emerging adulthood period and also indicate the importance of interpersonal stressors. An additional strength of the study is that the authors examined the role of depression. However, eating disorders were not operationalized along a continuum and thus, information on a wide range of eating disorders was not available.

**Summary**

The life event research associated with eating disorders is contradictory, and inconclusive. Life event research is difficult to interpret, as most studies do not have controlled comparisons, lack consistent definitions of disordered eating onset, do not control for depression and do not include participants along the continuum of eating disorders. Life event research also tends to focus on severe events rather than every day stressors such as daily hassles, or negative comments from significant others, which may impact young women. As a consequence, some life event researchers have
suggested that life events research be discarded (Schmidt et al., 1999). Schmidt concluded that daily hassles are more relevant to women with eating disorders and require further exploration. Shatford and Evans (1986) examined both life events and daily hassles and found daily hassles (frequency and intensity) were associated with disordered eating. Furthermore, research indicates that interpersonal stress has an important relationship associated with eating disorders.

Because stress symptoms appear to be more strongly related to level of daily hassles than to traumatic events (Swearingen & Cohen, 1985), the present study focused on the role of daily hassles in disordered eating. If critical comments are viewed objectively or subjectively as how people perceive the comment and as being negative then the comment is a daily hassle. Comments made by peers, family, and significant others (i.e., coach) about the female body, shape, or weight may also be stressors, while controlling for the effects of depression. Thus, the extent to which, comments made about body shape, weight, and the need to diet is associated with eating behaviors was examined. Although, the direction and intensity of the relationship between stressors (daily hassles and comments) and eating disorders remains unclear, the results of the present study may help in understanding the role stress with eating disorders.

**Coping Strategies**

There are two approaches to coping, one that suggests coping is a trait or personality characteristic (the interindividual approach) and another that emphasizes coping as a process (the intraindividual approach). The intraindividual approach involves the person managing stress that changes over time and in accordance with the situational contexts in which it occurs (Endler & Parker, 1990b; Lazarus, 1993). Coping
is defined as "cognitive and behavioral efforts to manage the specific environmental and internal demands and conflicts affecting an individual that tax or exceed that individual's resources" (Coyne, Aldwin, & Lazarus, 1981, pp. 441). Lazarus posits two coping functions: (a) emotion-focused coping to regulate distress, and (b) problem-focused coping to manage the problem causing distress (Lazarus, 1993). Other researchers have identified a third function of coping, "relationship focused," which is aimed at the maintenance of relationships and has not been examined in the eating disorder literature to date (O’Brien & DeLongis, 1991, 1996).

The relationship between eating disorders and coping strategies is unclear (Margo, 1985; Strober, 1984) although coping has been hypothesized to contribute to the relationship between stressful life events and eating disorders (Troop, Holbrey, Trowler & Treasure, 1994). There are only a few studies on the nature of the relationship between coping and eating disorders. Fryer et al. (1997) studied 208 adolescent females ($M$ age = 14.7 years, $SD = 0.6$). The Adolescent Life Experiences Survey (LESA), a version of the Life Experiences Survey (Sarason, Johnson, & Seigel, 1978), which consists of 56 items reflecting life events and daily hassles in the past 6 months, was used to assess life events and daily hassles. In addition, The Adolescent Ways of Coping Checklist (WCCA), a version of the Ways of Coping Checklist—Revised for use with adolescents was used (Vitaliano et al., 1985) was used. Other measures included the Setting Conditions for Anorexia Nervosa Scale (SCANS; Slade & Dewey, 1986) and the EAT-26. Results of multiple regression analysis showed that a high level of stress, as measured by 56 life events and daily hassles (LESA) (but not coping), was associated with disturbed eating attitudes, $F (2, 241) = 27.0, p < .001.$
In contrast, path analysis showed that an higher levels of stressors, $\beta = .44$, and emotion-focused coping, $\beta = .19$, resulted in lower levels of self esteem which in turn led (mediated) to more disturbed eating attitudes, $\beta = .49$. Thus, the relationship between coping and eating psychopathology was indirect, contrary to other findings (i.e., Shatford & Evans, 1986; Troop et al., 1994). However, Fryer et al. (1997) did not examine the effects of depression on coping and eating disorders. In addition, life events and daily hassles were not analyzed separately thus, conclusions about the types of stressors cannot be drawn. However, the authors concluded that the use of stress management and coping interventions in the treatment of eating disorders was supported by their findings.

Shatford and Evans (1986) reported two studies drawing on a nonclinical sample of female students. In study 1, female introductory psychology students ($N = 144, M$ age = 19.4 years) completed The Daily Hassles Scale (Kanner, Coyne, Schaefer, & Lazarus, 1981), The Psychiatric Epidemiology Research Interview (Peri; Dohrenwend, Krassnoff, Askenasy, & Dohrenwend; 1978), Measures of Coping (Billings & Moos, 1981), Ways of Coping (Schaefer et al., 1983), The Beck Depression Inventory-Short Form (BDI-SF; Beck & Beck, 1972), the Survey of Eating Patterns, and six other measures representative of the stress process. The authors used a causal modeling approach (LISREL) to analyze the data. The proposed model revealed that environmental stressors (life events, daily hassles, and severity of hassles), and depression (depression and risk for depression) were associated with BN and maladaptive coping strategies (i.e., avoidance coping). The results of the analysis also indicated that avoidance coping contributed to BN.
In Study 2, the model was cross-validated with female undergraduate introductory psychology students \((N = 150)\) on the same variables as in Study 1. Coping responses were found to play an important role in mediating between environmental stressors (life events, daily hassles, and severity of hassles) and BN. The model indicated that coping skills were a mediator of stress and that a high frequency of environmental stressors particularly daily hassles, \(\beta = .85, p < .01\), and/or presence of depression predicted the expression of BN. The study also provided evidence that avoidance-focused coping significantly contributed to BN, \(\beta = .40, p < .01\). Significant levels were not obtained for problem-focused coping but it was reported women to be used less often. These results also support Billings and Moos's (1981) findings that avoidance coping responses detrimentally influence an individual’s functioning. A strength of the study was the inclusion of depression. However, eating disorders were not operationalized along a continuum and thus, information on a wide range of eating disorders was not available.

Neckowitz and Morrison (1991) examined coping in response to an interpersonal (intimate and non-intimate) stressor in a community sample of disordered eating (BN; \(n = 28; M\ age = 19.2\) years) and control group \((n = 30, M\ age = 20\) years) and found that the BN group used escape-avoidant coping in both types of situations. The authors used a life-history questionnaire based on the DSM-III to classify participants disordered eating, the revised Ways of Coping Questionnaire (WCQ; Lazarus & Folkman, 1984) to assess coping in responses to two self selected stressful encounters over the past 3 months. A questionnaire to examine appraisal and anticipatory emotions was designed for the study. A 2 by 2 ANOVA found that the
bulimic women reported greater use of escape-avoidance coping, \( F(1, 56) = 9.79, p < .01 \). No differences were found between the control and bulimic groups on the measure of social support coping. The strengths of this study are that the authors examined an interpersonal stressor and compared a community sample of women with disordered and nondisordered eating. Two limitations of the investigation were that the influence of depression was not accounted for and a broad range of eating disorders were not examined.

Denisoff and Endler (2000) looked at different trait coping styles in young adult women \((N = 206, M \text{ age } = 23.3 \text{ years}; SD = 5.5, \text{ and age range of 19 to 55 years})\) and found that emotion-oriented coping predicted weight preoccupation, regardless of stress. These authors used the Life Experiences Survey (LES, Sarason et al., 1978), which assesses life events over the past 12 months, the Eating Disorder Inventory (EDI; Garner & Olmsted, 1984), and the Coping Inventory for Stressful Situations (CISS; Endler & Parker, 1999), which assesses three coping styles: task, emotion, and avoidance (including subscales of distraction and social diversion). Weight preoccupation is considered to be a risk factor for eating disorders. Results of an hierarchical regression analysis indicated that the first block of the model; four coping scales (task, emotion, distraction, social diversion) and negative life stress was significant, \( F(10, 205) = 11.49, p < .001 \). Entering the coping measures and negative life stress into the regression equation resulted in an \( R^2 \) change of .22. In addition, three (emotion, distraction, and social division) of these five predictors were statistically significant. Emotion coping, \( \beta = .31, p < .001 \), and distraction, \( \beta = .16, p = .05 \), were positively related and social diversion was a significant negatively related, \( \beta = -.21, p < \).
.01, to weight preoccupation. Negative life stress was not a significant predictor of weight preoccupation once coping styles were controlled.

Emotion-focused coping uniquely explained 7% of the variation in weight preoccupation. However, the hierarchical regression analysis indicated that interactions between stress and each coping styles were not significant predictors of weight preoccupation. Thus, these findings suggest the coping strategies have more impact on health than the mere presence of stress.

The generalizability of the study was limited because their sample of university students had not been diagnosed with eating disorders or formally screened for the presence of eating disorders, thus it is impossible to determine if a broad spectrum or continuum of eating disordered behaviors were represented. A further limitation is that authors did not examine daily hassles, which have been found to be more strongly associated to stress symptoms than life events. The authors conceptualized coping as a trait, which assumes that an individual is predisposed to cope with a particular style and is not founded on Lazarus’s theoretical model. In addition, the order of presentation of questionnaires was not randomized and may have influenced responses.

Utilizing an earlier version of the CISS (Endler & Parker, 1990a), Janzen, Kelly, and Saklofske (1992) studied a nonclinical sample of female students (N = 164, Mage = 20.1 years, SD = 3.9) and found that those who reported greater bulimic symptoms were more likely to respond to stressful situations with emotionality, increased self-focus, and fantasy. Bulimic symptoms were measured using the Bulimia Test – Revised (BULIT-R; Thelen, Farmer, Wonderlich, & Smith, 1991). Using simultaneous multiple regression analyses, the authors found a positive, but not a statistically significant
relationship between bulimic symptoms and avoidance-oriented coping, contrary to the results of Shatford and Evans (1986). Task focused coping (problem-focused coping) showed a negative relationship, but not statistically a significant relationship with bulimic symptoms. The conflicting results may be due to the different measures being utilized in each of the studies and that Janzen et al. did not control for depression. This suggests that more research is needed to examine the relationship between disordered eating and coping behaviors.

In another study, Koff and Sangani (1997) studied 128 college women (mostly first and second year undergraduate students) and used a trait measure for coping (CISS; Endler & Parker, 1992) and the EAT-26 to measures attitudes. The authors found that emotion-oriented coping was associated with higher EAT-26 scores, \( r = .38 \). Moreover, HMR analysis showed that emotion-focused coping was significantly associated with high Eat scores, \( \beta = .24, p < .01 \), regardless of the level of body dissatisfaction. Koff and Sangani suggest that emotional coping should be considered a risk factor for eating disturbance. However, the authors did not control for depression. The authors also did not examine eating behaviors along a continuum and thus a broad spectrum of disordered eating was not represented. The study was limited by the trait approach used to measure coping, which assumes an individual is predisposed to cope with particular style across situations and is not founded on Lazarus’s theoretical model.

Ghaderi and Scott (2000) studied women \( (N = 1157, \text{ranging in age from 18-30 years}) \) in the Swedish general population and focused on a state approach to coping. Participants were split into five groups; participants with past (EDPa) or current eating disorders (EDCr), and participants with no eating disorders but with past (DietPa),
current (Diet Cr), or no history of dieting (control). The answered questionnaires were:
(a) a slightly modified version of a self-report questionnaire based on DSM-IV used in a
population based study of eating disorders (Gotestam & Agras, 1995), (b) the revised
version of the Ways of Coping Questionnaire (WCQ; Folkman & Lazarus, 1988)
assessing coping strategies in response to stressors of everyday life, and (c) frequency
of depressive symptoms during the past 6 months (using a 5-point Likert scale). The
participants with past or current eating disorders had significantly higher levels of
escape avoidance and lower levels of seeking social support and purposeful problem
solving compared with the other groups. An analysis of covariance (ANCOVA) showed
that once depression was controlled for the only significant difference between the
groups, $F(4,953) = 2.4, p < .047$, was the escape avoidance variable. The EDPa, EDCr,
and DietCr subgroups used significantly more escape avoidance than the controls. The
EDPa ($p < .009$), EDCr ($p < .000$) and DietCr ($p < .047$) used significantly more escape
avoidance than the controls. Furthermore, the EDCr used significantly more escape
avoidance than the DietPa ($p < .003$) and DietCr ($p < .037$). Thus, even respondents
with a history of dieting but no eating disorder used more escape avoidance, compared
with controls.

The findings in this study suggest that the increased proportional use of escape-
avoidance coping among women with an eating disorder and women with current
dieting behaviors compared to controls, is more related to dieting and eating problems
than to depressive symptoms. The authors suggested that dieting is a risk factor for
eating disorders and that there may be a change in coping strategies when young
females start to diet (Patton et al., 1990). Moreover avoidance coping may play a
significant role in disordered eating if dieting participants continue to diet and develop an eating disorder. Thus, greater use of escape avoidance coping is expected to predict greater disordered eating. This study highlights the need to control for depression and the importance of avoidance coping in studies of eating disorders.

Avoidance coping comprises efforts to regulate emotions and is considered an emotion-focused type of coping strategy. The use of emotional-focused coping or escape avoidance and the inability to regulate negative feelings has been associated with eating disorders (Janzen, Kelly, & Saklofske, 1992; Shatford & Evans, 1986; Troop et al., 1998; Troop et al., 1994; Striegel-Moore, Silberstein, & Rodon, 1986). There are several possible mechanisms that may explain the role of avoidance coping and eating disorders. Heatherton & Baumeister's (1991) Restraint Model focuses on the role of emotions in precipitating binge eating, describing the behavior as an attempt to escape awareness of negative emotional states. However, Ghaderi and Scott (2000) controlled for depression in their study. An alternative explanation described by Striegel-Moore (1995) is The Interpersonal Vulnerability Model, which entails a developmental sequence from inadequate child-caregiver interactions, to insecure attachments, to disturbance in identity and dysfunctional interpersonal relationships. It may be that more adaptive coping skills are needed for assertiveness in interpersonal relationships. Women are more apt to employ emotion-focused or avoidance-oriented strategies than men, who tend to rely on more problem-focused coping (Endler & Parker, 1990a).

There is some evidence that women are also more relational than men which leaves them highly vulnerable to other’s opinions of them (Striegel-Moore et al., 1986). A woman’s failed effort to find mutuality and understanding in a relationship represents
a fundamental challenge to her identity and may result in self-blame and low self-
esteeem (Jordan, 1997). When stressful conditions are viewed by a person as
unmanageable to change, emotion-focused coping predominates (Lazarus, 1993). The
suppression of negative feelings and a focus on mutual understanding may minimize a
woman’s needs and be related to negative feelings and thoughts about her body (Geller,
Cockell, Hewitt, & Goldner, 2000).

The use of avoidance coping has been associated with increased distress in both
community and clinical samples of disordered eating (Troop et al., 1994). Ghaderi and
Scott (2000) indicated that an increased use of escape avoidance among current dieters
and participants with an eating disorder may be the result of the unattainable goals of
controlling weight, body image, as well as the biological rebound-effects of dieting,
binge eating, starvation, and purging, which makes the goals more and more
unattainable. They conclude that the increased use of escape-avoidance coping in
dieting and eating disorder participants indicates a need for training in more adaptive
strategies for both clinical and prevention treatment of eating disorders and maladaptive
dieting.

A strength of Ghaderi and Scott’s (2000) study was the sample was followed
longitudinally so that questions may be answered about causality and clinical
significance of the complex relationship between coping, dieting, eating disorders, and
depressive symptoms. Another, strength of Ghaderi and Scott’s study was the use of a
state coping measure, which assesses how people cope with different situations and is
supported theoretically with Lazarus’s model. The authors also used a procedure for
establishing diagnoses that was very conservative, and they conceptualized eating
disorders across a broad spectrum of eating behaviors, thus there was a representation of
a range of eating behaviors. A limitation of this study is the non-standardized measure
used to assess depression. The authors also did not indicate if respondents were asked to
recall a general or specific stressor and over what time period (e.g., past month?).

In a study of an adult clinical population, Yager, Rorty, and Rossotto (1995)
studied women ($n = 40$ for each group, ranging in age from 23 to 25 years) with active
BN ($M_{age} = 23.6$ years, $SD = 4.1$) compared to recovered BN ($M_{age} = 25.7$ years, $SD$
$= 4.0$) and control groups ($M_{age} = 24.2$ years, $SD = 4.3$). The authors used EAT-
SADS-L, a version of the schedule for affective disorders and schizophrenia (Spitzer &
Endicott, 1979), to diagnose eating disorders according to DSM-IV criteria. The COPE
was used to assess dispositional coping styles (COPE; Carver, Scheier, & Wientraub,
1989), and the Beck Depression Inventory (BDI; Beck et al., 1961) to assess depression.
A MANOVA found significant differences on the three groups on subscales of COPE,
$F(30, 204) = 1.94, p < .005$. Univariate analysis revealed that the active bulimic group
differed from the recovered bulimic group and the controls on one or both groups on
five subscales; active coping, planning, seeking emotional support, focusing on and
venting of emotions. The results of multivariate analysis of covariance (MANCOVA)
using BDI as a covariate revealed that the between-group differences remained for all
scales for which differences had previously appeared, with the exception of behavioral
disengagement.

However, exploratory between group differences on individual scales were
examined and differences between the 30 fully recovered women and the 10
behaviorally recovered women. Fully recovered women engaged in more active
coping, $F(1, 38) = 5.34, p < .05$, and tended to score lower on mental disengagement than the behaviorally recovered women. After covariation of BDI, fully recovered participants continued to score significantly higher on active coping, $F(1, 38) = 4.11, p < .05$, and marginally lower on mental disengagement, $F(1, 38) = 3.08, p < .10$.

A HMR analysis showed active coping (non significant), planning seeking, $\beta = -.24, p < .05$, emotional support, $\beta = -.23, p < .01$, and focusing on and venting emotions (non significant) predicted BN and food preoccupation when controlling for depression, $F(3, 115) = 17.85, p < .0001$. Entering the four predictor variables into the regression equation produced an $R^2 = .32$. Poorer coping in terms of less planning and less seeking emotional support was significantly predictive of BN and food preoccupation for women with a lifetime history. This is in line with the view that recovery occurs along a continuum and is a gradual process, and may be promoted by planned, active approaches to problem solving.

The authors also suggested that the importance of social relationships in recovery is consistent with a recent study finding that pretreatment social adjustment was a specific predictor of treatment response among BN (Steiger, Leung, Ross, & Gulko, 1997). A limitation is that COPE has not been used in other eating disordered studies, thus no comparison data are available. Also, the participants may not be representative of a clinical population as their BDI scores were lower than would be expected. For example, recovered women's BDI scores appeared low for individuals (BID; $M_{\text{age}} = 8.4$ years, $SD = 7.81$) in remission from a disorder that is associated with substantial psychiatric comorbidity (Yager et al., 1995).
Troop et al. (1994) studied a clinical population and utilized the BDI, EDI (Garner et al., 1983), and the Binge Investigatory Test Edinburgh (BITE; Henderson, & Freeman, 1987), to assess depression and eating disorder attitudes and behaviors. Participants were 24 women with AN, 66 women with BN, and 30 women without an eating disorder (DSM-IV). In addition, the revised Ways of Coping Checklist (Vitaliano et al., 1983) was used to measure coping with a self-nominated problem in AN and BN and a non-clinical group. Three one-way MANOVAs showed that there was a main effect of group on coping, $F = 2.92, p < .005$. Univariate analyses indicated group differences on strategies of wishful thinking, $F (2, 112) = 4.73, p < .05$, avoidance, $F (2, 122) = 6.36, p < .005$, and seeking social support, $F (2, 112) = 9.71, p < .001$, with the effect for group on problem-focused coping approaching statistical significance. Participants with BN and AN use proportionately more avoidance coping than controls. The BN group also sought less social support than the control group. Although coping failed to predict severity of eating disorder, the BDI scores were positively related to avoidant coping (avoidance in BN group and wishful thinking in AN group) and inversely related to problem-focused coping and seeking social support (failed to reach statistical significance for AN group). This study provides some support for the expectation that avoidance coping, and social support may predict greater disordered eating symptoms. A strength of this study was the inclusion of depression in the investigation. This study needs to be replicated to encompass a wider range of eating behaviors.

Wolff, Crosby, Roberts, and Wittrock (2000) used daily monitoring of stress, coping, mood, and eating behavior in binge eating ($n = 20, M$ age = 19.5 years) and
nonbinge eating ($n = 20, M$ age $= 21.3$ years) college women over 21 days. A t-test indicated there were no significant differences in age $t(37) = -1.94, p < .063$. The Daily Stress Inventory (DSI; Brantley & Jones, 1989) was used to assess stress from daily activities over 7 consecutive days. Two scores were derived from the DSI, one derived from the event (i.e., total number of stressful events experienced) and the Impact (i.e., a scale ranged from 1 occurred but was not stressful to 7 caused me to panic). The Daily Coping Questionnaire (DCQ; Stone & Neale, 1984) asked participants to describe their most bothersome event of the day. Eight coping strategies were presented, and participants indicated which of the eight they used to deal with the bothersome event. In addition, a ninth category was added (i.e., I tried to make myself feel better by eating, drinking, smoking, using drugs, etc.). The Profile of Mood State (POMS; Lorr & McNair, 1971) and Daily Eating Measure (Cochrane, et al., 1996) were used in the study.

A multilevel analysis was used to compare binge eaters and controls on measures of daily stress, mood, coping and eating behaviors using SAS Proc Mixed. The dependent variables for between-group comparisons included the DSI (stress), DCQ (coping), mood measure, and daily eating measure. The modeling included a random intercept and a random effect for study day and fixed effect for study group (binge versus control). Means in the DCQ indicated that the binge group reported using more coping strategies, $F(1,735) = 9.10, p < .0026$; however, when the avoidance coping strategy was removed from the analysis, the groups were not significantly different in the number of coping strategies.
The authors indicated that the DCQ includes eight general coping strategies, and is not particularly sensitive to avoidance strategies that may be used by binge eaters. In addition, the authors did not base their study on Lazarus's model and this limited the theoretical strength of their study. Procedures to ensure accuracy of the daily monitoring method were a concern. The average total number of days on which respondents provided ratings was 18 of the possible 21 days. Thus, researchers need to develop objective ways of knowing whether participants completed the monitoring correctly and at the specified time of day they were instructed to do so. Finally, the authors did not conceptualize eating disorders along a continuum of eating behaviors; thus, a narrow range of eating behaviors was examined in this study. This study needs to be replicated to encompass a wider range of eating behaviors and the coping instrument needs further examination.

Paxton and Diggens (1997) studied 149 female undergraduates who were classified into three groups control (nonrestrained/nonbinge) \( (n = 73) \), restrained (restrained/nonbinge eating) \( (n = 61) \), and binge eating (restrained/binge eating) \( (n = 15) \) groups \( (M_{age} = 20.5 \text{ years}, SD = 3.9) \). The Restraint scale of the Dutch Eating Behavior Questionnaire (DEBQ; Van Strein, Frijters, Bergers, & Defares, 1986) was used to identify restrainers. The authors used a scale developed from the Bulimia Test (BUILT; Smith & Thelen, 1984) to classify binge eaters. The WCQ assessed coping strategies and the BDI was used to assess depression. Two subscales of avoidance coping (wishful thinking and emotional-avoidance scales) and two subscales of problem-focused coping (positive reappraisal and planful problem solving) were derived from principal component analysis of the WCQ. A multivariate analysis of
variance (MANOVA) compared coping strategies and found no significant differences between groups (Wilk’s Lambda, $F(8, 264) = 1.9, p = .06$).

A HMR was conducted to identify whether avoidance-coping strategies were related to binge eating behavior independently of depression. In two separate HMR the BDI scores were first entered into the analyses, followed by either wishful thinking or emotional-avoidance scores in the second step. In both cases the inclusion of BDI scores led to significant increase in $R^2$ (for wishful thinking $\Delta R^2 = .20, F(1, 143) = 36.62, p < .001$); and for emotional-avoidance, $\Delta R^2 = .19, F(2, 145) = 17.50, p < .001$), but the addition of wishful thinking, $R^2 = .21$, and emotional-avoidance, $R^2 = .19$, coping measures did not significantly improve the prediction of binge eating.

Avoidance coping was significantly correlated with the binge eating score ($r = .20, p < .01$), however avoidance coping did not predict binge eating, once the influence of depression was controlled for. Problem-focused coping was not significantly related to either binge eating or depression. The authors suggest that avoidance coping may be associated with disturbed eating behaviors in the early phases of acquiring binge-eating patterns rather than when the binge patterns are fully established. This study did not examine eating behaviors across a continuum, thus it is not possible to determine if coping and eating behaviors are associated among the broader eating disordered population.

**Summary**

In summary, some of the studies on coping and eating disorders suggest that emotion-focused/oriented or avoidance-type strategies are associated with greater disordered eating, and that problem-focused coping is not associated with eating
disorders (Fryer et al., 1997; Ghaderi & Scott, 2000, Shatford & Evans, 1986; Troop et al., 1994; Yager et al., 1995). However, the relationship between coping and eating disorders in the emerging adulthood population is less clear, particularly when examining disturbed eating behaviors along a continuum. Studies lack consistency with respect to the measurement of coping and approaches to coping (trait or state). It is not clear if coping strategies contribute to disordered eating behaviors or can be accounted for by depression. Furthermore, the studies used different stressors, life events, and daily hassles, or a combination of both and generally do not control for depression. Interpersonal stressors and interpersonal coping strategies have been examined in one study, and may be associated with disturbed eating behavior (Neckowitz & Morrison, 1991) but depression was not controlled for in the study. In the present study, after controlling for the effects of depression the role of coping strategies to an interpersonal stressor across a broad spectrum of eating behaviors for female athlete is clarified.

Relationship-Focused Coping

The literature also suggests that the social environment (i.e., preoccupations with other’s perceptions, social network, social support, conflictual interactions, and familial interactions) plays an important role in the development and maintenance of eating disorders (Streigel-Moore, 1995). There is evidence suggesting that the quality and nature of social relations for women with eating disorders is problematic.

Studies of eating disorders have not examined the role of relationship-focused coping efforts that have as their primary goal the maintenance of social relationships. Some studies have examined social support or social environment factors without examining the contribution of relationship-focused coping strategies (e.g., Grissett &
Norvell, 1992; Tiller et al., 1997). To date, most research has focused on two functions of coping: problem-focused and emotion-focused strategies. However, a third function of coping that includes efforts that serve an interpersonal function has been recently conceptualized. This function has been termed relationship-focused coping (O’Brien & DeLongis, 1991, 1996) and refers to modes of coping efforts to manage, regulate, or preserve relationships during stressful periods. Successful coping may also involve maintaining and protecting social relationships, especially when stressors occur in an interpersonal context. To date, relationship-focused coping strategies have not been examined among the eating disorder population.

The Relational Theory and Social Self

The social environment of individuals with eating disorders has been examined from a number of theoretical perspectives: (a) the relational theory and social self, (b) interpersonal network, (b) familial characteristics, and (c) peer and coach influences.

The relational theory of emerging adulthood describes females as defining themselves in relation to others. Women are expected to care more than men about other’s opinions, feelings, and well-being (Miller & Stiver, 1997; Surrey, 1991). When a woman fails to find mutual support and relational understanding, this challenges her identity and results in unwanted emotional states such as self blame and low self esteem (Jordan, 1997). The relational self leaves women vulnerable to other’s expectations, opinions and behaviors towards them (Streigel-Moore, 1995). In addition, women have been shown to have lower levels of discrepancy between their actual-self and the hopes and wishes that they believed others desire of them than their own hopes and wishes for themselves. This other ideal-discrepancy has associated with distress in women but not
in men (Moretti, Rein & Wiebe, 1998). A preoccupation with others’ standards for the self may disrupt the consolidation of an internally based self-esteem and contribute to the development of relational self-esteem and a false self presentation (Moretti, Rein & Wiebe, 1998). Moreover, some authors suggest that female athletes are particularly vulnerable to social pressure, from coaches or peers because of the evaluative nature of sport performance (Berry & Howe, 2000; Sundgot-Borgen, 1994; Williamson et al., 1995).

Streigel-Moore, Silberstein, and Rodin (1986) examined the “social self” hypothesis that suggests eating disordered individuals appear preoccupied with self-presentation, and how others perceive and evaluate them. The Perceived Fraudulence Scale (PFS; Kolligan, & Sternberg, 1991) measures the degree to which one perceives oneself as an imposter and the Self-Consciousness Scale (SCS; Fenigstein, Scheier, & Buss, 1975) pertains to how the participants experienced and reflected on the self. These scales were used to compare a bulimic group (n = 34), high-Eat (scores above the clinical cutoff of 20 or elevated levels of disturbed eating) (n = 33), and control (n = 67) groups (overall M age = 23.4 years, SD = 5.8). They used Eating Attitudes Test (EAT; Garner & Garfinkel, 1979) to assess eating disorder behaviors.

The authors found evidence that suggests that university women with eating disorders are more concerned about how others view them, compared with the control group. The authors also found that perceived fraudulence scores were significantly higher in the bulimic group. Also, the bulimic and high-Eat group scored higher on the Self-Consciousness and social anxiety subscales of the SCS (Fenigstein et al., 1975) and these scores increased with severity of eating disorder. This study supported the
presence of the eating disorder continuum because it involved participants in the high-
Eat group whose scores fell between the controls and the bulimic groups. Two
limitations of this study include the low prevalence of anorexic individuals and the lack
of control for the effects of depression. However, this study emphasized the importance
of social relationships as a potential source of stress among the eating disordered
population.

Several case studies were used to support the view that women with eating
disorders struggle with a desire for connection and a desire for individuation (Romney,
1995). Romney described three cases where each young woman wants to leave home,
yet is not ready to, and desires to remain connected with her mother. In one case,
Lauren develops an eating disorder and must return to her home from college. In
another case, Romney parallels the need to connect and separate with the theme of
competition (e.g., competition between two sisters and their mother, a desire to leave
home and go to college). The third case study involves Buffy, a severe restrictive
bulimic, who publicly was bubbly and vivacious, but privately was depressed and
withdrawn. In most of Buffy’s relationships her withdrawal, distancing, and competitive
strivings were defenses against intimacy and connection. Romney concluded that both
connection and separation are part of the struggle for young women with disordered
eating.

In summary, few studies examining social self have been completed on the
female emerging adulthood population and none have examined the role of relationship-
focused coping. The studies also involve low numbers, lack consistent measures of
eating behaviors, social support, and lack samples of AN. However, interpersonal
relationships appear to be an important concern for females with eating disorders, thus it is important to examine relationship-focused coping.

Interpersonal Network

Tiller et al. (1997) used the Significant Others Scale (SOS; Power, Champion, & Aris, 1988) to measure the emotional and practical aspects of social support. The authors found that women with AN ($n = 44; M_{age} = 25.3$ years, $SD = 6.6$), and BN ($n = 81; M_{age} = 26.3$ years, $SD = 6.3$) had smaller primary social networks (family and friends) than controls ($n = 86; M_{age} = 22.0$ years, $SD = 3.7$). In addition, the BN group perceived these relationships to be less adequate than controls, whereas individuals in the AN group found the relationships to be adequate.

Rorty, Yager, Buckwalter, and Rossootto’s (1998) study of active bulimia ($n = 40, M_{age} = 23.6$ years, $SD = 4.0$), remission bulimia ($n= 40, M_{age} = 25.7$ years, $SD = 4.0$), and a comparison group ($M_{age} = 24.8$ years, $SD = 4.3$) found the active bulimic group had significantly fewer friends in their networks available to provide emotional support, $F(2, 115) = 7.28, p < .05$, although the groups were equivalent in the number of persons available to provide things and advice (practical support). The authors used the EAT-SADS-L, to diagnose eating disorders according to DSM-IV criteria. The modified version of the Social Support Questionnaire (SSQ; Grant, Patterson, & Yager, 1988) was administered by face-to-face interviews and indicates participant’s social support network, size, and quality. ANOVA showed that both bulimic groups were significantly less satisfied with the emotional support received from relatives, $F(2,115) = 7.69, p < .001$. This study reached fairly similar conclusions to other studies (e.g., Grisset & Norvell, 1992; Tiller et al., 1997) using different methodology and thus adds
support to a small but growing literature regarding the validity of perceived lack of social support among eating disordered populations. However, the authors did not examine the effects of depression on social support and disordered eating. The authors also did not investigate the relationship-focused coping strategies of the participants to help clarify the role of coping in an eating disordered population nor did they assess the participant's ability to draw on social support when stressed. In the present study, both relationship focused coping and social support coping are examined, while controlling for the effects of depression.

**Family Characteristics**

Stice (1998) examined the role of social influences of multiple socialization agents on the promotion of bulimic pathology in young adult females ($N = 114$, *Mode* age = 18 years, *range* = 17 to 29 years). Participants reported the amount of pressure to be thin they perceived from family, peers, and the media on the perceived sociocultural pressure scale (Stice, Ziemba, Margolis, & Flick, 1996) and a scale assessing perceived family, peer, and modeling of abnormal eating behaviors was created for the study, the bulimia test revised BUILT-R, and the bulimia scale of the eating attitudes test EAT-26. Stice defined social reinforcement as comments or actions of others that serve to support and perpetuate the thin ideal body image for women, such as criticism regarding weight and encouragement to diet. He suggested that social reinforcement promotes an internalization of the thin ideal and body dissatisfaction, resulting in eating pathology. HMR showed that family, peer, and media social reinforcement of the thin-ideal were positively related to bulimic symptoms of the BUILT-R, $\beta = .42, .48, .50, p < .001$, and the EAT-26 bulimia scale, $\beta = .40, .45, .48, p < .001$. Also family and peer modeling of
abnormal behavior was related to bulimic symptoms of the BUILT-R, $\beta = .41, .47, p < .001$, and the EAT-26 bulimia scale, $\beta = .33, .49, p < .001$.

Study 2 was a longitudinal design that involved female high school students ($N = 218$, Mode age = 17 years, range = 16 to 18 years) being examined twice over a 9 month period. The same measurements as in study 1 were taken. The onset of binge eating and purging was analyzed by comparing the group that remained free of the symptom to the group that reported the onset of the behavior on each of the Time 1 independent variables using ANOVAs. Family and peer, but not media, social reinforcement, and modeling predicted the onset of binge eating and purging. Results indicated that family and peer social reinforcement at Time 1 predicted the onset of binge eating and purging with percentage of variance explained was $8.2, p < .001$, by family, and, $3.6, p < .05$, by peers. Results also indicated family and peer modeling at Time 1 predicted the onset of binge eating and purging, with percentage of variance explained, $6.1, p < .01$, by family, and, $5.5, p < .05$, by peers. Media, social reinforcement, and modeling were correlated with bulimic symptoms, but failed to predict the onset of binge eating or purging. The author suggests that bulimic pathology results in perception of greater media pressure to be thin. The means for the modeling and social reinforcement variables were generally higher for the college sample than the high school sample. Overall, the author concluded that family and peers foster abnormal eating behavior via both social reinforcement and modeling mechanisms. A strength of the study was an examination of the multiple socialization agents of female disordered eating, as well as a longitudinal design. However, this study did not control for the
effects of depression. In addition, eating disorders were not operationalized along a continuum and thus, information on a wide range of eating disorders was not available.

Findings suggest that the family environment is associated with the risk of developing clinical eating disorders in an adolescent population and emerging adulthood (Felker & Stivers, 1994; Minuchin, Rosman, & Baker, 1978). A lack of independence from parents, low care, and high control parental style, has been associated with eating disorder characteristics in emerging adulthood (Meyer & Russell, 1998) and adolescent populations (Strober & Humphrey, 1987). In addition, family concerns regarding weight, and shape, social appearances, and achievement were found to have a more specific relationship with eating disorders than the more general family process factors in mixed adolescent and adult clinical bulimic population (Laliberte, Boland, & Leichner, 1999). These findings are consistent with Fairburn et al. (1997) who found that frequency of critical comments by family about shape, weight, or eating, and parental expectations were higher in bulimic individuals. However, these studies did not develop an assessment tool for examining the severity of the critical comments and did not control for the effects of depression. In the present study, negative comments were assessed with an instrument developed for this study, which included questions about perceived severity of the critical comment in order to explore the dimensions of the construct.

Peer Influences

Huon, Lim, and Gunewardene (2000) studied dieting status and social influences in a large sample of female adolescents \(N = 1644, M \text{ age} = 14.0 \text{ years, range}=12 \text{ to}17 \text{ years})$. The Dieting Status Measure (DiSM; Strong & Huon, 1997) was used to
categorize participants into one of six dieting status groups—"never dieted," "trier," "ex-dieter," "occasional dieter," "often a dieter," and "always a dieter." Participants are provided with six descriptions for those categories. Measures were prepared to assess modeling and conformity. Separate measures of parent and peer modeling were acquired by asking participants whether their mother and their five closest friends diet regularly (0 = no, 1 = yes) and to indicate their level of commitment to dieting (1 = not at all committed, through to 4 = strongly committed). Conformity was assessed by asking whether their parents and peers endorsed dieting (1 = strongly disagree to 5 = strongly agree). Participants also rated the frequency with which their parents and friends tell them they should diet (1 = never and 5 = always) to get a measure of compliance pressures.

ANOVA revealed that parental influence (combining modeling, conformity, and compliance) was greater for the more serious dieters, $F(13, 1601) = 15.48, p < .001$, than for the non-serious dieters. Total peer influence was also higher among the serious dieting group, $F(20, 1592) = 7.60, p < .001$. Regression analyses showed that parent and peer influences were found to be significant predictors of dieting status, $R^2 = .25, F(2, 1642) = 14.51, p < .01$. The two strongest social sources of influence on dieting status were peer conformity, $\beta = .25, p < .01$, and parent compliance, $\beta = .34, p < .01$. The study did not investigate the association between eating disorders and coping efforts to manage peer pressure and parental influences. In addition, the authors did not control for the effects of depression. However, the results indicated that interpersonal relationships may be an important source of stress amongst the eating disordered
population and suggested that comments made by peers and parents may act as significant stressors for young females with disordered eating behaviors.

In another subclinical study of 410 adolescent females (age range = 14 to 19 years), Pike (1995) examined family and peers using The Family Adaptability Scale III (FACES III; Olson, Portner, & Lavee, 1985), the Friendship Questionnaire, adapted from Berndt (1986), the Marlow-Crowne Measure of Social Desirability (Crowne & Marlowe, 1964), Psychological Distress was measured based on the summation of the standardized scores of the Depression and Anxiety Subscales of the SCL-90-R (Derogatis, 1983) and the Social Pressure to Diet Scale (Pike, 1995). The BULIT provided a measure of bulimic symptoms. A HMR analyses was conducted. In the first step, social desirability ($\beta = -.24, p < .01$) and psychological distress, ($\beta = .41, p < .01$) were significant indicators of bulimic symptoms ($R^2 = .20, p < .0001$). In step 2, both dissatisfaction with family cohesion and difficulty in expressing conflict in friendship systems were found to be modest predictors of bulimic patterns, $R^2 = .25, p < .0001$ and accounted for an additional 5% of the variance in predicting bulimic symptoms, after considering the contributions of social desirability and psychological distress. In addition, social pressure to diet, bulimic symptoms in the friendship network, grade, the interaction between disordered eating in the friendship network and grade (peer influence was particularly strong in grade 9 and to a lesser extent by grade 12), the rate of AN or BN among the female family members, and the rate of AN or BN among friends were significant contributors. They accounted for an additional 15% of the variance in predicting BULIT after considering the contributions of social desirability and psychological distress, $R^2 = .35, p < .0001$. 
Pike (1995) also suggests that the extent to which an individual is exposed to significant eating problems in their network of family and friends and feels pressured by family members and friends about her weight and her need to diet may play a greater role in the initiation of eating disorders than maintenance of disturbed eating behaviors and attitudes. Two limitations of this study were the homogenous sample of mostly white, middle-class, high-school girls living in northeastern suburban areas of the United States and the failure to examine the effects of depression on eating behaviors. The conflictual interpersonal nature of their relationships suggests that this is an important source of stress experienced by young women with eating disorders. It also suggests that comments made by family and peers may be distressing and contribute to disordered eating. Thus, a greater understanding of the relationship between interpersonal conflicts and coping strategies utilized by the young women is needed to deepen our understanding of disordered eating behaviors.

Another study of female college athletes \((N = 98, M_{age} = 19.6 \text{ years}, SD = 1.6)\) examined social influence as a risk factor for the development of eating disorders (Williamson et al., 1995). Participants were from a range of sports (swimmers \(n = 31\) tennis players \(n = 7\), basketball players \(n = 9\), volleyball players \(n = 12\), gymnasts \(n = 14\), track team members \(n = 10\), cheerleaders \(n = 7\), and members of a dance team \(n = 8\)) and completed a 5-item social influence for thinness questionnaire developed specifically for this study, SCAT to assess competitive anxiety, a 5-item scale assessing positive self-appraisal developed for the study, the BSQ for body image and the Interview for Diagnosis for Eating Disorders (IDED; Williamson, 1990). The authors used a causal modeling approach (LISREL) to analyze the data. The proposed model
identified the effects of social influence/pressure for thinness, athletic anxiety, appraisal of athletic achievement, on eating disorder symptoms as mediated through concern about body shape and size, was supported.

The model was cross-validated with using split-half samples. All coefficients were significant (social influence/influence of thinness, $\beta = .45, p<.05$; athletic anxiety, $\beta = .35, p<.05$; athlete self-appraisal, $\beta = -.23, p < .05$ and body concern, $\beta = .86, p < .05$). The authors concluded that eating disorders among athletes are multi-determined and are not the function of the emphasis on thinness in some women’s sports. The study emphasized the importance of social pressures and disordered eating in the sport environment. It was not possible to determine if the authors assessed severity of threat of the coaches and peers pressure because the five item questionnaire specifically designed for the study was not provided. The study did not assess the influence of family or significant others or the participants coping strategies. The effects of depression on eating behaviors were also not controlled for. Most of the activities sampled (80%) represented individual sports that may not be representative of a broad spectrum of athlete behaviors. Finally, eating disorders were not assessed along the eating disorder continuum and thus a broad spectrum of eating behaviors was not represented.

In summary, the research on social influences among female adolescents and emerging adulthood and eating disorders is limited and the results are mixed. Most studies do not look at the type of stressor, severity of stressor, or coping strategies utilized by the participants when examining their social environment, and thus many questions remain. A young woman’s ability to access social support and utilize
interpersonal coping strategies are important factors that need examining among women with disordered eating behavior. In the present inquiry, I examine interpersonal stressors, such as comments made by family, peers, and significant others and the possible benefits of relationship-focused coping strategies to females during emerging adulthood across a broad spectrum of eating disturbances with the hope to further understanding of the association of these factors with eating disorders during emerging adulthood.

The cumulative evidence points to a stressful interpersonal social environment (e.g., conflictual relationships, poor communication, and unwanted pressures) as part the experience of young women with eating disorders. The fragile "social self," the perceived low social support, and lack of ability to manage conflictual stressors in interpersonal relationships suggests a need to examine relationship-focused coping and the use of social support coping strategies. The examination of stressful comments from family, peers, and significant others about the young women's body, shape, or weight is also critical. Social influences are central to female development, and may play a role in the prevention of disordered eating thus, warrant further study.

**Depression**

Depression is implicated in clinical types of eating disorders in adolescent girls and young adults (Fisher et al., 1995; Graber et al., 1999; Steiger, Leung, Ross, & Gulko, 1991). Both AN and BN sufferers characteristically have low mood, and higher than average levels of depressive symptoms and are at greater risk of depression (Fisher et al., 1995; Fairburn et al., 1999; Palmer, 1998). Cognitive and behavioral (but not physical) symptoms of eating disorders have also been uniquely associated with
cognitive aspects of depression (such as pessimism and self dislike) (Troop, Serpell, & Treasure, 2001). A woman’s failed effort to find mutuality and understanding in a relationship represents a fundamental challenge to her identity and results in aversive emotional states (Striegel-Moore, 1995). Some studies suggest that mood may be a component of certain types of eating disorders such as overeating or binge eating (Heatherton at al., 1998; Stice, 1999; Telch & Agras, 1996; Welch et al., 2000).

In a study of 937 female adolescents (grades 7 to 10), Leon, Fulkerson, Perry, and Cudeck (1993) found that (HMR analyses) the strongest predictors for eating disorders were body dissatisfaction, negative emotionality (with high stress reactivity as its major component), and lack of interoceptive awareness, $\beta = .33, p < .001$; $\beta = .17, p < .01; \beta = .15, p < .001$, respectively. They used the Negative Emotionality (NE) and Constraint (CON) factor scales of the Multidimensional Personality Questionnaire (MPQ: Tellegen, 1982) to measure negative affect. The EDI measured interoceptive awareness. In addition, the Eating Disorders Checklist (a 24-item survey) was used to assess past and current history of diagnosed eating disorders and sub-threshold forms of eating disorders. The authors suggest the possibility that individual characteristics related to high stress reactivity and dysphoria, in conjunction with difficulties in labeling one’s feelings, may provide a diathesis for some type of psychopathology. Thus, further studies should include an examination of stress and coping using a theoretical basis such as Lazarus’s model to further explore the role of stress and dysphoria among the eating disorder population.

Strober (1984) examined the stressful life events of female adolescents ($M$ age = 15.6 years) and found that participants with BN (DSM-III; $n = 25$) experienced
significantly more life stress than participants with AN (DSM-III; \( n = 25 \)) in a 6-month period preceding onset. To assess life events, the researchers used semistructured interviews expressing each event in LCU. Total LCU score was correlated with a four-point rating of the severity of depression of participants at intake, reasoning that the most highly stressed participants would also exhibit increased signs of depressive affect. The severity rating was made without knowledge of LCU scores, and demonstrated high inter-rater reliability coefficients, \( r = .92 \). Once the variance attributed to depression was partialled out, the relationship between LCU scores and severity of BN remained, \( r = .43, t(22) = 2.24, p < .025 \). A limitation of this study was the small number of participants. In addition, researchers could not be sure that life event accounts were not biased by recall effects. The authors suggested that BN and AN tend to bias in the direction of over-reporting versus under-reporting. Thus, this study indicates the importance of studying stress and depression in disordered eating.

One hundred and twenty undergraduate women students completed the Eating Disorder Questionnaire (EDQ; Rahmatian, 1994), the Eysenck Personality Inventory (EPI; Eysenck & Eysenck, 1965), the Beck Depression Inventory (BDI; Beck, Rush, Shaw, & Emery, 1979), the Family Assessment Device (FAD; Epstein, Baldwin, & Bishop, 1983), the BSQ used to measure body image and measures of peer and media influence developed for this study (Young, McFatter, & Clopton, 2001). Multiple regression analysis (backward elimination) revealed depression was a significant predictor of BN, \( \beta = 1.48, p < .005 \). Family functioning was not a significant predictor of disordered eating. A limitation of this study was failure to assess disordered eating along a continuum of eating behaviors.
In summary, the literature suggests that there is a link between depression and disturbed eating behaviors but the nature of the relationship is unclear. There is also a need to examine the link between depression, stress, coping, and eating behaviors. In the present study, depression was controlled for in order to understand the unique relationship between daily hassles, coping, and eating disorders among female athletes during emerging adulthood.

**Summary and Integration**

Concerns about dieting, weight, and body shape are prevalent among female adolescent populations and vary from unrestrained to clinical symptoms (Pike, 1995; Striegel-Moore et al., 1986). However, most research to date has focused on adult clinical populations. Competitive athletes are a unique population that, have been sparsely examined despite the media attention on eating disorders and female athletes. The present study uses the eating disorder continuum conceptualization to broaden our understanding of the range of disordered eating with a focus on the competitive female athletes during emerging adulthood (19 to 25 years). A majority of studies focus on clinical populations and omit large numbers of sub-clinical women and other points along the eating disorder continuum. Moreover, the theoretical framework for stress and coping and the methodology used to identify eating disorders is inconsistent. For the majority of the research the nature and types of the stressors is also unclear.

In the present study, Lazarus’s theoretical framework (1991) will be used to study the phenomenon. Because adolescent or emerging adulthood stress symptoms appear to be more related to level of day-to-day conflicts than to traumatic events (Swearingen & Cohen, 1985), and Shatford and Evans (1986) found that daily hassles
were predictors of disordered eating this study focused on daily hassles and a specific
type of stressor, interpersonal stress. Critical comments, are a common daily hassle,
and are also a focus of the present study. Specifically stressful comments made by
peers, family, and significant others (coaches or romantic partners) about the female’s
body, shape or weight and, how, the comments were experienced by females in
emerging adulthood.

There is evidence of associations between interpersonal dysfunction and eating
disordered behavior. However, studies involving social networks fail to take into
account the relationship-focused coping or social support coping strategies of the
participants. Several studies (Bloks et al., 2001; Troop et al., 1994; 1998; Yager et al.,
1995) have found an association between seeking less social support coping and
disordered eating. Relationship-focused coping has as its primary goal the maintenance
of the relationship (O’Brien & DeLongis, 1996), thus this study focuses on female
athletes and how they cope with interpersonal stress. The present study attempts to
further understanding of the social behaviors of females with disordered eating by
focusing on relationship-focused coping efforts and social support coping strategies.

Finally, the literature indicates that there is an association between depression
and disordered eating, however, the nature of the association is unclear. The present
study controls for depression in order to examine whether daily hassles and coping
strategies uniquely contribute to the degree of disordered eating, after the effects of
depression are removed.

In this study, I explore the associations between stressors (daily hassles), and
coping strategies used for interpersonal stress (after controlling for depression) along a
range of eating behaviors during emerging adulthood of female university athletes. I also focus on specific stressful comments made by parents, peers, and significant others (coach and romantic partner) about the young women’s body shape, weight, or dieting behaviors. The following three questions are addressed: Are critical comments by friends, family, and significant others about the young female athlete’s body, shape, or weight associated with disordered eating, after controlling for depression? To what extent is the perceived severity of the critical comment by friends, family and significant others about the female athlete’s body, shape, or weight associated with disordered eating, after controlling for depression? To what extent are daily hassles and coping strategies (used with interpersonal stress) associated with disordered eating for female athletes, after controlling for depressed mood.
Hypotheses

The purpose of the present study was to examine the relationships between perceived critical comments, daily hassles, coping strategies, depression, and the disordered eating continuum, in an attempt to further understand the social world of female adolescent athletes. Three hypotheses were posed.

Hypothesis 1. While controlling for depression, female athletes who remembered critical comments by peers, family, or significant others about her body, shape, or weight, will report greater disordered eating, compared with female athletes who did not remember critical comments.

Hypothesis 2. While controlling for depression, there will be a statistically significant (moderate) positive relationship between eating disorders and perceived severity of critical comments about the female athlete's body, shape, or weight.

Rationale. There is evidence that young girls who have a clinically diagnosed eating disorder may respond negatively to a chance remark about their body (Lask & Bryant-Waugh, 2000; Palmer, 1988). In the case of BN, this reaction is often due to a comment from a family and peer and may predict onset of binge eating and purging disordered eating (Palmer, 1988; Stice, 1998). Moreover, in a pilot study I conducted, women with a history of disordered eating identified negative comments by significant others as pivotal stressors related to their eating behaviors during adolescence and emerging adulthood. Therefore, it was expected that women with greater disordered eating would report more negative comments, and more severe reactions to comments made by others.
Hypothesis 3. There will be a statistically significant linear relationship between the predictor variables daily hassles, coping strategies (behavioral disengagement, mental disengagement, active coping, social support for instrumental reasons, planning, restraint coping, suppression of competing activities, seeking social support for emotional reasons, religion, positive reinterpretation and growth, acceptance, denial, and relationship-focused coping) and the criterion variable, the severity of eating disordered behavior, controlling for the effects of depression.

Rationale. Previous research has indicated that females with disordered eating appraise stressors across settings as more stressful than normal eaters (Hansel & Wittrock, 1995). Shatford and Evans (1986) examined both life events and daily hassles and found that daily hassles, in particular were related to disordered eating. Therefore, it was expected that greater daily hassles (i.e., greater intensity of stress) would be positively related to more severe eating disordered behaviors.

The 12 coping strategies (behavioral disengagement, mental disengagement, active coping, social support for instrumental reasons, planning, restraint coping, suppression of competing activities, seeking social support for emotional reasons, religion, positive reinterpretation and growth, acceptance, denial) from the COPE (Carver et al., 1989) and the relationship-focused coping scale (O'Brien & DeLongis, 1991, 1996, 1997) were included in the analysis. Stanton, Danooff-Burg, Cameron, and Ellis (1994) found that the Focus on Venting Emotions scale was contaminated with distress, thus this COPE scale was not included in the present study.

Researchers have found that an important dimension of women's context and eating disorders is their social environment (i.e., social network, conflictual interactions,
social support, preoccupation with other's perceptions, pressure to conform) (Berry & Howe, 2000; Grissett & Novell, 1992; Huon, et al., 2000; Pike, 1995; Rorty et al., 1998; Stice, 1998; Streigel-Moore et al., 1986; Tiller et al., 1997; Williamson et al., 1995).

Thus, it was expected that greater social support coping (i.e., seeking social support for instrumental reasons, and seeking social support for emotional reasons) and relationship-focused coping would be related to less eating disordered behaviors. Yager et al. (1995) found that the proportional use of seeking social support (seeking emotional support) coping decreased with increasing severity of disordered eating.

In addition, problem-focused coping strategies (active coping, planning, restraint, and suppression of competing activities) were expected to be related to less eating disordered behaviors. The use of active planning and purposeful planning (problem-focused) was found to decrease with increasing severity of disordered eating measured along a continuum (Ghaderi & Scott, 2000; Yager et al., 1995). Moreover, task oriented (problem-focused) coping scores have been found to be negatively associated with higher scores on bulimic symptoms (Janzen et al., 1992).

Emotion-focused coping strategies (i.e., positive reinterpretation and growth, acceptance, denial, and religion) and mental disengagement were expected to be associated with greater severity of eating disorders. Previous studies indicate that women with eating disorders use avoidance-type or emotion-focused strategies to cope with stressors (Billings & Moos, 1981; Denisoff & Endler, 2000; Fryer et al., 1997; Ghaderi & Scott, 2000, Koff & Sangani, 1997; Neckowitz & Morrison, 1991; Paxton & Diggins, 1997; Shatford & Evans, 1986; Troop et al., 1994; Wolf et al., 2000). Mental disengagement was also expected to be associated with greater severity of eating
disorders. Mental disengagement is a variation on behavioral disengagement, postulated to occur when conditions prevent behavioral disengagement. Tactics reflect alternative activities that take one’s mind off a problem (daydream, escape through sleep, escape by immersion in TV). Although not statistically significant, Yager et al. (1995) reported that fully recovered women tended to score lower on mental disengagement.

No direction was specified for the relationship between the remaining coping strategy (i.e., behavioral disengagement) and disordered eating due to the lack of empirical support. Behavioral disengagement involves reducing one’s effort to deal with the stressor or giving up the attempt to attain goals with which the stressor is interfering (helplessness). (statistical tests were considered statistically significant at $p < .05$).
Method

Participants and Procedures

Female volunteer participants between the ages of 19 and 25 years who are involved in varsity or competitive level sports at the University of British Columbia were recruited for this study. Due to consent requirements a university population between the ages 19 to 25 years was selected for this study. For the purposes of this study, a competitive athlete was defined as those athletes training in a particular sport in a competitive environment at a regional, provincial, national, or international level. Competitive includes participation in a sport against another individual/team or for against the self with an aim for self-improvement. Participants were recruited through flyers (see Appendix J), personal contact, team, and class announcements. Informed consent was obtained (i.e., included in the survey) and participants were given the option to complete the surveys immediately, return the surveys at a later class, or to drop the surveys off at a designated place. When team members were recruited the coach was not present. Of the 296 surveys distributed, 223 were returned for a 75% return rate. Response rates were 62% from classes, 77% from varsity teams, 72% from recreational teams, and 92% from residences and flyers.

Eighty-nine percent of the participants were between the ages of 19 and 22 and 55% in third or fourth year university. The majority identified their family of origin as Canadian (62%) or European (24%) and Asian(10%). Ninety-four percent identified their marital status as single. Just over half, 57%, of the participants did not live with their parents. They participated in a wide range of sports from traditional sports such as swimming, track and field, soccer, volleyball, and basketball to less traditional sports such as rock climbing, ultimate, wrestling, judo and dragon boat. Most commonly
represented sports were 4% golf and swimming, 5% rugby, 6% field hockey, 7% running, 9% ice hockey, 11% soccer, and 14% volleyball.

Forty-one percent reported they were competing at a national level, 31% at a recreational or regional level, 16% at a provincial level and 12% at an international. Fifty-three percent of the participants were in the competitive phase of their sport season, 21% in the pre-season, 15% in post season activities, and 11% did not declare what phase of the season they were training in. Thirty percent of the participants trained between 10 and 15 hours per week and 18% between 15 to 40 hours per week. Mean BMI scores were 22.1 (SD = 2.6), and ranged from 13 to 30 indicating the participants were normal weight. BMI scores below 20 indicate a participant is underweight, scores between 20 to 25 indicate normal weight, and scores above 25 indicate overweight (Health and Welfare Canada, 1988). The desired mean weight loss was 4.2 kg (SD = 3.8), and ranged from 1 to 25kg (n = 187). The desired mean weight gain was 2.93 kg (SD = 2.0) and ranged from 1 to 9kg (n = 14). (See Table 1 for a complete description of these descriptive characteristics).

Table 1

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**Description of Demographic Characteristics**

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**Design**

Data were collected using a cross-sectional, non random survey of female university athletes during the months of January, February, and March, 2001. Participants were invited to complete a confidential survey questionnaire package on Stress, Coping and Eating Concerns of Athletic Female University Students. Participants were told that it would take approximately 30 minutes to complete. Various groups on campus were
sampled to gain insight into the frequencies of behaviors and attitudes characteristic of the eating disorder continuum.

Measures

Demographics questionnaire. For descriptive purposes, information was collected on participants' school year, age, ethnic group, birthplace, number of years residing in Canada, marital status, residence, sport, number of hours per week training, level of competition, and season (see Appendix C). In addition, participant self-report of weight and height was used to calculate body mass index (BMI) score. Weight in kilograms divided by the square of height in metres to determine if participants are underweight, normal, or overweight (all copies of the Questionnaires for each measure are in the Appendices D to I).

The Eating Disorder Continuum. The literature to date lacks a consistent and comprehensive measure for the various forms of disordered eating. Thus, a broad self-report measure was chosen in order to represent the range of eating disturbances among female competitive athletes during emerging adulthood. The Eating Disorder Examination Questionnaire (EDE-Q; Fairburn & Beglin, 1994) was used to assess participants along a continuum of disordered eating. The EDE-Q is a self-report version of the structured clinical interview that permits quantification of disordered eating behaviors. 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 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 eating, and if these two things happen together. The Shape Concern (8 items) and Weight Concern (5 item) 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 five subscales (scores range from 0 to 6) and are calculated to provide an indication of the overall severity of symptoms. The global score was used as an indicator of disordered eating and higher scores indicate greater severity of disordered eating (see Appendix M).

The EDE-Q has been validated against the structured clinical interview (Fairburn & Wilson, 1993), which is considered the gold standard in standardized instruments for the assessment of eating disorders (Fairburn & Cooper, 1993). Although EDE-Q is based on the DSM-IV criteria for diagnosis of eating disorders (American Psychiatric Association, 1994), in this case it is not possible to adhere to the guidelines for assessment of the behaviors over a 3-month period, as EDE-Q asks respondents to report the frequency of symptoms in the last 28 days. EDE-Q has excellent internal
consistency and 2-week test-retest reliability for the four subscales of the EDE-Q: Restraint (.81), Weight Concern (.92) Shape Concern (.94) and Eating Concern (.87) (Luce & Crowther, 1999). Cronbach's alphas are acceptable and pearson correlations used to investigate subscale stability over time were highly significant. In the present study Cronbach's alpha for the global score was .93. Carter, Aimie, and Mills (2001) reported that participants under report objective binge, vomiting episodes, and underestimated body weight (1.4 kg) when self-report EDE-Q was used compared to the interview method EDE.

**Stressful Stimulus.** A questionnaire developed for this study was used to examine the relationship between a comment by family, peers, or significant other (e.g., coach or romantic partner) about the young woman's body shape, weight, or dieting and eating disordered behaviors. Participants were asked details about the incident such as degree of upset, who was involved in the event, and how long ago the event occurred. The following describes some of the questions asked in this Social Hassles questionnaire (for complete Questionnaire See Appendix E). *Do you remember someone ever making a critical comment that your body should be a certain shape, weight, or that there was a need to diet to lose weight or increase food intake to gain weight?* Coded yes or no. If participant responded yes they were asked to describe the situation. If there was more than one situation they were asked to describe the most stressful one. They were requested to identify the person who said the critical comment about their body by circling one of the following: *friend, parent-mom, parent-dad, teacher, coach, boyfriend, girlfriend, partner or other*
In order to assess the severity of the critical comment three questions were identified as indicators of severity. To assess severity of the comments the amount of threat, attempted change, and feelings of failure (Hobfoll, Dunahoo, Ben-Porath, & Monnier, 1994) were assessed by the following questions: To what degree do you feel the comment made by a person about your body has resulted in you attempting to make changes to your body? (1 = no changes at all attempted, 2 = a little bit of change attempted, 3 = quite a bit of change attempted, 4 = definitely made a lot changes attempted). To what degree did you feel threatened by the comment about your body shape, weight, dieting or need to gain weight? (1 = not threatened at all, 2 = felt a little threatened, 3 = felt somewhat threatened, 4 = felt very threatened). To what degree did you feel you had failed when you heard the person comment about your body shape, weight, diet or need to gain weight? (1 = did not feel like I failed, 2 = felt a little bit like I failed, 3 = felt somewhat like I had failed, 4 = felt like a failure). Scores were summed across the three items and the scores ranged from 4 to 12 with higher scores indicating greater severity of stressor. To assess recall participants were asked to answer how well they remembered the comment about their body [1 = quite vague, 2 = remember parts of the event, 3 = fairly clear in my mind, 4 = remember the event very clearly (as if it happened yesterday)]. (Refer to Appendix E for Social Hassles Questionnaire and results). Correlations between the items and the total severity were acceptable (change = .75, threat = .88 and failure = .87). Correlations between items were were.45 (change and threat and change and failure) and .79 (threat and failure). A pilot study was conducted on the Social Hassles Questionnaire with university students and Cronbach’s alpha was .78 indicating support for the validity and reliability of the instrument.
Daily Hassles. An adapted version of a general hassles survey was used to assess daily stressors among the young female athletes. The Survey of Recent Life Experiences (SRLE; Kohn & MacDonald, 1992) consists of 41 items that indicate the extent of participant experience with each item over the past month rather than severity of each item. This "indirect approach" to measuring hassles was chosen to avoid potential contamination inherent in using severity ratings. Items are rated on a 4 point scale: (1 = not at all part of my life, 2 = only slightly part of my life, 3 = distinctly part of my life, 4 = very much part of my life). The scale was written to identify typical stressors of adult employed workers. Seven of the 41 items were adapted to specifically fit the university student environment. For six items the word work was replaced with school (i.e., Disliking your work was changed to disliking your school) and for the seventh item supervisor was changed to teacher or coach. All remaining 44 items remained the same as the original version. The alpha reliability of the SRLE in an item-selection sample was .92 and its correlation with the Perceived Stress Scale (PSS; Cohen, Kamarack, & Mermelstein, 1983) was .57 ($p < .01$). A second cross-replication subsample was used to correct for possible inflation and the alpha reliability of the SRLE was .91 and its correlation with the PSS was .60 ($p < .01$). Cronbach's alpha was .89 for the present study. Scores ranged from 44 to 115 and higher scores indicated more hassles.

Coping Strategies. The stimulus for the coping measure was an interpersonal stressor that occurred during the past month. Participants identify an interpersonal stressor (e.g., comments by family members, communication problems with peers, family or significant other, pressures to be or act a certain way by peers, family or significant others, comments by significant male other, comment by friends, conflicts, ability to tell
another person they have hurt them, feeling rejected) from a checklist developed for this study (See Appendix E). Take a few moments and think about an event or situation related to an “interpersonal” situation that has been stressful for you during you the past month (it may still be ongoing). By “interpersonal” we mean a meaningful interaction with someone (e.g., confrontation, or difference of opinion). By “stressful” we mean a situation that was difficult or troubling for you, either because you feel distressed about what happened, or because you had to use considerable effort to deal with the “interpersonal” situation. It might have been a discussion or confrontation with someone close to you, someone at work, a discussion with a medical person, a separation from someone you care about, or someone else. Participants are asked to indicate on a checklist which of the “interpersonal” stressors they have experienced in the past month. Participants then are asked to keep this event in mind while completing the coping questionnaire.

The COPE instrument contains 13 conceptually distinct subscales based on theoretical and functional considerations (Carver et al., 1989). Five scales to measure distinct aspects of problem-focused coping (active coping, planning, suppression of competing activities, restraint coping, and seeking instrumental social support), five scales measure emotion-focused coping scales (seeking emotional social support, positive reinterpretation and growth, acceptance, denial, and turning to religion), as well as three other scales (focus on venting of emotions, behavioral disengagement, and mental disengagement) (see Appendix F). Two exploratory scales (humour and drug/alcohol use) have also been developed but were not used in the present study. Stanton et al. (1994) found that the Focus on Venting Emotions scale to be contaminated with distress, thus
the items are not included in the present study. Items were rated on a four point scale (1 =

not at all part of my life, 2 = only slightly part of my life, 3 = distinctly part of my life, 4 =

very much part of my life). Scores range from 4 to 16 with higher scores indicating
greater coping.

Scales from COPE have been utilized in recent eating disorder research (e.g.,

Yager et al., 1995) and sport research (e.g., Bouffard & Crocker, 1992; Isaak, 1993).
Test-retest reliability correlations suggest that self-reports of coping tended to be
relatively stable (ranging from .46 to .86 for an 8-week retest, and .42 to .89 for a 6-week
retest). Also, correlations between subscales are not strongly interrelated supporting the
independent structure found in earlier analyses (Carver et al., 1989).

An additional coping scale was the Relationship-focused Coping Scale (O’Brien

& DeLongis, 1991) that assesses coping strategies used to maintain relationships. The
scale was originally developed on undergraduate psychology students and was aimed at
the interpersonal empathetic dimensions of coping. The present study focuses upon one
mode of relationship-focused coping that has been identified as potentially important in
the management and resolution of interpersonal stressors; empathetic coping (O’Brien &
DeLongis, 1991, 1996, 1997). Empathetic coping strategies are efforts geared toward the
development of empathy and understanding of others involved in the stressful situation.
Empathetic coping was assessed with a 10-item EmpatheticResponding scale that taps
two facets of empathetic responding: cognitive/affective strategies (perspective taking
and vicarious experiencing of another’s concerns and feelings) and behavioral strategies
(listening, providing comfort or support). These two facets are expected to be used in
tandem. Items are rated on a 4-point scale (0 = Does not apply at all or not used, 1 =
Used somewhat, 2 = Used quite a bit, 3 = Used a great deal). Scores ranged from 11 to 40 with higher scores indicating greater coping use. Cronbach’s alpha of the present study was .89.

Depression. The Beck Depression Inventory (BDI; Beck et al., 1961) was administered to assess intensity of depression. The BDI assesses 21 symptoms and attitudes (e.g., mood, pessimism, sense of failure, self-dislike) and is self-administered. Studies have measured internal consistency for psychiatric populations, with coefficient alphas ranging from .76 through .95, and the mean coefficient alpha was .86. With 15 nonpsychiatric samples the mean alpha was .81; the range was from .73 to .92. Items were rated on a 4-point scale and with increasing severity (0 = I do not feel sad, 1 = I feel sad much of the time, 2 = I am sad all the time, 3 = I am so sad or unhappy that I can’t stand it). Scoring ranged from 0 to 41 with higher scores represent more reported depression. The cut-off scores are as follows: none or minimal depression is < 10; mild to moderate depression is 10-18; moderate to severe depression is 19-29; and severe depression is 30-63. The BDI mean scores for the minimal, mild, moderate, and severe classifications are 10.9 (SD = 8.1), 18.7 (SD = 10.2), 25.4 (SD = 9.6), and 30.0 (SD = 10.4), respectively (Beck, Steer, & Garbin, 1988). The Beck Depression Scale has been used in eating disorder research (e.g., Paxton & Diggens, 1997; Troop et al., 1994; Yager et al., 1995). Test-retest stability based on a subsample of an outpatient group was .93, administered 1 week apart. Studies have not investigated the stability of scores using the BDI-II with college or university students (Steer & Clark, 1997). Cronbach’s alpha for the present study was .89.
Data Analysis

Data were analyzed using the 1999 software version of SPSS Base 10.0. The data were examined and the assumptions of hierarchical multiple regression and ANCOVA. Relationships between the variables were checked for the presence of curvilinear relationships and no curvilinear relationships were found. Distributions of the independent and dependent variables were assessed for normality and the degree of skewness and kurtosis present. For a table of the skewness and kurtosis of each variable See Appendix N. The level of kurtosis for the subscale denial was above an acceptable level (7.6). A log transformation was completed and the data reanalyzed with all predictors variables, but similar results were found. In addition, the data were reanalyzed with all predictor variables except the subscale denial and again the results were similar to previous analysis. Results are reported with the untransformed data. Box plots for all of the variables were examined for the presence of outliers greater than 3 standard deviations from the mean. Fourteen outliers were found among 11 of the coping subscales. The identities of the outliers were checked for any scoring errors, but none were found. Outliers were removed from the analysis and the data were reanalyzed, but similar results were found, except the denial scale kurtosis was above acceptable levels. The original data were used for the present analysis and no outliers have been removed. Scatter plots 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’s 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 all variables were calculated and comparisons of the sample used in the investigation with other samples were made.

Pearson product-moment correlations were computed to examine the relationships between the variables of depression, severity of comments, daily hassles, coping strategies (behavioral disengagement, mental disengagement, active coping, social support for instrumental reasons, planning, restraint coping, suppression of competing activities, seeking social support for emotional reasons, religion, positive reinterpretation and growth, acceptance, denial, and relationship-focused coping).

To test hypothesis 1, an analysis of covariance (ANCOVA) was computed to explore the relationship between critical and non-critical comments and the criterion variable severity of disordered eating (assessed with the global score on the EDE-Q), after controlling for depression. To test hypothesis 2, hierarchical multiple regression (HMR) analysis was computed to explore the relationships of the predictor variable, severity of comment and the criterion variable the severity of disordered eating (assessed with the global score on the EDE-Q) after controlling for effects of depression.

To test hypothesis 3, HMR analysis was computed to explore the relationships among the predictor variables emotion-focused coping (religion, positive reinterpretation and growth, acceptance, denial), problem-focused coping (active coping, planning, restraint coping, suppression of competing activities), social support for instrumental reasons, social support for emotional reasons, behavioural disengagement coping, mental disengagement coping, relationship-focused coping, daily hassles, and the criterion variable disordered eating (assessed with the global score on the EDE-Q), after controlling for depression.
For this HMR, the ratio of participants to predictor variables corresponded to the rule of thumb set out by Tabachnick and Fidell (1989) (i.e., with a base sample of 25 to increase the sample size by at least 10 cases for each independent variable) and is adequate to detect a moderate effect size\(^2\) (Cohen, 1992). Regarding missing data, when no more than 20% of the scale items for the predictor variables were missing, the midpoint was taken. No participants had missing scores for daily hassles, critical comments, or depression. For the measure of coping one case was dropped due to greater than 50% of missing data. Fourteen participants reported no stressors for the coping measures and thus were not included in the data analysis. On the measure of disordered eating two cases were dropped due to greater than 50% of missing data.

\(^2\) A moderate effect size of .15 based on 8 variables entered into the equation
Results

Descriptive Statistics

Pearson product-moment correlations for all variables are given in Table 2. Means, standard deviations, and Cronbach's alphas for disordered eating, depression, severity of critical comments, daily hassles, and coping measures are given in Table 3. See Appendix M for a table of correlations, means, and standard deviations for participants who identified critical comment (n = 121) and those who did not (n = 85). The magnitude and direction of the correlations between depression, daily hassles, and eating disorders are consistent with current theoretical and empirical data and show moderate correlations but among the coping variables there is more variability with only a few of moderate magnitude and the direction expected. For a Table of the skewness and kurtosis of each variable see Appendix N.
Table 2

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* p < .05 ** p < .01 (2 tailed-test)
Table 3

Means, Standard Deviations, and Alphas for the EDE-Q, Depression, Severity of Comment, Daily Hassles, and Coping Measures (N = 206).

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Disordered Eating

The means and frequencies of the behaviours of food restriction, fasting, binging, and purging corresponded to other research in the field (Maltby, 1999), and support a continuum model of eating behaviours among athletic female university students. Mean global score and subscales (EDE-Q) were generally higher for athletes in this study compared with a group of participants from the same university who were both athletes and non-athletes (Maltby, 1999; See Appendix M for a detailed comparison). However the means and frequencies of food restriction, fasting binging, self-induced vomiting, and excessive exercise were lower than a British survey of elite distance runners (Huley & Hill, 2001) (see Appendix O for comparison of competitive level and hours of training).

Comments and Severity of Comments

The items were developed for this study and thus there are no other published studies to compare the outcome data of critical comments and severity of comments. For the total sample of 206, 59% reported a critical comment about their body, shape, weight, or the need to diet to lose weight or increase food intake to gain weight See Appendix L for the range of written responses reported to the question “Do you remember someone ever making a critical comment that your body should be a certain shape, weight, or that there was a need to diet to lose weight or increase food intake to gain weight?” Some samples include:...told if my legs get bigger I won’t be able to run distance anymore” .... “lose some ‘pudge’ if I wanted to become a P.E. instructor” ... “better player if I’d lose weight,” “player on the men’s soccer team told me I looked like I weighed ‘a buck ninety’ (i.e., 190lbs). Of course I didn’t but the comment destroyed me as I did weigh
more than I ever had before. The comment from my friend was more damaging than the
couch comment."

Critical comments reported by female athletes were reportedly from a number of
social sources. For the total sample of 206 female athletes, 21% reported critical
comments from friends (peers, boyfriend, girlfriend, teammates), 26% from parents, 13%
from relatives (siblings, aunts, uncles, grandparents), and 22% from coaches or teachers.
Twenty-eight percent of the participants that received a comment reported the severity of
the comment as somewhat to very threatening to their self-esteem, causing attempted
changes to their body, and feelings that they had failed when they heard the critical
comment (See Appendix E).

Depression

Based on diagnostic ranges presented by Beck at al. (1996), 60% of the
participants reported none to minimal depression (range 0 to 41) (27% mild depression,
12% moderate depression, and 2% severe depression). This is comparable to data on
other university students (Steer & Clark, 1997; Young et al., 2001). Other researchers
have found no differences between levels of depression among athletes and non-athletes
(Wilkins & Boland, 1991; Willcox & Sattler, 1996). In the present study the mean BDI-II
score ($M = 9.7, SD = 7.7$) was comparable to that of Steer and Clark (1997; $M = 12.0, SD$
$= 8.1$) and university students with disordered eating behaviors ($M = 10.4, SD = 7.7$;
Young et al., 2001).

Coping Measures

The COPE has been used in only one other study (Yager et al., 1995) with 120
eating-disordered participants, ages 23 to 25 years (majority had attended at least some
college) and thus comparison data are limited. The present study’s COPE subscale
means and standard deviations for active coping, social support for instrumental and emotional reasons, planning, suppression of competing activities, and positive growth and acceptance were more similar to the bulimic group, than the recovered bulimic group or control group in Yager et al.’s study (see Appendix Q for the means and standard deviations of Yager et al. for each coping subscale).

The relationship-focused scale has not been used with eating disordered populations and thus comparison data are limited. The Relationship-focused coping mean scores on each of the 10 items were higher than reported on a sample of undergraduate male and female psychology students (O’Brien & DeLongis, 1996). However, 82% reported trying to understand how the other person felt, and trying to see things from the other person’s point of view. Seventy-six percent reported imagining themselves in the other person’s shoes.

**Life Hassles**

The mean life hassles score was 74.50 ($SD = 15.3$) and lower than what was reported by Kohn and Macdonald (1992; $M = 94.5$, $SD = 20.4$) for a sample of employed adult (men and women) ages 18 to 69 years. There are no other known published studies of SRLE and disordered eating to compare with the results of this study. The lower life hassles scores in the present study may be related to the differences in hassles experienced by university athletes when compared with adult workers. College athletes on average reported significantly less perceived stress (daily hassles) than college nonathletes (Skirkas, 1997). Seven items of the hassles questionnaire in the present study were modified to reflect the environment of university athletes. The typical stressors were as follows: 67% reported struggling to meet their own standards or performance. Sixty-seven percent also reported having too many things to do at once. Fifty-seven percent
reported too many responsibilities. Fifty-one percent reported not enough leisure time, 56% reported a lot of responsibilities, and 48% percent reported stress about decisions of intimate relationships.

**Hypotheses**

Hypothesis 1 predicted that while controlling for depression, female athletes who remembered critical comments by peers, family, or significant others about her body, shape, or weight, would report greater disordered eating, compared with female athletes who did not remember critical comments. An ANCOVA (using depression as a covariate), was conducted to compare the critical comment group to the no critical comment group on the measure of disordered eating. The results of the ANCOVA revealed that, after covarying for depression, those women with critical comments had greater severity of disordered eating, $F(1, 203) = 12.02, p < .001$. As hypothesized the critical comment group that had a higher mean score ($M = 1.77$) than the no critical comment group ($M = 1.19$), and after adjusting for the covariate the means were 1.71 and 1.27, respectively. This provides support for the hypothesis. The assumptions of ANCOVA were met. The mean score of depression for the critical comments group was 10.72 ($SD = 7.71$) and 8.19 ($SD = 7.35$) for the no critical comment group. The covariate, depression was significant, $p < .001$. The correlation between depression and eating disorder and the critical comment group and no critical comment group were similar, $r = .47$ and $r = .48$.

Hypothesis 2 predicted that while controlling for depression, there would be a statistically significant (moderate) positive relationship between eating disorders and perceived severity of critical comments about the female athlete's body, shape, or
weight. A HMR was conducted to test whether the predictor variable severity of comment predicted overall severity of disordered eating after partialing out depression (see Table 4). Once the variance attributed to depression (18%) was controlled for, severity of comment was significantly, $\beta = .49, p < .001$, related to severity of disordered eating. The equation predicting disordered eating reached significance, $F(2, 118) = 40.19, p < .001$. Entering severity of critical comment into the regression equation after controlling for depression resulted in a significant increase $R^2$ of .23, $p < .01$. Severity of comment was positively associated with greater severity of disordered eating, and accounts for a moderate amount of variance, after the effect of depression is accounted for. These findings provide moderate support for the hypothesis.

Table 4

*Summary of Hierarchical Multiple Regression Analysis for the Variables Predicting Disordered Eating (N = 121).*

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*Note. $\Delta R^2 = .23$ for Step 2; change in $F(1, 118) = 44.81, p < .01$. Adjusted $R^2 = .40$*

$p < .01$

For hypothesis 3 a hierarchical multiple regression analysis was conducted to test whether the variables daily hassles and coping strategies (behavioral disengagement, mental disengagement, active coping, social support for instrumental reasons, planning,
restraint coping, suppression of competing activities, seeking social support for emotional reasons, religion, positive reinterpretation and growth, acceptance, denial coping and relationship-focused coping) predicted overall severity of disordered eating, after controlling for depression.

There was a significant, $F(15, 190) = 7.08, p < .001$, relationship between the linear combination of the 15 predictor variables and disordered eating, after controlling for depression (see Table 5). Entering the hassles and coping measures into the regression equation after controlling for depression resulted in a significant $R^2$ increase of .15. Once the variance attributed to depression (21%) was controlled for, a significant positive relationship was reported between disordered eating and daily hassles, $\beta = .29, p < .001$, mental disengagement coping, $\beta = .17, p < .05$, and positive reinterpretation and growth, $\beta = .16, p < .05$, and a significant negative relationship between disordered eating and active coping, $\beta = -.18, p < .05$. Once the variance attributed to depression was controlled for greater daily hassles, mental disengagement, positive growth and reinterpretation coping strategies and less use of active coping strategies predicted greater disordered eating.
Table 5

Summary of Hierarchical Multiple Regression Analysis for the Variables Predicting Disordered Eating (N = 206).

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>B</th>
<th>R^2</th>
</tr>
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<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>0.06</td>
<td>0.01</td>
<td>0.46*</td>
<td>.21</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
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<tr>
<td>Depression</td>
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<td>0.01</td>
<td>0.28*</td>
<td>.36</td>
</tr>
<tr>
<td>Hassles</td>
<td>0.75</td>
<td>0.20</td>
<td>0.29*</td>
<td></td>
</tr>
<tr>
<td>Coping Subscales:</td>
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<tr>
<td>Behavioral</td>
<td>-0.19</td>
<td>0.17</td>
<td>-0.08</td>
<td></td>
</tr>
<tr>
<td>Mental</td>
<td>0.27</td>
<td>0.11</td>
<td>0.17*</td>
<td></td>
</tr>
<tr>
<td>Active</td>
<td>-0.25</td>
<td>0.13</td>
<td>-0.18*</td>
<td></td>
</tr>
<tr>
<td>S. Support I.</td>
<td>-0.02</td>
<td>0.11</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>Planning</td>
<td>0.02</td>
<td>0.12</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>Restraint</td>
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<td>0.09</td>
<td>-0.05</td>
<td></td>
</tr>
<tr>
<td>Suppression</td>
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<td>0.11</td>
<td>-0.02</td>
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<tr>
<td>S. Support E.</td>
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<td>0.01</td>
<td>-0.08</td>
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<tr>
<td>Religion</td>
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<td>0.09</td>
<td>0.05</td>
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<tr>
<td>Positive</td>
<td>0.24</td>
<td>0.11</td>
<td>0.16*</td>
<td></td>
</tr>
<tr>
<td>Acceptance</td>
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<td>0.10</td>
<td>-0.04</td>
<td></td>
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<tr>
<td>Denial</td>
<td>0.22</td>
<td>0.15</td>
<td>0.09</td>
<td></td>
</tr>
<tr>
<td>Relationship</td>
<td>0.06</td>
<td>0.01</td>
<td>0.04</td>
<td></td>
</tr>
</tbody>
</table>

*p < .05 **p < .01.
Discussion

The results of the present study provide support for the claim that critical comments and the perceived severity of critical comments are associated with the experience of disordered eating. The results also provide support that daily hassles and some coping strategies (i.e., more use of mental disengagement, positive growth and reinterpretation, and less use of active coping) in response to an interpersonal stressor are associated with disordered eating of athletic women attending university. 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 female athletes (Maltby, 1999). However, this study is cross-sectional in design and precludes causal inferences about the direction of the relationships.

Critical Comments, Severity of Comment, and Disordered Eating

As expected, 19 to 25 year-old-female athletes who reported critical comments, that is a common daily hassle compared with those who did not, reported greater disordered eating, even after controlling for depressed mood. Furthermore, the results indicated that increased severity of the critical comment (daily hassle) was associated with greater disordered eating, while controlling for depression. These results provide support for the observations by clinicians that women with disordered eating behaviors respond negatively to chance remarks about their body (Cattarin & Thompson, 1994; Lask & Bryant-Waugh, 2000; Palmer, 1988).

Little research has investigated the role that significant others play in the development of disordered eating among athletes. Yet, findings indicate that critical comments related to disordered eating behaviours are from multiple sources (Rieves &
Cash, 1996) rather than limited to coaches and peers (Beals, & Manore, 1994; Berry & Howe, 2000; Sundgot-Boren, 1994; Williamson et al., 1995). In the present study, in addition to comments from coaches and peers, the women reported critical comments from parents, grandparents, siblings, and teachers. These results are consistent with research that found that weight-specific teasing and social reinforcement were associated with disordered eating among adolescent girls (Lieberman, Gauvin, Bukowski, & White, 2001; Stice, 1998).

There are several possible explanations for this relationship between critical comments and disordered eating. Identity development is an important developmental challenge during emerging adulthood, with girls developing their identities, in part, in the context of relationships (Gilligan, Lyons, & Hammer, 1990). Women who view themselves in the eyes of significant others may have high “externalized self-perceptions” and likely conform to norms and expectations in order to be accepted (Lieberman et al., 2001). Moreover, negative comments from others about the female’s body may be perceived as more threatening to athletes than non-athletes because of their sport identity and sport culture (achievement, social network, and participation). The drive for thinness appears to emanate from performance thinness (the belief that achieving a lower weight will enhance performance) and appearance thinness (aesthetic desirability of sport demands common in such sports as gymnastics and figure skating) (Johnson, Power, & Dick, 1999). Achievement threats and social pressure have been identified as precipitants of social pressures of eating disorders (Levine & Smolak, 1992). Therefore, in order to further our understanding, research should examine female athlete’s, compared with non-athlete’s, on appraisals and responses to negative
comments, outward relational focus, self-esteem development, and beliefs about eating behaviors.

Although the present findings are exploratory, the cross-sectional design precludes causal inference. However these results support other research that has examined the role of interpersonal factors and disordered eating among female athlete university students (Stice, 1999). Critical comments, a common daily hassle from a range of significant others (family, coaches, and peers) may constitute a risk factor for the female athlete to develop or intensify eating problems, or in contrast, female athletes with greater disordered eating may be more sensitive to comments by significant others. Prospective or experimental studies are needed to tease out the causal order.

**Stress, Coping, and Disordered Eating**

The result of the present study indicates that the intensity of daily hassles is associated with severity of disordered eating, even after controlling for depression and coping strategies. They support Schmidt et al.'s (1999) suggestion that daily hassles may be relevant to women with disordered eating and Cattanach and Rodin's (1988) suggestion that the types of stressors women with eating disorders experience fall within a normative range of life experience for young women. Furthermore, the results support Compas et al. (1985), Rowlison and Felner (1988), and Swearingen and Cohen (1985), who suggest that woman's stress symptoms and psychopathology may be related to daily hassles. The results are also consistent with other studies that investigated both daily hassles and life events and showed that both types of stressors were associated with eating disorders (Rosen et al., 1993; Shatford & Evans, 1986; Troop et al., 1994).
Finally, the findings of the present study, that disordered eating and intensity of daily hassles are positively associated, may be linked to the results of other studies that reported that women with disordered eating report more severe stressors (e.g., Crowther, Sanftner, Bonifazi, & Shepherd, 2001; Shatford & Evans, 1986; Wolfe et al., 2000). Two of these studies used different methodologies than the present study. The daily diary approach (Crowther et al., 2001; Wolfe et al., 2000) found that individuals with eating disorders perceived daily hassles to be more severe than women without disordered eating. Perhaps women with disordered eating view these "daily hassles" as subjectively more a part of their lives because they lack appropriate coping mechanism to cope with daily stressors and/or their existing coping mechanisms may be ineffective (cf. Fitzgibbon & Kirchenbaum, 1991). Alternatively, they may appraise the daily hassles as more stressful because their negative self-schemas lead to selective processing of events related to the self and the function of food (cf. Vitousek & Hollon, 1990). However, the results of the present study does not imply causality, therefore it is unclear whether the female athletes with disordered eating are more sensitive to stressors and report greater daily hassles, or if a greater number of daily hassles lead to disordered eating. Alternatively, a third unmeasured variable may account for the relationship (e.g., appraisals).

As expected, greater use of active coping (a problem-focused coping strategy) in response to an interpersonal stressor was uniquely associated with less severe disordered eating, even after depression was controlled for. In two similar studies that controlled for depression, Ghaderi and Scott (2000) and Yager et al. (1995) found that women who were fully recovered from eating disorders engaged in more active coping strategies than
non-recovered women. It may be that some forms of problem-focused coping (e.g., active coping, planning, and purposeful problem solving) serve to protect against the development of eating disorders. Alternatively, both emotion-focused and problem-focused coping may be the result of greater (or lesser) disordered eating and lead to different coping strategies. For example, Ghiz and Chrisler (1995) found that assertiveness was significantly related to dietary restraint and disinhibition among women with disordered eating. Thus, the underlying mechanisms and beliefs that promote active coping also need to be investigated.

The present findings are also consistent with the expected results that greater use of positive reinterpretation and growth (an emotion-focused coping strategy) and mental disengagement coping strategies in response to an interpersonal stressor were associated with more severe disordered eating, even after controlling for depression. Despite weak internal consistency ($r = .56$) for the mental disengagement coping subscale, the results indicated a statistically significant relationship between mental disengagement and disordered eating. This suggests that the relationship between mental disengagement is relatively strong despite low internal consistency of scale items.

The greater the disordered eating the more the women used positive growth and reinterpretation coping to reframe the interpersonal stressor (i.e., look at it in a different way). The two coping scales, active and positive growth and reinterpretation coping became statistically non-significant predictors ($p < .057$; $p < .06$, respectively) when two items ("dissatisfaction with your physical appearance" and "dissatisfaction with your physical fitness") from the hassles scale were deleted from the scale, and the HMR analysis rerun with a rescored Hassles scale. These results suggest that the relationships between these coping scales and disordered eating are not very reliable, and these findings need to be replicated.
The greater the disordered eating the more the women used positive growth and reinterpretation coping to reframe the interpersonal stressor (i.e., *look at it in a different way, look for the good in it, grew or learned from the experience*) and mental disengagement (i.e., *replaced the stressor with another activity, daydreamed, or slept*). Other studies that examined coping and eating disorders have suggested that avoidance-type strategies are used to cope with stressors by individuals with eating disorders (Billings & Moos, 1981; Neckowitz & Morrison, 1991; Paxton & Diggens, 1997; Shatford & Evans, 1986; Troop et al., 1994). Neckowitz and Morrison (1991) also studied coping strategies in response to an interpersonal stressor. These results are consistent with studies that suggest women with disordered eating behaviors have difficulty asserting themselves and may benefit from interpersonal therapy (Apple, 1999; Birchall, 1999; McIntosh et al., 2000). It has been suggested that adolescent girls become preoccupied with the task of constructing the self to ensure connectedness with others. This process may be exacerbated by the use of non-active coping strategies and ultimately undermine the girl’s sense of self confidence and self-worth (Moretti, Rein & Wiebe, 1998). Although, non-active coping strategies may allow the female athletes to avoid conflict and maintain relationships (Banyard & Graham-Bermann, 1993), it may be more beneficial to focus on active coping strategies that support assertive behaviours and discourage the silencing of the self in relationships.

Roth and Cohen (1986) suggested that approach or active coping is preferable when (a) the situation is controllable, (b) the source of the stress is known to the person, or (c) the outcome measures are long-term. They suggested that avoidance coping or non-active coping strategies are preferable when (a) emotional resources are limited (i.e., low
self-confidence, low self-esteem), (b) the source of stress is not clear, (c) the situation is uncontrollable, or (d) outcome measures are immediate or short-term (acute). This suggests that further investigation is needed into the perceived controllability of the stressor, emotional resources (self esteem), awareness of the stressor, and acute or chronic nature of the stressor as underlying factors that may be related to which coping strategy is used.

One may also explore the relationship of coping strategies and the therapeutic utility of the willingness to change (i.e., Motivational Interviewing Model, by Prochaska and DiClemente, 1992). Motivational Interviewing (MI) is an approach designed to help build commitment and reach a decision to change (Miller & Rollnick, 1991) and may reflect the use of different coping strategies. The precontemplation (does not want to change or does not see it as a problem), contemplation (is thinking about changing, but is still ambivalent), and action (is actively working on changing the problem) stages of MI may parallel non-active and active coping strategies, respectively. A female athlete with disordered eating may be using non-active coping strategies and may benefit from education on the use of active coping strategies.

The present findings did not support the expected association between relationship-focused coping or social support coping and disordered eating when depression and other coping strategies were accounted for. There have been no other published studies that have examined the relationship-focused questionnaire with disordered eating. The failure of the present study to replicate findings of other studies that demonstrated an association between social support coping and disordered eating may reflect differences between populations (Bloks et al., 2001; Troop et al., 1998; Troop
et al., 1994; Yager et al., 1997). These studies examined more clinical disordered eating populations (BN and AN) and may reflect differences in severity of eating disorder symptoms from the present study. For example, the female athletes from a university community may not have the severe level of symptoms required to produce the degree of isolation and less social support coping skills that have been reported in the previous studies. Thus, the lack of association between social support coping and disordered eating in the present study may be an indication that different strategies are more or less effective at reducing stress at different stages of a problem.

In addition, the differences in social support coping findings of the present study may also reflect the differences in severity of depression found in the studies (Troop et al., 1994; 1998; Yager et al., 1995). The female athlete’s in the present study had lower mean depression scores than two other studies (Troop et al., 1994; Yager et al., 1995) and thus may have less need to use social support coping than women with higher levels of depression. Furthermore, Troop et al. (1998) reanalyzed their data after removing participants who had major depression and their results indicated that social support coping was no longer significantly related to disordered eating.

IPT was originally developed for treatment for individuals suffering from depression but has also been a useful therapeutic intervention for disordered eating. Perhaps the failure of the present study to replicate an association between social support coping and disordered eating reflects both differences in severity of eating disorder and levels of depression found in other studies (Troop et al., 1994; 1998; Yager et al., 1995). Finally, it may be important to clarify what type of social support coping is related to disordered eating as different social support coping measures are used. Yager et al.
(1995) used the same measure as the present study (COPE), and found that social support for emotional reasons (i.e., *discuss feelings, emotional support from friends/family, get sympathy, or talking about feelings*) was related to BN, but social support for instrumental reasons (i.e., *get advice, talk to someone to find out more about the situation or who could do something concrete about the problem, or asking people who have had similar experiences*) was not.

The results of the present study are similar to three other studies (Fryer et al., 1997; Ghaderi & Scott, 2000; Neckowitz & Morrison, 1991). Fryer et al. (1997) examined adolescent females and also failed to find an association between social support coping and eating disturbed attitudes and behaviors although this study did not control for depression. Similar to the present study, other researchers examined coping in response to an interpersonal stressor and found no differences between bulimic and control groups on the measure of social support coping, but also failed to control for depression (Neckowitz & Morrison, 1991). Finally, the present study is also consistent with Ghaderi and Scott (2000) who examined participants along a disordered eating continuum, and, once depression was controlled for, found that social support coping was not related to eating behaviors. Therefore, on the balance, the results of the studies that examined the association between seeking social support coping and disordered eating indicate that the findings are mixed. Future research that examines social support coping and relationship-focused coping along a continuum of eating disorders, while examining the influence of depression, may contribute to our knowledge about the experience of disordered eating.
**Limitations**

Although this study highlights the association between critical comments, stress, coping, and eating behaviors of female’s athletes while controlling for depression, there are several methodological limitations that should be addressed. First, the primary measure used to assess critical comments in this study (Social Hassles Questionnaire) was developed specifically for this project and had not been validated previously.

Also, typical of many surveys of this type, was the inability to test the associations between stress, coping, and anorexia nervosa due to the low prevalence for this type of eating disorder. The results of this study are purely correlational and the cross-sectional design does not permit causal inference. Moreover, the results can only be generalized to volunteers who are female athlete university students, 19 to 25 years of age, from a Canadian family of origin. The data collection instruments were self-report, thus their accuracy in measuring behaviours associated with disordered eating could be affected by denial, poor recall, reporter bias, poor reconstruction, and/or distortion of symptoms (Vitousek, Daly, & Heiser, 1991). Furthermore, the weak internal consistency of a number of the coping items (e.g., behavioral disengagement, acceptance, suppression) may have limited the ability to detect relationships.

This investigation linking critical comments, daily hassles, interpersonal stressors, and disordered eating embodies new exploratory research. Any findings made here require replication using multiple measures of critical comments, daily hassles, interpersonal stressors, coping strategies, depression, and disordered eating. Prospective studies are needed to further examine and verify the relationship between interpersonal stressors, daily hassles, coping, depression, and disordered eating among female athletes.
In addition, specific weight and shape related stressors, severity of stressor, and affect could also be assessed by gathering data from family, friends, coaches, media, and participants. Qualitative methods, similar to the pilot study, could assist in the exploration of underlying, salient dynamics of stress, appraisal processes, sensitivities to stressors, and coping strategies that may contribute to the experience of disordered eating. To help understand underlying mechanisms it may also be useful to examine critical comments and weight-related expectations from the particular social sources (e.g., opposite sex, female friends, male friends, mothers, fathers, grandparents, male coaches, female coaches, teammates – male and female, and the media) and depression among disordered eating populations.

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 that more attention needs to be given to the continuum of disordered eating that realistically mirrors the population of young women. The high frequency of weight and shape dissatisfaction, restraint, and the problematic eating behaviours warrant further investigations of the experience of disordered eating and the factors that prevent and/or protect females from moving further along the continuum. A focus on the social context that surrounds disordered eating may help to address the factors that maintain or prevent psychological and physical effects of an eating disorder. Specifically, the influence of perceived critical comments from peers, coaches, and family may provide further information about the social context of female athletes. The amount of exposure to negative comments about shape and/or weight may
be associated with a certain point along the continuum. Fairburn et al. (1998) found that individuals with binge eating disorder reported more exposure to negative comments about shape and or weight.

In therapy, the counsellor cognizant of non-active coping strategies can communicate the importance of supportive interpersonal relationships and discuss motivators for change. Future research that explores the role of beliefs underlying perceived stressors, social pressures, coping strategies, and depression, may provide us with clues of how to intervene and release the grip of disordered eating in female university athletes. Longitudinal designs that also control for depression may help determine if interpersonal sensitivity contributes to disordered eating or if females who receive stressful comments are more likely to engage in disordered eating behaviors. Further study of the complex relationship between depression and severity of critical comment and the eating disorder continuum is needed.

There is a need for comprehensive primary prevention programs to include ways to combat the negative effects of critical comments from, peers, coaches, and family messages and expectations about weight and shape and to develop resiliency to pressures to be thin. Comprehensive programs could also target the influential sources where the actual pressures to be thin emanate from such sources as the family, peers, and significant others. Development of active forms of coping skills and role modeling scenarios may provide strategies for female athletes to cope with negative comments. Skills that help management of daily life hassles (e.g., time management and relaxation) at university may also prove useful. Education of athletes, families, peers, and coaches about the relationship between stress, critical comments, coping behaviors, depression, and
disordered eating may reduce movement along the eating disorder continuum. Treatment and prevention programs must address related psychological correlates when working with young women at-risk for eating disorders.

The examination in research and practise of influential relational contextual factors provides a welcome shift from the focus on describing the symptoms and causes of eating disorders that is typical of some research and practise in this area. We are now aware of stressors, coping strategies in response to interpersonal stressors, critical comments, and depression that may inhibit the development of healthy eating behaviors of female university athletes.
References


We hope that you find answering the interview questions to be interesting, and the results of this study to be beneficial both to you and others.

Thank You.

Sincerely,
Anne Muscat
Graduate Student, (Counselling Psychology)
Department of Educational and Counselling Psychology, and Special Education
Appendix C: Demographics Questionnaire

Stress, Coping and Eating Habits
of University Athletes

Please complete the following background information:

**Biographical Information**

1. Current year in university/college (please circle) 1 2 3 4 5
2. What is your gender (please circle) male female
3. What is your age in years? ___________ years.
4. Do you associate your family of origin with any of the following groups? (please circle)
   African  Canadian  European  Middle Eastern  South East Asia  South Asia  Other
5. Where is your birthplace? ___________
6. How many years have you lived in Canada? ___________ years.
7. Marital status (please circle)
   Single  Married/Common Law  Divorced  Separated  Other
8. Do you live with your parents or parent (please circle) yes no

**Athletic Background**

1. What is the main sport you participate in? ___________
2. How many hours per week do you generally train for your sport (include time doing weights and conditioning) ___________ hours/week
3. What is your level of highest competitive experience? (Please circle one)
   Regional  Provincial  National (collegiate/university)  International
4. What part of the sport season are you currently participating in? (Please circle one).
   Pre-season  competitive season  post-season.
# Appendix D: Questionnaire for Eating Disorder Diagnosis

**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 caloric 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 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 of 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?

19. During how many of these episodes of overeating did you have a sense of having lost control? (Please circle)

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)

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 of the past 28 days have you done this?

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 of the past 28 days have you done this?

26. Have you taken diuretics (water pills), as a means of controlling your shape or weight or to counteract the effect of eating?
   0 – No
   1 – Yes

27. On how many days of the past 28 have you done this?

28. Have you vigorously exercised as a means of controlling your shape or weight or to counteract the effect of eating?
   0 - No
   1 - Yes

29. On how many days out of the past 28 have you done this?

OVER THE PAST FOUR WEEKS (28 DAYS)

<table>
<thead>
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<th>Not at All</th>
<th>Slightly</th>
<th>Moderately</th>
<th>Significantly</th>
</tr>
</thead>
</table>

30. Has your weight influenced how you think about (judge) yourself as a person?

31. Has your shape influenced how you think about (judge) yourself as a person?

32. How much would it distressed you if you had to weigh yourself once a week for the next four weeks?
33. How dissatisfied have you felt with your weight?  
34. How dissatisfied have you felt with your shape?  
35. How thin have you wanted to be?  
36. How concerned have you been about other people seeing you eat? (Only circle 4, 5, or 6 if you have avoided some occasions)  
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)  
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)

<table>
<thead>
<tr>
<th>Physical Dimensions</th>
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<tbody>
<tr>
<td>1. To the nearest inch or centimeter, what is your current height?</td>
</tr>
<tr>
<td>Inches _______ Centimeters _______</td>
</tr>
<tr>
<td>2. To the nearest pound or kilogram, what is your current weight?</td>
</tr>
<tr>
<td>Pounds _______ Kilograms _______</td>
</tr>
<tr>
<td>3. What is your desired weight</td>
</tr>
<tr>
<td>Pounds _______ Kilograms _______</td>
</tr>
</tbody>
</table>
Appendix E: Social Hassles Questionnaire

Social Hassles Questionnaire

We are interested in how people respond when they confront a difficult or stressful interpersonal event in their lives. There are lots of ways to deal with stress. This questionnaire asks you to indicate what you felt, when you experienced a difficult or stressful interpersonal events.

1. Do you remember someone ever making a critical comment that your body should be a certain shape, weight, or that there was a need to diet to lose weight or increase food intake to gain weight? Please Circle One

   %
   59    Yes

2. If you answered No to question #1, Please go on to Question #13.
   If you answer red Yes to question #1, please describe the situation below. If there was more than one situation describe the most stressful one.

3. Identify the person from question #1, who suggested you change your body shape, weight, to diet or increase your food intake. (Please circle the appropriate answer(s)).

   a. Friend
   b. Parent-mom
   c. Parent-dad
   d. Teacher
   e. Coach
   f. Boyfriend
   g. Girlfriend
   h. Partner
   i. Other ______________

   %
   21 friends, (teammates, boyfriend, girlfriend)
   26 parents
   13 relatives (siblings, grandparents, aunts, uncles)
   22 coach or teacher
   9 friends, parents, relatives
   3 friends and coach
   1 parents and coach
   2 friends, parents, relatives, coach
   3 other (agents, chiropractor, doctor, trainer)
4. To what degree did the comment about your body have an impact on your behavior/attitude towards your body? (Circle one please).

<table>
<thead>
<tr>
<th>%</th>
<th>6 = no impact at all</th>
<th>45 = a little bit of impact</th>
<th>29 = quite a bit of impact</th>
<th>20 = a lot of impact</th>
</tr>
</thead>
</table>

5. To what degree did you feel upset by the person’s comment about your body? (Circle one please).

<table>
<thead>
<tr>
<th>%</th>
<th>8 = not at all upset</th>
<th>41 = a little bit upset</th>
<th>21 = quite a bit upset</th>
<th>30 = very upset</th>
</tr>
</thead>
</table>

6. To what degree do you feel the comment made by this person about your body has had an impact on how conscious you are about your body shape, diet, or need to change your weight? (Circle one please).

<table>
<thead>
<tr>
<th>%</th>
<th>5 = not at all conscious</th>
<th>44 = a little bit conscious</th>
<th>36 = quite a bit conscious</th>
<th>15 = very conscious</th>
</tr>
</thead>
</table>

7. To what degree do you feel the comment made by this person about your body has resulted in you attempting to make changes to your body? (Circle one please).

<table>
<thead>
<tr>
<th>%</th>
<th>13 = no changes at all attempted</th>
<th>45 = a little bit of change attempted</th>
<th>25 = quite a bit of change attempted</th>
<th>17 = definitely made a lot changes attempted</th>
</tr>
</thead>
</table>

8. To what degree did you feel your self-esteem threatened by the comment about your body shape, diet, or need to change your weight? (Circle one please).

<table>
<thead>
<tr>
<th>%</th>
<th>20 = Not threatened at all</th>
<th>40 = Felt a little threatened</th>
<th>21 = Felt somewhat threatened</th>
<th>19 = Felt very threatened</th>
</tr>
</thead>
</table>

---
9. To what degree did you feel you had failed their expectations when you heard the person comment about your body shape, diet, or need to change your weight? (Circle one please).

<table>
<thead>
<tr>
<th>%</th>
<th>1 = Did not feel like I failed</th>
<th>2 = Felt a little bit like I failed</th>
<th>3 = Felt somewhat like I had failed</th>
<th>4 = Felt like a failure</th>
</tr>
</thead>
<tbody>
<tr>
<td>41</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

10. The scale consists of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to the word. Indicate to what extent you felt the emotion in reaction to the comment made about your body? Please write a number beside each word.

<table>
<thead>
<tr>
<th>1 = Very slightly</th>
<th>2 = A little</th>
<th>3 = Moderately</th>
<th>4 = Quite a bit</th>
<th>5 = Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anger</td>
<td>1 = 23%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>1 = 38%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fright</td>
<td>1 = 72%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guilt</td>
<td>1 = 53%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shame</td>
<td>1 = 36%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other feeling (please describe)

11. How long ago did the stressful comment about your body occur? (please circle year)

<table>
<thead>
<tr>
<th>Past 6 months</th>
<th>1 year ago</th>
<th>2 years ago</th>
<th>3 years ago</th>
<th>4 years ago</th>
<th>5 years ago</th>
<th>6 years ago</th>
<th>7 years ago</th>
<th>8 years ago</th>
<th>9 years ago</th>
<th>10 years ago</th>
<th>11 years ago</th>
<th>12 years ago</th>
<th>13 years ago</th>
<th>14 years ago</th>
<th>15+ years ago</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10 (3%)</td>
<td>11 (2%)</td>
<td>12 (2%)</td>
<td>13 (3%)</td>
<td>14 (3%)</td>
<td>15 (4%)</td>
<td>16 (10%)</td>
<td>7 (14%)</td>
<td>18 (14%)</td>
<td>19 (17%)</td>
<td>20 (12%)</td>
<td>21 (9%)</td>
<td>22 (7%)</td>
<td>23 (3%)</td>
<td></td>
</tr>
</tbody>
</table>

12. How well do you remember the comment about your body? (Circle one please).

<table>
<thead>
<tr>
<th>%</th>
<th>1 = quite vague</th>
<th>2 = remember parts of the event</th>
<th>3 = fairly clear in my mind</th>
<th>4 = remember the event very clearly (as if it happened yesterday)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>41</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
13. Do you remember a person ever making a critical comment about SOMEONE ELSE’s BODY who was close to you? (i.e., encourage someone to change their body shape, diet or lose/gain weight). (Circle one please).

57 Yes

14. If you answered No to question #13, please skip the remaining questions and go onto the next questionnaire. If you answered Yes to question #13, please describe the situation below, then continue with the questions. If there is more than one situation please describe the most stressful situation.

15. Identify the person who suggested to someone else close to you to change his/her body shape or weight, to diet, or to increase his/her food intake. (Please circle the appropriate answer(s).

a. Friend
b. Parent-mom
c. Parent-dad
d. Teacher
e. Coach

36 friends (teammates, boyfriend, girlfriend)
19 parents
13 relatives (aunts, uncles, grandparents, siblings)
18 coach or teacher
6 friends and parents
3 friends and coach
1 parents and coach
1 friends, parents, relatives, coach
1 (friend and doctor)
1 (friend, parents and judge)
1 (other media)

16. To what degree did the comment about someone else’s body close to you have an impact on your behavior/attitude towards your body? (Circle one please).

1 = no impact at all
2 = a little bit of impact
3 = quite a bit of impact
4 = a lot of impact
17. To what degree did you feel upset by the person’s comment about someone else’s body close to you? (Circle one please).

<table>
<thead>
<tr>
<th>%</th>
<th>1 = not at all upset</th>
<th>2 = a little bit upset</th>
<th>3 = quite a bit upset</th>
<th>4 = very upset</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

18. To what degree do you feel the comment made by this person about someone else’s body close to you has had an impact on how conscious you are about your body shape, diet, or need to change your weight? (Circle one please).

<table>
<thead>
<tr>
<th>%</th>
<th>1 = not at all conscious</th>
<th>2 = a little bit conscious</th>
<th>3 = quite a bit conscious</th>
<th>4 = very conscious</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>43</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

19. To what degree do you feel the comment made by this person about someone else’s body close to you resulted in you attempting to make changes to your body? (Circle one please).

<table>
<thead>
<tr>
<th>%</th>
<th>1 = no changes at all attempted</th>
<th>2 = a little bit of change attempted</th>
<th>3 = quite a bit of change attempted</th>
<th>4 = definitely made a lot changes attempted</th>
</tr>
</thead>
<tbody>
<tr>
<td>44</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

20. To what degree did your self esteem feel threatened by the comment made to someone else close to you about their body shape, diet, or need to change your weight? (Circle one please).

<table>
<thead>
<tr>
<th>%</th>
<th>1 = Not threatened at all</th>
<th>2 = Felt a little threatened</th>
<th>3 = Felt somewhat threatened</th>
<th>4 = Felt very threatened</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

21. To what degree did you feel you had failed their expectations when you heard this person’s comment about someone else’s body shape, diet, or need to change your weight? (Circle one please).

<table>
<thead>
<tr>
<th>%</th>
<th>1 = Did not feel like I failed</th>
<th>2 = Felt a little bit like I failed</th>
<th>3 = Felt somewhat like I had failed</th>
<th>4 = Felt like a failure</th>
</tr>
</thead>
<tbody>
<tr>
<td>69</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
22. The scale consists of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to the word. Indicate to what extent you felt the emotion in reaction to the comment made about someone else's body? Please write a number beside each word.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Very slightly</strong></td>
<td><strong>A little</strong></td>
<td><strong>Moderately</strong></td>
<td><strong>Quite a bit</strong></td>
<td><strong>Extremely</strong></td>
</tr>
<tr>
<td>Or not at all</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 = 23% Anger</td>
<td>1 = 31% Sadness</td>
<td></td>
<td>1 = 91% Relief</td>
<td></td>
</tr>
<tr>
<td>1 = 53% Anxiety</td>
<td>1 = 87% Envy</td>
<td></td>
<td>1 = 87% Hope</td>
<td></td>
</tr>
<tr>
<td>1 = 72% Fright</td>
<td>1 = 90% Jealousy</td>
<td></td>
<td>1 = 86% Love</td>
<td></td>
</tr>
<tr>
<td>1 = 56% Guilt</td>
<td>1 = 89% Happiness</td>
<td></td>
<td>1 = 94% Gratitude</td>
<td></td>
</tr>
<tr>
<td>1 = 69% Shame</td>
<td>1 = 90% Pride</td>
<td></td>
<td>1 = 66% Compassion</td>
<td></td>
</tr>
<tr>
<td>Other feeling (please describe)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

23. How long ago did the comment about someone else's body occur? (please circle year).

<table>
<thead>
<tr>
<th>Age</th>
<th>Critical Comment was received:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past 6 months</td>
<td>11 (3%) 12 (1%) 13 (2%) 14 (6%) 15 (1%) 16 (3%)</td>
</tr>
<tr>
<td>1 year ago</td>
<td>17 (7%) 18 (9%) 19 (21%) 20 (13%) 21 (15%) 22 (12%)</td>
</tr>
<tr>
<td>2 years ago</td>
<td>23 (3%) 24 (3%) 25 (1%)</td>
</tr>
<tr>
<td>3 years ago</td>
<td>26 (2%) 27 (3%)</td>
</tr>
<tr>
<td>4 years ago</td>
<td>28 (1%) 29 (1%)</td>
</tr>
<tr>
<td>5 years ago</td>
<td>30 (1%) 31 (1%)</td>
</tr>
<tr>
<td>6 years ago</td>
<td>32 (1%) 33 (1%)</td>
</tr>
<tr>
<td>7 years ago</td>
<td>34 (1%) 35 (1%)</td>
</tr>
<tr>
<td>8 years ago</td>
<td>36 (1%) 37 (1%)</td>
</tr>
<tr>
<td>9 years ago</td>
<td>38 (1%) 39 (1%)</td>
</tr>
<tr>
<td>10 years ago</td>
<td>40 (1%) 41 (1%)</td>
</tr>
<tr>
<td>11+ years ago</td>
<td>42 (1%) 43 (1%)</td>
</tr>
</tbody>
</table>

24. How well do you remember the comment about someone else's body? (Circle one please).

<table>
<thead>
<tr>
<th>%</th>
<th>1 = quite vague</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>2 = remember parts of the event</td>
</tr>
<tr>
<td>27</td>
<td>3 = fairly clear in my mind</td>
</tr>
<tr>
<td>43</td>
<td>4 = remember the event very clearly (as if it happened yesterday).</td>
</tr>
</tbody>
</table>
Appendix F: Life Hassles

Survey of Recent Life Experiences

<table>
<thead>
<tr>
<th>Life Hassles</th>
<th>Not at all part of my life</th>
<th>Only slightly part of my life</th>
<th>Distinctly part of my life</th>
<th>Very much part of my life</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Disliking your daily activities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. Disliking your school</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. Ethnic or racial conflict</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. Conflicts with in-laws, or boyfriend's/girlfriend’s family</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. Being let down or disappointed by friends</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. Conflict with a teacher or coach at school</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. Social rejection</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. Too many things to do at once</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9. Being taken for granted</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10. Financial conflicts with family members</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11. Having your trust betrayed by a friend</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12. Struggling to meet your own standards of performance and accomplishment</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13. Being taken advantage of</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14. Not enough leisure time</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15. Cash-flow difficulties</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16. A lot of responsibilities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17. Dissatisfaction with school</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18. Decisions about intimate relationship (s)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19. Not enough time to meet your obligations</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Hassle</td>
<td>Not at all part of my life</td>
<td>Only slightly part of my life</td>
<td>Distinctly part of my life</td>
<td>Very much part of my life</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>----------------------------</td>
<td>-------------------------------</td>
<td>---------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>20. Financial burdens</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21. Lower evaluation of your school work than you think you deserve</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22. Experiencing high levels of noise</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>23. Lower evaluation of your school work than you expected</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24. Conflicts with family members</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>25. Finding your school work too demanding</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26. Conflicts with friends</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>27. Trying to secure loans</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>28. Getting “ripped off” of cheated in the purchase of goods</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>29. Unwanted interruptions of your school work (studying)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>30. Social isolation</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>31. Being ignored</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>32. Dissatisfaction with your physical appearance</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>33. Unsatisfactory housing conditions</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>34. Finding school uninteresting</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>35. Failing to get money you expected</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>36. Gossip about someone you care about</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>37. Dissatisfaction with your physical fitness</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>38. Gossip about yourself</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>39. Difficulty dealing with modern technology (e.g., computers)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>40. Hard work to look after and maintain home</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

41. Have we missed any of your life hassles?

<table>
<thead>
<tr>
<th>Hassle</th>
<th>Not at all part of my life</th>
<th>Only slightly part of my life</th>
<th>Distinctly part of my life</th>
<th>Very much part of my life</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
Appendix G: Coping Strategies

COPE

Your coping strategies

Take a few moments and think about an event or situation related to an "interpersonal" situation that has been stressful for you during the past month (it may still be ongoing). By "interpersonal" we mean a meaningful interaction with someone (e.g., confrontation, or difference of opinion). By "stressful" we mean a situation that was difficult or troubling for you, either because you feel distressed about what happened, or because you had to use considerable effort to deal with the "interpersonal" situation. Please keep this event in mind while completing the coping questionnaire.

1. Please describe the situation and what made it stressful:

47% from a male boyfriend or ex-boyfriend
35% from a female friend or teammate,
10% from family
3% from a coach
5% other (work related)

2. Please identify with a checkmark the interpersonal stressors you experienced in question #1 above.

%  
48 1. Confrontation with someone close to you.
35 2. Uncomfortable discussion with someone close to you.
  9 3. A separation from someone close to you.
  3 4. Feeling like you do not belong or, "fit in" to the group.
  1 5. Feeling pressured/teased to be a certain way by someone close to you.
  4 6. Feeling like the people close to you are in competition with you.
  4 7. Other (please describe) self identity, failure, worry, disrespectful, misunderstood, sad, privacy invaded, let him down.

Please keep the interpersonal event you described above in mind while completing the coping strategies questionnaire. Respond to each of the following items by circling one of the four possible response choices listed just below. Please try to respond to each item separately in your mind from each other item. There are no "right" or "wrong" answers, so choose the most accurate answer for YOU—-not what you think "most people" would say or do.
<table>
<thead>
<tr>
<th></th>
<th>I usually don’t do this at all</th>
<th>I usually do this a little bit</th>
<th>I usually do this a medium amount</th>
<th>I usually do this a lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I tried to grow as a person as a result of the experience.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2.</td>
<td>I turned to work or other substituted activities to take my mind off things.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3.</td>
<td>I tried to get advice from someone about what to do.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4.</td>
<td>I concentrated my efforts on doing something about it</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5.</td>
<td>I said to myself “this isn’t real”</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6.</td>
<td>I put my trust in God</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7.</td>
<td>I admitted to myself that I can’t deal with it, and quit trying.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8.</td>
<td>I restrained myself from doing anything too quickly.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9.</td>
<td>I discussed my feelings with someone.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10.</td>
<td>I get used to the idea that it happened.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>11.</td>
<td>I kept myself from getting distracted by other thoughts or activities.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>12.</td>
<td>I daydreamed about things other than this</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>13.</td>
<td>I made a plan of action.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>14.</td>
<td>I sought God’s help</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>15.</td>
<td>I accepted that this has happened and that it can’t be changed.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>16.</td>
<td>I held off doing anything about it until the situation permitted.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>17.</td>
<td>I tried to get emotional support from friends or relatives.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>18.</td>
<td>I just gave up trying to reach my goal</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>19.</td>
<td>I took additional action to try to get rid of the problem.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>20.</td>
<td>I refused to believe that it happened.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>21.</td>
<td>I tried to see it in a different light, to make it seem more positive.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>22.</td>
<td>I talked to someone who could do something concrete about the problem.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>23.</td>
<td>I slept more than usual.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>24.</td>
<td>I tried to come up with a strategy about what to do.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>25.</td>
<td>I focused on dealing with this problem, and if necessary let other things slide a little.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>I usually don't do this at all</td>
<td>I usually do this a little bit</td>
<td>I usually do this a medium amount</td>
<td>I usually do this a lot</td>
</tr>
<tr>
<td>---</td>
<td>-------------------------------</td>
<td>-------------------------------</td>
<td>----------------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>26.</td>
<td>I got sympathy and understanding from someone.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>27.</td>
<td>I tried to find comfort in my religion.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>28.</td>
<td>I gave up the attempt to get what I want.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>29.</td>
<td>I looked for something good in what was happening.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>30.</td>
<td>I thought about how I might best handle the problem.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>31.</td>
<td>I pretended that it hasn't really happened</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>32.</td>
<td>I made sure not to make matters worse by acting too soon.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>33.</td>
<td>I tried hard to prevent other things from interfering with my efforts at dealing with this.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>34.</td>
<td>I went to movies or watched TV, to think about it less.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>35.</td>
<td>I asked people who have had similar experiences what they did.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>36.</td>
<td>I forced myself to wait for the right time to do something.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>37.</td>
<td>I prayed more than usual.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>38.</td>
<td>I reduced the amount of effort I'm putting into solving the problem.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>39.</td>
<td>I talked to someone how I feel.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>40.</td>
<td>I learned to live with it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>41.</td>
<td>I put aside other activities in order to concentrate on this.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>42.</td>
<td>I thought hard about what steps to take</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>43.</td>
<td>I acted as though it hasn't even happened.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>44.</td>
<td>I did what had to be done, one step at a time.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>45.</td>
<td>I learnt something from the experience.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>46.</td>
<td>I took direct action to get around the problem.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>47.</td>
<td>I talked to someone to find out more about the situation.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>48.</td>
<td>I accepted the reality of the fact that it happened.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
Appendix H: Relationship-focused Coping Questionnaire

Relationship-Focused Coping Dimensions

Please keep the interpersonal event you described previously in mind while completing the following scale. Respond to each of the following items by circling one of the four possible response choices listed just below. Please try to respond to each item separately in your mind from each other item. There are no “right” or “wrong” answers, so choose the most accurate answer for YOU—not what you think “most people” would say or do.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Does not apply or not used</th>
<th>Used somewhat</th>
<th>Used quite a bit</th>
<th>Used a great deal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Tried to understand from the other person’s concerns.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2.</td>
<td>Tried to understand how the other person felt.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3.</td>
<td>Tried to experience what the other person was feeling.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4.</td>
<td>Imagined myself in the other person’s shoes.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5.</td>
<td>Tried to see things from the other person’s point of view.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6.</td>
<td>Tried to accept the other person(s) as they are now.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7.</td>
<td>Tried to help the other person(s) involved by listening to them.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8.</td>
<td>Tried to help the other person(s) involved by doing something for them.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9.</td>
<td>Tried to figure out what would make the other person feel better.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10.</td>
<td>Tried to provide comfort to the other person(s) involved by telling them my positive feelings for them.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
Appendix I: Depression Inventory

**BDI-II**

**Instructions:** This questionnaire consists of 21 groups of statements. Please read each group of statements carefully, and then pick out the one statement in each group that best describes the way you have been feeling during the past two weeks, including today. Circle the number beside the statement you have picked. If several statements in the group seem to apply equally well, circle the highest number for that group. Be sure that you do not choose more than one statement for any group, including Item 16 (Change in Sleeping Pattern) or Item 18 (Change in Appetite).

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sadness</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>I do not feel sad.</td>
<td>1</td>
<td>I feel sad much of the time.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>I am sad all the time.</td>
<td>3</td>
</tr>
<tr>
<td>2. Pessimism</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>I am not discouraged about my future.</td>
<td>1</td>
<td>I feel more discouraged about my future than I used to be.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>I do not expect things to work out for me.</td>
<td>3</td>
</tr>
<tr>
<td>3. Past Failure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>I do not feel like a failure.</td>
<td>1</td>
<td>I have failed more than I should have.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>As I look back, I see a lot of failures</td>
<td>3</td>
</tr>
<tr>
<td>4. Loss of Pleasure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>I get as much pleasure as I ever did from the things I enjoy.</td>
<td>1</td>
<td>I don't enjoy things as much as I used to.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>I get very little pleasure from the things I used to enjoy.</td>
<td>3</td>
</tr>
<tr>
<td>5. Guilty Feelings</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>I don't feel particularly guilty.</td>
<td>1</td>
<td>I feel guilty over many things I have done or should have done.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>I feel quite guilty most of the time.</td>
<td>3</td>
</tr>
<tr>
<td>6. Punishment Feelings</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>I don't feel I am being punished.</td>
<td>1</td>
<td>I feel I may be punished.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>I expect to be punished.</td>
<td>3</td>
</tr>
</tbody>
</table>
7. Self-Dislike
0 I feel the same about myself as ever.
1 I have lost confidence in myself.
2 I am disappointed in myself.
3 I dislike myself.

8. Self-Criticalness
0 I don’t criticize or blame myself more than usual.
1 I am more critical of myself than I used to be.
2 I criticize myself for all my faults.
3 I blame myself for everything bad that happens.

9. Suicidal Thoughts or Wishes
0 I don’t have any thoughts of killing myself.
1 I have thoughts of killing myself, but would not carry them out.
2 I would like to kill myself.
3 I would kill myself if I had the chance.

10. Crying
0 I don’t cry anymore than I used to.
1 I cry more than I used to.
2 I cry over every little thing.
3 I feel like crying, but I can’t.

11. Agitation
0 I am no more restless or wound up than usual.
1 I feel more restless or wound up than usual.
2 I am so restless or agitated that it’s hard to stay still.
3 I am so restless or agitated that I have to keep moving or doing something.

12. Loss of Interest
0 I have not lost interest in other people or activities.
1 I am less interested in other people or things than before.
2 I have lost most of my interest in other people or things.
3 It’s hard to get interested in anything.

13. Indecisiveness
0 I make decisions about as well as ever.
1 I find it more difficult to make decisions than usual.
2 I have much greater difficulty in making decisions than I used to.
3 I have trouble making any decisions.
14. **Worthlessness**
    0 I do not feel I am worthless.
    1 I don’t consider myself as worthwhile and useful as I used to.
    2 I feel more worthless as compared to other people.
    3 I feel utterly worthless.

15. **Loss of Energy**
    0 I have as much energy as ever.
    1 I have less energy than I used to have.
    2 I don’t have enough energy to do very much.
    3 I don’t have enough energy to do anything.

16. **Changes in Sleeping Pattern**
    0 I have not experienced any change in my sleeping pattern.
    1a I sleep somewhat more than usual.
    1b I sleep somewhat less than usual.
    2a I sleep a lot more than usual.
    3a I sleep most of the day.
    3b I wake up 1-2 hours early and can’t get back to sleep.

17. **Irritability**
    0 I am no more irritable than usual.
    1 I am more irritable than usual.
    2 I am much more irritable than usual.
    3 I am irritable all the time.

18. **Changes in Appetite**
    0 I have not experienced any change in my appetite.
    1a My appetite is somewhat less than usual.
    1b My appetite is somewhat greater than usual.
    2a My appetite is much less than before.
    2b My appetite is much greater than usual.
    3a I have no appetite at all.
    3b I crave food all the time.

19. **Concentration Difficulty**
    0 I can concentrate as well as ever.
    1 I can’t concentrate as well as usual.
    2 It’s hard to keep my mind on anything for very long.
    3 I find I can’t concentrate on anything.

20. **Tiredness or Fatigue**
    0 I am no more tired or fatigued than usual.
    1 I get more tired or fatigued more easily than usual.
    2 I am too tired or fatigued to do a lot of things I used to do.
    3 I am too tired or fatigued to do most of the things I used to do.
21. Loss of Interest in Sex
0  I have not noticed any recent change in my interest in sex.
1  I am less interested in sex than I used to be.
2  I am much less interested in sex now.
3  I have lost interest in sex completely.
Appendix K: Definitions

*Interpersonal Therapy Described*

Interpersonal psychotherapy is a time-limited psychotherapy based on the notion that regardless of etiology, interpersonal relationships are intertwined with symptoms. The goals of the therapy are to improve interpersonal functioning and thereby decrease symptoms. Factors identified as important in the development of eating disorders are readily conceptualized within the interpersonal psychotherapy problem areas of grief, interpersonal disputes, interpersonal deficits, and role transitions. Little or no emphasis is placed on the participants eating disorder symptoms or their preoccupation with weight, shape, or appearance (McIntosh, Bulik, McKenzie, Luty, & Jordan, 2000).

*Cognitive Behavioral Therapy Described*

Cognitive Behavioral Therapy (CBT) is designed to alter attitudes about body shape and weight, replace dysfunctional dieting with normal eating habits, and develop coping skills for resisting binging and purging. CBT is based upon the premise that thoughts mediate and interact with emotions. This interaction is cyclical in nature: thoughts generate feelings and feelings produce similar cognitions. When thoughts are negative in nature the resulting effect is either depression or anxiety. In addition, behaviors and physical symptoms help to maintain the cyclical pattern appropriate to the thoughts and feelings. Cognitive formulation of a problem identifies core beliefs and dysfunctional assumptions (rules) that generate these distorted negative cognitions (Wilson & Fairburn, 1993).
Motivational Interviewing Described

Motivational Interviewing (MI) is an approach designed to help build commitment and reach a decision to change. The therapist’s focus is on exploring costs and benefits of change. Ambivalence is seen as understandable and justifiable, and the participant is seen as capable of making informed decisions about change. Motivation is not seen as a stable internal state of the participant but something that is influenced by the interaction between therapist and participant. The aim of MI is to use this interaction to build and strengthen commitment to change (Miller & Rollnick, 1991).
Appendix L: Descriptions of Negative Comments

Critical Comments Received by Female Athletes from Significant Others

EDE-Q scores above 3.00:

- Parents have always stressed how important physical activity and being fit is in my life. You need to be in good shape to perform well. This activity is always stressed so your body looks good and fit. Basketball, National Level. (EDE-Q = 3.54).

- A parent (dad) thought I should watch my diet and eat less. Field Hockey Player, National Level. (EDE-Q = 3.76).

- There is one person that feels if I lost weight and body fat I would be a better player (Did not identify who the one person was out of 'respect' for the individual. Field Hockey, National Level. (EDE-Q = 5.82).

- Mom saying how much weight I’ve put on after coming home after Christmas of first year university. Volleyball Player, Provincial Level. (EDE-Q = 3.97).

- During X-mas break my dad’s friend, who I see once a year made a comment in front of everybody that I’ve gotten fat. I saw him again on New Year’s Eve and he made the same comment. Volleyball, National Level. (EDE-Q = 4.42).

- If I am eating something that’s fatty, someone (friends, parents, co-workers) said ‘you shouldn’t eat that, you’ll get more heavy/bigger/fat.” Especially in front of other people it’s embarrassing. No Specified Sport. Provincial Level. (EDE-Q = 4.51).

- Being told on more than one occasion by both parents and an aunt that I am not the right size for my age compared to what my mom and aunt looked at my age. Soccer. National Level. (EDE-Q = 3.66).

- The thing that made me most aware of my weight was my teammates. I became very aware of it and have since made changes to “improve” my looks. Figure Skating. National Level. (EDE-Q = 3.23).

- I was told I should lose weight for running (long distance) but also for running sports (soccer & field hockey). It was a passing comment …suggesting I would be more successful if I lose weight (teacher). Ice Hockey. Provincial Level. (EDE-Q = 4.07).

- Father, Coach, Sister....all criticize me. Fencing. International.(EDE-Q = 4.09)

EDE-Q scores below 3.00:

- I had a boyfriend in high-school who liked to comment on my “ponch” or small belly. It was kind of a joke, but kind of not really. Triathlon. Regional Level (EDE-Q = .92).

- Comment on the small size of my breasts (friend). Skiing. Regional Level (EDE-Q = .69).

- The most stressful one….a male cousin of mine made a big deal over the fact that I weighed more than he did, when he was taller….I was very unhappy with my body and I was really affected by only slight comments others might have made of it. Ice Hockey. National Level. (EDE-Q = 1.42).
• I went home for Christmas and my mother told me I was fat. Rower. National Level. (EDE-Q = 2.59).

• My dad suggesting that I should lose weight. He called me "big guy" as a joke and still does occasionally. Waterpolo. Provincial Level. (EDE-Q = 1.01).

• Lying on my stomach …..my grandmother came in and exclaimed that my legs were very big. This ranks alongside comments my mother would make about my bum, thighs, etc……this would be followed by made dad lecturing me on exercise and healthy eating. Ultimate. Regional Level. (EDE-Q = 2.22).

• My coach from my last team wanted me to lose 20 lbs. He wanted to weigh me every week and he wanted me to lose 2 lbs. a week, He thought that if I lost weight I would be the best player on the team and the fastest. I tried so hard to please him that I trained so hard and got injured and had to miss half the season. Ice Hockey. National Level. (EDE-Q = 1.33).

• Parents saying I’m too thin and don’t eat enough but really I eat as much or more than my sisters…. Ice Hockey. National Level. (EDE-Q = .95).

• My dad mentioned it once at dinner a while ago. He mentioned it casually not meaning to hurt my feelings. Ice Hockey. National Level. (EDE-Q = 2.25).

• My mother gives me low fat foods (like rice cakes) and says if I eat it I will lose weight, even though I am not trying to. Ice Hockey. National Level (EDE-Q = .92).

• I was thirteen. The boy I had just lost my virginity told his friends I was a “fat whore” I quickly became anorexic. Triathlon/running. Regional Level. (EDE-Q = .73).
Appendix M: EDE-Q Data

*Means, Standard Deviations, for the EDE-Q Subscales Compared To Similar Sample*  
(Maltby, 1999)

<table>
<thead>
<tr>
<th>Variable</th>
<th>$M_1$</th>
<th>$M_2$</th>
<th>$SD_1$</th>
<th>$SD_2$</th>
<th>Range$_1$</th>
<th>Range$_2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global</td>
<td>1.52</td>
<td>1.33</td>
<td>1.01</td>
<td>1.11</td>
<td>0 – 5.5</td>
<td>0 – 4.45</td>
</tr>
<tr>
<td>Restraint</td>
<td>1.50</td>
<td>1.29</td>
<td>1.32</td>
<td>1.35</td>
<td>0 – 6</td>
<td>0 – 5.6</td>
</tr>
<tr>
<td>Shape Concern</td>
<td>2.32</td>
<td>2.19</td>
<td>1.27</td>
<td>1.54</td>
<td>0 – 5.5</td>
<td>0 – 6</td>
</tr>
<tr>
<td>Weight Concern</td>
<td>2.07</td>
<td>1.82</td>
<td>1.27</td>
<td>1.57</td>
<td>0 – 5.8</td>
<td>0 – 6</td>
</tr>
<tr>
<td>Overeat</td>
<td>0.77</td>
<td>0.56</td>
<td>1.08</td>
<td>0.77</td>
<td>0 – 6</td>
<td>0 – 3.6</td>
</tr>
<tr>
<td>Eating Concern</td>
<td>0.98</td>
<td>0.81</td>
<td>1.00</td>
<td>1.05</td>
<td>0 – 5.8</td>
<td>0 – 4.6</td>
</tr>
</tbody>
</table>

$M_1$ = Mean present study, $M_2$ = Mean for Maltby (1999) study, $SD_1$ = Standard Deviation for present study, $SD_2$ = Standard Deviation for Maltby (1999) study, Range$_1$ = Range for present study, Range$_2$ = Range for Maltby (1999) study.
Appendix N

*Skewness and Kurtosis for the EDE-Q, Depression, Severity of Comment, Daily Hassles and Coping Measures (N = 206).*

<table>
<thead>
<tr>
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<th>Kurtosis</th>
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</thead>
<tbody>
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<td>Depression</td>
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<td>1.42</td>
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<tr>
<td>Severity</td>
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<td>-0.37</td>
</tr>
<tr>
<td>Hassles</td>
<td>0.49</td>
<td>-0.46</td>
</tr>
<tr>
<td>Coping Subscales</td>
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<td></td>
</tr>
<tr>
<td>Behavioral</td>
<td>0.84</td>
<td>0.60</td>
</tr>
<tr>
<td>Mental</td>
<td>0.46</td>
<td>-0.22</td>
</tr>
<tr>
<td>Active</td>
<td>0.07</td>
<td>-0.37</td>
</tr>
<tr>
<td>S. Support I</td>
<td>-0.24</td>
<td>-0.82</td>
</tr>
<tr>
<td>Planning</td>
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<tr>
<td>Restraint</td>
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<tr>
<td>Suppression</td>
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<td>-0.26</td>
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<tr>
<td>S. Support E.</td>
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<td>-0.37</td>
</tr>
<tr>
<td>Religion</td>
<td>1.72</td>
<td>1.76</td>
</tr>
<tr>
<td>Positive Growth</td>
<td>-0.25</td>
<td>-0.76</td>
</tr>
<tr>
<td>Acceptance</td>
<td>-0.26</td>
<td>-0.32</td>
</tr>
<tr>
<td>Denial</td>
<td>2.23</td>
<td>7.60</td>
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<tr>
<td>Relationship</td>
<td>-0.42</td>
<td>-0.61</td>
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Appendix O

*Mean, Standard Deviation and Range for the EDE-Q Scores for Competitive Level and Hours Training Per Week (N = 206).*

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<thead>
<tr>
<th>Variable</th>
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<th>SD</th>
<th>Range</th>
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<td>0.89</td>
<td>.35 - 4.07</td>
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<tr>
<td>National</td>
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<td>1.65</td>
<td>1.11</td>
<td>.28 - 5.82</td>
</tr>
<tr>
<td>International</td>
<td>24</td>
<td>1.57</td>
<td>0.98</td>
<td>.36 - 4.08</td>
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<tr>
<td>Hours Training</td>
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<tr>
<td>≤ Four</td>
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<td>1.01</td>
<td>0.37 - 4.51</td>
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<tr>
<td>Four to Eight</td>
<td>81</td>
<td>1.45</td>
<td>0.81</td>
<td>0.35 - 3.72</td>
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<td>Nine to Fifteen</td>
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<td>1.03</td>
<td>0.28 - 4.76</td>
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<td>Sixteen to Twenty</td>
<td>20</td>
<td>2.04</td>
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<td>0.53 - 5.82</td>
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<tr>
<td>Twenty-one to Twenty-five</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>1.94</td>
<td>1.03</td>
<td>0.51 - 4.08</td>
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<tr>
<td>≥ Twenty-Five</td>
<td>7</td>
<td>2.21</td>
<td>1.31</td>
<td>0.44 - 4.47</td>
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Appendix Q


<table>
<thead>
<tr>
<th>Variable</th>
<th>Present Study</th>
<th>Yager et al.</th>
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<tr>
<td></td>
<td>ABN</td>
<td>RBN</td>
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<td>Depression</td>
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<td>7.65</td>
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<td>Cope Subscales:</td>
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<td>Mental</td>
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<tr>
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<td>S. Support I</td>
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<td>3.53</td>
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