Psychological correlates of eating disordered behaviour and attitudes in female undergraduate students.

Karen Joan. Narduzzi

University of Windsor

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PSYCHOLOGICAL CORRELATES OF EATING DISORDERED BEHAVIOUR
AND ATTITUDES IN FEMALE UNDERGRADUATE STUDENTS

by

Karen J. Narduzzi

B.A. University of Ottawa, 1990

A Thesis
Submitted to the Faculty of Graduate Studies and Research
Through the Department of Psychology
in Partial Fulfilment
of the Requirements for the
Degree of Master of Arts at
the University of Windsor

Windsor, Ontario, 1992
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ABSTRACT

The current study examined the degree to which selected psychological characteristics (e.g., inter-personal competence, locus of control, ineffectiveness) covaried with dysfunctional eating behaviour and attitudes (i.e., drive for thinness, bulimic symptoms, body dissatisfaction). A secondary purpose was to compare the efficacy of different measures of ineffectiveness in predicting dysfunctional eating behaviour. The sample consisted of 200 female university students (ages 18-26) with no history of clinical eating disorders. Measures included the Eating Disorder Inventory (EDI: Garner et al., 1983), Bulimia Test (BULIT: Smith & Thelen, 1984), Interpersonal Competence Questionnaire (ICQ: Buhrmester et al., 1988) and I-E Scale (Reid & Ware, 1974). Hierarchical regression analyses showed that after controlling for extraneous variables (e.g., weight stability), Interoceptive Awareness was a significant predictor of Drive for Thinness scores. Ineffectiveness was the only significant predictor of BULIT scores and both Ineffectiveness and Interpersonal Competence were found to significantly predict Body Dissatisfaction scores. With regard to the second purpose, Ineffectiveness, I-E scores and Interpersonal Competence scores were all significantly intercorrelated and Ineffectiveness was
found to be a more powerful predictor than I-E scores or Interpersonal Competence scores with respect to all indices of eating disordered behaviour and attitudes.
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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT</td>
<td>ii</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>iv</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>vii</td>
</tr>
<tr>
<td>I</td>
<td>INTRODUCTION</td>
</tr>
<tr>
<td>Prevalence of Dysfunctional Eating Behaviour</td>
<td>1</td>
</tr>
<tr>
<td>Distinctions between Eating Disorders and Subclinical Variants</td>
<td>2</td>
</tr>
<tr>
<td>Anorexia Nervosa</td>
<td>2</td>
</tr>
<tr>
<td>Bulimia Nervosa</td>
<td>3</td>
</tr>
<tr>
<td>Subclinical Eating Disorders</td>
<td>5</td>
</tr>
<tr>
<td>Theoretical Perspectives on Eating Disorders</td>
<td>6</td>
</tr>
<tr>
<td>Sociocultural Factors</td>
<td>7</td>
</tr>
<tr>
<td>Categorical vs. Dimensional Models of Eating Disorders</td>
<td>10</td>
</tr>
<tr>
<td>Comparisons of Clinical Eating Disorder Groups with Subclinically Dysfunctional and Normal Groups</td>
<td>11</td>
</tr>
<tr>
<td>The Relationship between Psychological Characteristics and Eating Disturbances in Non-clinical Populations</td>
<td>15</td>
</tr>
<tr>
<td>The Conceptualization of Ineffectiveness</td>
<td>18</td>
</tr>
<tr>
<td>Hypotheses</td>
<td>24</td>
</tr>
<tr>
<td>II</td>
<td>METHOD</td>
</tr>
<tr>
<td>Subjects and Procedure</td>
<td>27</td>
</tr>
<tr>
<td>Measures</td>
<td>28</td>
</tr>
</tbody>
</table>
TABLE OF CONTENTS (Continued)

III RESULTS

Sample Characteristics 38

Data Screening 40

Correlations between Background and Dependent Variables 43

Correlations between Predictor and Criterion Variables 45

Primary Analyses: Psychological Correlates of Eating Disordered Behaviours/Attitudes 47

Comparison of the Relative Predictive Efficacy of Ineffectiveness Measures 55

IV DISCUSSION

Psychological Correlates of Eating-Disordered Behaviour and Attitudes 63

Comparison of the Relative Predictive Efficacy of Ineffectiveness Measures 69

Limitations of the Current Study 72

Further Research Directions 74

Conclusion 75

Appendix

A INFORMATION FOR VOLUNTEERS 78

B CONSENT FORM 80

C INFORMATION FOR PARTICIPANTS 82

D SET OF RESEARCH QUESTIONNAIRES 84

REFERENCES 99

VITA AUCTORIS 108
LIST OF TABLES

<table>
<thead>
<tr>
<th>TABLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>39</td>
</tr>
<tr>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>3</td>
<td>44</td>
</tr>
<tr>
<td>4</td>
<td>46</td>
</tr>
<tr>
<td>5</td>
<td>49</td>
</tr>
<tr>
<td>6</td>
<td>51</td>
</tr>
<tr>
<td>7</td>
<td>54</td>
</tr>
<tr>
<td>8</td>
<td>58</td>
</tr>
<tr>
<td>9</td>
<td>60</td>
</tr>
<tr>
<td>10</td>
<td>62</td>
</tr>
</tbody>
</table>

Means And Standard Deviations of Background Characteristics and Psychological Measures
Frequency of Eating Binges and Self-Induced Vomiting
Correlations Between Background Variables and Dependent Variables
Correlations Between Hypothesized Predictor Variables and Dependent Variables
Results of Hierarchical Regression Analysis on Drive for Thinness Scores
Results of Hierarchical Regression Analysis on BULIT Scores
Results of Hierarchical Regression Analysis on Body Dissatisfaction Scores
Results of Hierarchical Regression Analysis Examining the Relative Strength of "Ineffectiveness" Measures in Predicting Drive for Thinness Scores
Results of Hierarchical Regression Analysis Examining the Relative Strength of "Ineffectiveness" Measures in Predicting BULIT Scores
Results of Hierarchical Regression Analysis Examining the Relative Strength of "Ineffectiveness" Measures in Predicting Body Dissatisfaction Scores
CHAPTER I

INTRODUCTION

Prevalence of Dysfunctional Eating Behaviour

Research on various facets of dysfunctional eating behaviour has flourished in the past two decades, paralleling a substantial increase in the incidence of anorexia nervosa and bulimia. Clinical disorders that were previously considered rare (Shisslak, Crago, Neal & Swain, 1987). Empirical reports indicate that the incidence of anorexia nervosa has been rising since at least 1930, with the most prominent increases occurring since 1960. Epidemiological studies of bulimia, however, are less extensive and have focused almost exclusively on surveys of college students rather than the general population (Mitchell and Eckert, 1987).

While the incidence of eating disorders has increased, exact estimates of incidence and prevalence depend heavily on the operational definitions that are employed in epidemiological research. The apparent prevalence of dysfunctional eating behaviour may range quite widely as a function of the stringency of diagnostic criteria used. For example, Halmi, Falk, and Schwartz (1981) report the prevalence of bulimia in female college students to be as high as 79%. Studies such as this use "symptom" as opposed to "syndrome" definitions of bulimia. When more stringent diagnostic
criteria are applied, including minimum severity
criteria (e.g., a criterion of at least weekly binging
and purging in diagnosis of bulimia). The prevalence
drops to approximately 5% in samples of female college
students (Shisslak et al., 1987; Mitchell & Eckert,
1987). Given that epidemiological findings are
sensitive to the specificity of diagnostic criteria, it
is important to describe the boundaries of the
currently accepted classification of eating pathology.

**Distinctions between Eating Disorders and Subclinical
Variants**

The Diagnostic and Statistical Manual of Mental
Disorders (DSM-III-R, American Psychiatric Association,
1987) distinguishes between symptoms of eating
disorders and specific syndromes, principally anorexia
nervosa and bulimia nervosa (Mintz & Betz, 1988).
Both disorders predominantly affect women (85 to 90
percent of the cases) and while the eating disorders
may emerge at any age, the modal age of onset ranges
from adolescence to young adulthood (Bruch, 1978;

**Anorexia Nervosa**

The defining symptoms of anorexia nervosa are
severe purposeful weight loss, persistent drive for
thinness and disturbance of body image perception
(Bruch, 1978). Anorexic individuals restrict their
food intake to minimal quantities. are preoccupied with food and weight and maintain their body weight at dangerously low levels (Hsu, 1990). While the degree of their emaciation is readily evident to others, they continue to feel that they look too fat. Other symptoms which may be associated with anorexia nervosa include periods of bulimia and self-induced vomiting, and abuse of purgative medications (laxatives and diuretics). Approximately 40% of anorexic individuals eventually develop the symptom of bulimia within two years of the onset of anorexia nervosa (Crisp, Hsu, Harding, and Hartshorn, 1980). Another frequently noted feature in anorexia nervosa is hyperactivity which appears incongruent with the physical condition of afflicted individuals (Hsu, 1990). The hyperactivity takes the form of excessive exercise which is engaged in as a means of burning off calories and facilitating further weight loss. The full-blown disorder invariably results in amenorrhea and may include other medical consequences such as hypotension, peripheral edema, bradycardia, cardiac arrhythmias, hypothermia, and dermatological abnormalities (Dittmar & Bates, 1987; Kaplan & Woodside, 1987).

**Bulimia Nervosa**

Bulimia can be a symptom associated with anorexia nervosa or a separate syndrome in individuals of normal
weight. The cardinal feature of bulimia nervosa is frequent episodes of binge-eating in which the individual is aware of the disordered behavior but is unable to control it (Johnson, Stuckey, Lewis, & Schwartz, 1983). Binge eating is generally preceded by periods of rigorous dieting and the beginning of a binge eating episode typically involves feelings of unbearable tension (Lingswiler, Crowther, and Stephens, 1989). During the binge, the person typically feels out of control and unable to stop eating. Following a binge, the individual uses vomiting or other forms of purging in order to cope with the resulting physical discomfort, guilt, and anxiety about gaining weight (Johnson et al., 1983; Rosen & Leitenberg, 1985). Roughly two-thirds of bulimic individuals use self-induced vomiting on a regular basis, while one-third use laxatives as their principal method of purging (Hsu, 1990). Beumont and Abraham (1983) emphasize that purging is not the only weight controlling behaviour in bulimics; diet (e.g., fasting) and/or excessive exercise may also be used.

While bulimics exhibit a drive for thinness which is similar to anorexics, they tend to be within the normal range of weight and to show less social isolation (Fairburn, Cooper, and Cooper, 1986). The most frequently associated symptoms are depressed mood,
feelings of guilt and self-depreciation, a sense of hopelessness and a lack of self-confidence (Fairburn et al., 1986).

**Subclinical Eating Disorders**

Subclinical eating disorders are a heterogeneous collection of dysfunctional eating behaviors which may resemble either anorexia or bulimia but which do not fulfill the DSM-III-R diagnostic criteria for either disorder due to the absence of critical features or insufficient severity of identified features.

Subclinical eating disorders include chronic dieting, infrequent bulimic episodes with purging, bulimia without purging, or purging without binge eating (Mintz & Betz, 1988). Subclinical forms of eating pathology may be of two types: atypical and subthreshold (Fairburn & Garner, 1986; cited in Mintz & Betz, 1988).

Collectively these forms would correspond to the category "eating disorders not otherwise specified" in DSM-III-R. Atypical cases are those in which one or more of the diagnostic features of a syndrome are not present whereas "subthreshold" refers to those cases in which all symptoms required for diagnosis of anorexia nervosa or bulimia nervosa are present but do not fulfill the severity criteria established in DSM-III-R (e.g., minimum frequency of binge-eating episodes for bulimia). As noted above, these milder forms of
dysfunctional eating behaviour are estimated to affect a significant proportion of college-age women (Halmi, et al., 1981; Mitchell & Eckert, 1987; Mintz & Betz, 1988).

Theoretical Perspectives on Eating Disorders

Psychodynamic Model

The clinically-based theoretical model advanced by Bruch (1973, 1978) exemplifies a psychodynamic approach to anorexia nervosa. Bruch attributes causal significance to disturbed patterns of family interaction in early childhood experience, especially in the mother-child relationship. In particular, over-control of the child and lack of validation of her needs and feelings, are presumed to foster deficiencies in the child's sense of identity, autonomy and control as well as cognitive and perceptual deficiencies related to the experience of internal need states (Bruch, 1978). According to this model, the central features of anorexia nervosa are disturbances in body image, the inability to accurately perceive and distinguish internal vs. external stimuli (i.e., interoceptive awareness), and a pervasive sense of ineffectiveness or powerlessness (Bruch, 1978).

Family Systems Model

From a family systems perspective, eating disorders are viewed not as an individual illness but as
representations of ongoing pathological interaction patterns within the family system (Minuchin, Rosman & Baker 1978). Minuchin et al. state that the interactions of the anorexic family are characterized by enmeshment, over-protectiveness, rigidity, and a lack of effective conflict resolution. The family systems model differs from the psychodynamic model primarily in terms of the stronger emphasis given to interpersonal factors rather than individual factors. Both postulate a dysfunctional family environment as contributing to the development of eating problems: the psychodynamic view is that dysfunctional family characteristics such as enmeshment and overprotectiveness are conducive to the development of psychological deficits such as ineffectiveness and lack of interoceptive awareness.

Sociocultural Factors

It has become apparent that, in addition to individual psychopathology and familial factors, sociocultural forces also contribute to the development of eating disorders (Boskind-Lodahl, 1976; Schwartz, Thompson, & Johnson, 1983; Garfinkel & Garner, 1983). Eating disorders are viewed by many clinicians and researchers as multidetermined. That is, the etiology of these disorders cannot be traced to a single factor. Instead, individual predispositions (e.g., personality traits, identity problems, perceptual disturbances) and
familial factors (e.g., genetic predisposition, family interaction patterns) as well sociocultural influences (e.g., the cultural emphasis on thinness) interact in the etiology of eating disorders (Garfinkel & Garner, 1983).

The recent increase in the prevalence of eating disorders and subclinical eating disturbances has often been attributed to cultural factors (Garner, Garfinkel & Olmsted, 1983). Hsu (1989) reviewed empirical evidence showing that sociocultural pressure on women to control their weight is substantial and has intensified in recent years. He asserts that the incidence of anorexia nervosa is proportional to the number of individuals engaging in dieting behaviour; hence the greater social pressure to be thin is seen as a causal factor in the increasing incidence of eating disorders.

In populations where thinness is extremely valued one would expect to find a large proportion of individuals engaged in chronic dieting. This situation is reflected in North America and other industrialized nations; dieting behaviour has become the normative style of eating for women rather than an abnormal behaviour (Polivy & Herman, 1987). If excessive dieting is associated with an increased risk of eating disorders, then subclinical eating disturbances should
be more prevalent in populations at risk (i.e., young women). There is support for this supposition (Halmi et al., 1981; Polivy & Herman 1987). For example, Nylander (cited in Garfinkel & Kaplan, 1986), reported that 10% of his sample of Swedish adolescents showed at least three eating disordered symptoms, whereas only 0.06% met all the criteria for a clinical diagnosis. A more recent study (Mintz & Betz, 1988) found that only 33% of a large college sample could be classified as exhibiting "normal" eating behaviour. Three percent of the subjects were judged to be bulimic and 61% showed a mild to moderate degree of disturbed eating behaviour. The degree of eating disturbance was significantly predicted by low self esteem, negative body image, obsessive concern with weight and appearance and the interference of weight-related concerns with other aspects of life.

Striegel-Moore, Silberstein, & Rodin (1986) conceptualized eating disorders along a continuum ranging from unconcern with weight to "normative discontent" (i.e., weight and eating are moderately deregulated) to restrained eating and finally to bulimia. They note that approximately 90% of eating-disordered individuals are women and suggest that the gender imbalance reflects the relatively greater cultural influence placed on thinness for women as
opposed to men. Since a thin body image ideal is more important for women than men in our culture, women are more likely to become chronic dieters; thus they constitute a high-risk group. For example, Lacey, Coker and Birchmell (cited in Shisslak et al., 1987) report that for 74% of their bulimic sample, the onset of bulimia was associated with purposeful dieting.

Categorical vs. Dimensional Models of Eating Disorders

Most theories on the etiology of eating disorders (e.g., psychodynamic) carry the implicit or explicit assumption of a categorical approach. A categorical conceptualization of eating disorders views anorexia and bulimia as syndromes which are qualitatively different from subclinical forms of eating pathology. (e.g. Bruch, 1973, 1978). Although proponents of the categorical approach agree that many normal dieters share characteristics with eating disordered individuals (i.e., chronic dieting, binge eating, and body image disturbances), they maintain that the similarities are limited to eating and weight-related behavior, and do not extend to the psychological deficits associated with the primary eating disorders (Garner, Olmsted, Polivy, & Garfinkel, 1984).

If anorexia and bulimia are qualitatively different from less severe eating disturbances in the normal
population, then it should be possible to differentiate
between individuals having clinically
significant eating disorders and those having
subclinical forms of eating pathology on the basis of
their psychological characteristics. However, if the
clinical eating disorders represent the extreme
endpoint of an eating disorders continuum as suggested
by research on sociocultural factors, then one would
expect subclinically disordered individuals to exhibit
the same psychological features as formally-diagnosed
patients, albeit to a lesser degree.

The existence of subclinical forms of eating
pathology and the apparent utility of sociocultural
factors in accounting for their increased prevalence
have promoted some researchers to examine more closely
the utility of a dimensional perspective. (Garner et
al. 1984; Polivy & Herman, 1987; Hsu, 1990).
Examination of the continuity/discontinuity issue has
focused primarily on between-groups comparisons to
delineate the psychological features which discriminate
between individuals with clinically significant eating
disorders and those with less severe eating problems.
Comparisons of Clinical Eating Disorder Groups with
Subclinically Dysfunctional and Normal Groups

Garner et al. (1984) examined the hypothesis of an
eating disorders continuum by comparing anorexic women
(AN) with weight-preoccupied (WP) and non-weight-preoccupied (NWP) women on several psychological variables. Ineffectiveness, interoceptive awareness and interpersonal trust scores distinguished the WP group from the AN group. Cluster analysis of the WP group revealed two subgroups: Cluster One showed elevations on all EDI subscales including psychological disturbances characteristic of the eating disordered group. Cluster Two showed symptomatic scores only on Drive for Thinness, Body Dissatisfaction and Perfectionism.

Based on their findings, Garner et al. (1984) concluded that weight-preoccupied women were similar to anorexics only with respect to weight- and eating-related behaviors and that very few shared the same pattern of psychological deficits characteristic of the anorexic sample (e.g., ineffectiveness). Garner et al. stated that symptomatic levels of ineffectiveness and interoceptive awareness were "rare" among their non-clinical sample. However, 33% of the Weight-Preoccupied group actually obtained scores similar to the anorexic group on psychological deficits associated with eating disorders.

Similarly, Katzman and Wolchik (1984) compared the psychological characteristics of 22 bulimic women, 28 binge eaters (not meeting the criteria for bulimia),
and 28 normal controls. Personality variables which differentiated between the bulimics and controls included depression, self-esteem, body image disturbance, and need for approval. Bulimics scored higher than binge eaters on measures of need for approval and depression. The binge-eater group differed from controls only on measures of dieting and binge-related behaviours, and not on any of the personality measures. The authors concluded that binge eating and bulimia "reflected two distinct variants in a spectrum of eating disorders".

In the studies described above, both of which examined psychological differences between groups with varying degrees of eating pathology, the pattern of results do suggest the possibility of a linear relationship between level of observed psychological disturbance and severity of eating pathology. For example, in the Garner et al. (1984) study, mean scores on all relevant psychological variables were such that the weight-preoccupied group scored at an intermediate level between the extremes shown by the anorexic (greatest pathology) and non weight-preoccupied group (least pathology). This suggests that the degree of psychological disturbance increases with degree of eating pathology, a finding which would be consistent with an eating disorders continuum. A similar trend is

In a more recent study of this type, Bunnell, Shenker, Nussbaum, Jacobson, and Cooper (1990) examined psychological features which distinguished subjects with formally diagnosed eating disorders (according to DSM-III-R criteria) from those with subclinical eating disturbances. The results were mixed; there were no significant differences between formally diagnosed anorexic subjects and subclinical anorexic subjects on measures of drive for thinness, body dissatisfaction, depression, ineffectiveness, perfectionistic self-demands, fears of maturity, and interoceptive awareness. Scores on the SCL-90-R, a 90-item symptom checklist of psychopathology (Derogatis, 1977; cited in Schenker et al., 1990) also failed to discriminate between subjects with clinically-significant and subclinical anorexia. However, with respect to subclinical and formally diagnosed bulimic subjects, there were significant differences between the groups on measures of depression, ineffectiveness, and several SCL-90-R subscales (i.e., obsessive-compulsiveness, interpersonal sensitivity, depression, paranoia, psychoticism). The authors conclude that for anorexia nervosa but not for bulimia nervosa, rigid adherence to the DSM-III-R criteria will result in the exclusion of
patients with milder levels of dysfunctional eating behaviour and psychological distress comparable to those found in clinical groups.

The Relationship between Psychological Characteristics and Eating Disturbances in Non-Clinical Populations

There is empirical research which suggests that the psychological deficits associated with eating disorders are also present with respect to subclinical eating disturbances. For example, Dunn & Ondercin (1981) report that female college students obtaining high scores on a measure of compulsive eating exhibited greater suspiciousness, emotional instability, and need for approval compared to low scoring subjects. High scorers were also characterized by a more external locus of control orientation. Locus of control has frequently been used as a measure of Bruch's (1978) theoretical construct "ineffectiveness" in studies of eating disordered behaviour (Faust, 1987; Hood, Moore & Garner, 1982) and external control orientation has been related to measures of maladjustment in earlier research (Hersch & Scheibe, 1967).

Aronson, Fredman, and Gabriel (1990) reported a significant degree of relationship between personality traits, eating history, and eating attitudes and behaviours in a nonclinical sample of female university students. Similarly, Friedlander and Siegel (1990)
found a relationship between separation-individuation difficulties and eating disordered behaviour and attitudes in a nonclinical sample of female university students. The latter is an interesting finding since separation-individuation failure is implicated in both Bruch's theory and family systems theory as a precursor of the psychological disturbances (e.g., ineffectiveness) observed in eating disordered individuals.

Finally, Klemchuk, Hutchinson, and Frank (1990) reported that two risk groups were identifiable in a factor analytic study of several large samples of female undergraduate students. Similar to the findings of Garner et al. (1984), they found that one group of subjects was characterized by a high degree of body dissatisfaction without significant psychological disturbances ("yo-yo" dieters). The second group was characterized by body dissatisfaction combined with notable psychological factors. This second group scored significantly higher on measures of ineffectiveness, interpersonal distrust, perfectionism, and maturity fears.

The primary aim of this investigation is to examine whether specific psychological variables studied in clinically-disordered populations have utility for predicting the degree of eating disturbance in a non-
clinical sample. If eating problems in a normal population are significantly related to the same types of psychological deficits observed in clinical samples of anorexic and bulimic individuals, future studies can be designed to provide a more thorough evaluation of categorical and dimensional conceptualizations of dysfunctional eating behaviours.

The proposed study has practical significance in that further knowledge will be gained regarding the psychological characteristics of young women exhibiting mild or intermediate forms of eating and weight-related problems which may contribute to the identification and treatment of these problems. The need for further knowledge in this area is indicated by previous research which has shown that a significant proportion of college-age women are affected by these problems.

Eating disordered behaviours such as chronic dieting and episodes of bulimia and purging are relatively common in college age women and are not unique to clinically diagnosed eating disordered patients. Previous reports have suggested that, in general, weight-preoccupied individuals in college populations are similar to eating-disordered individuals in terms of eating and weight-related behaviors but differ significantly in terms of psychological disturbances (e.g., ineffectiveness,
interoceptive awareness and interpersonal mistrust) (Garner et al. 1984). However, contrary to this conclusion, there are several studies indicating that psychological disturbances seem to be associated with subclinical eating pathology. Psychological disturbances, then, do not appear to be specific to clinical eating disorders; they also appear in subclinical variants. The purpose of this component of the study was essentially to replicate earlier findings of an association between eating behaviour and attitudes (i.e., drive for thinness, body dissatisfaction, bulimic symptoms) and psychological characteristics in a non-clinical sample. The other component of the study, discussed below, involved an exploratory investigation on the nature of ineffectiveness, a psychological factor frequently linked to eating disordered behaviour.

The Conceptualization of "Ineffectiveness"

Bruch (1978) considered ineffectiveness to be one of the chief psychological deficits in eating disordered individuals. It refers to feelings of powerlessness and inability to change one's life, a sense of being controlled by others, lack of personal autonomy and self-direction stemming from an insufficient differentiation of the self from others, particularly parental figures (Bruch, 1978; Friedlander
& Siegel, 1990).

Ineffectiveness has periodically been operationalized in the research literature using measures of internal-external locus of control. Locus of control may be defined as an individual's disposition to attribute environmental consequences to their own actions or to factors outside their control. Internally-oriented individuals believe that they have considerable control over what happens in their lives whereas externally-oriented individuals are more likely to attribute events to the forces outside themselves such as luck or fate (Rotter, 1966, cited in Hersch & Schiebe, 1967).

The use of external locus of control as an operational measure of ineffectiveness has yielded inconsistent results across studies. For example, Harding and Lachenmeyer (1986) compared 30 anorexics and 30 female college student controls with respect to eating behaviours, family interaction patterns and locus of control. Only locus of control was found to significantly predict eating disturbances. Faust (1987), however, found contradictory results in a study examining the individual and familial correlates of drive for thinness in a nonclinical sample of adolescent girls (ages 11-14). Body dissatisfaction and interoceptive awareness were the only individual
factors which significantly predicted drive for thinness (ineffectiveness, perfectionism and depression did not).

Hood, Moore and Garner (1982) compared anorexic patients' I-E scores with age-appropriate norms. They found that external control orientation was not a consistent factor in anorexic subjects. Younger patients were significantly more internal than controls whereas older patients' scores did not differ significantly from the control group. In comparing high and low scoring groups, externality was associated with greater degree of bulimia and depression. Other research has shown externality to be predictive of greater maladjustment (Hersch & Schiebe, 1967). Since control orientation was not found to be a consistent predictor, the authors concluded its utility as a prognostic indicator is somewhat limited. Garner, Garfinkel, Stancer and Moldofsky (1976) suggested that the I-E scale may reflect the construct of ineffectiveness in eating disordered patients on the strength of significant positive correlations found between body image distortions and degree of externality in locus of control scores. Garner, Olmsted, and Polivy (1983) suggest that there is a dimension of negative self-evaluation involved in ineffectiveness which locus of control does not
reflect.

In sum, findings regarding the association between locus of control orientation and eating disorders appear to be highly dependent on other characteristics of the sample, particularly age of the subjects and the presence or absence of bulimic symptomatology among the subjects. There is evidence suggesting that external locus of control may be too general a measure to accurately capture the "ineffectiveness" characteristic of anorexic individuals (Hood et al., 1982).

Another individually focused measure, the Ineffectiveness subscale of the Eating Disorder Inventory (Garner, Olmsted, & Polivy, 1983) has also been frequently used in research to operationalize the ineffectiveness dimension. It has been identified as a correlate of eating disordered behaviour and attitudes in both clinical and nonclinical populations (see Garner et al., 1984; Klemchuk et al., 1990).

In both the clinical/theoretical and research literature there is some indication that ineffectiveness may be better conceptualized as specific to the individual's social relationships. First, Bruch's model explains ineffectiveness as developing out of a dysfuntional parent-child relationship which promotes dependence, over-compliant behaviour, and excessive reliance on significant others.
for approval. The sense of ineffectiveness is rooted in the individual's need to gain the constant reassurance and approval of others within the context of social relationships. For this reason, it is proposed that perceived interpersonal competence, a multifaceted construct which collectively refers to perceived social skills in specific types of social interaction with others (Buhrmester, Furman, Wittenberg, & Reis, 1988), may predict dysfunctional eating behaviour with more specificity and clarity than more individually focused measures of ineffectiveness.

An intriguing set of findings which argue indirectly for the importance of social and interpersonal facets of ineffectiveness comes from the treatment outcome literature. Several long-term follow-up studies have indicated an unusually high prevalence of social phobia in weight-recovered anorexics (Crisp, Hsu, Harding & Hartshorn, 1980; Stonehill & Crisp, 1976), particularly associated with meeting people outside the home, e.g., peers (Morgan & Russell, 1975). Morgan and Russell (1975) noted that extreme social anxiety and reluctance to form relationships outside the parental family characterize a significant proportion of anorexic patients, even following weight correction. Thus, it appears that interpersonal difficulties cannot be attributed to the physiological or psychological
effects of severely low body weight or starvation.

There is evidence in the research literature to support the validity of Bruch's ineffectiveness dimension as a correlate of eating disorders (Harding & Lachenmeyer, 1986). However, the conceptualization of ineffectiveness on the basis of locus of control orientation has yielded mixed results. In particular, it has been criticized for not incorporating the aspect of negative self-evaluation implied by Bruch's original construct. Here, it is further asserted that the ineffectiveness dimension may be best captured by examining an individual's self-evaluation of their effectiveness in managing interpersonal relationships.

Accordingly, the secondary objective of this investigation is to evaluate the differential efficacy of "individual" versus "interpersonal" conceptualizations of ineffectiveness in predicting eating disturbances in a nonclinical sample. There has been moderate empirical support for the association between psychological factors such as ineffectiveness and eating disordered behaviour using individually focused measures of the construct (e.g., I-E). In the present study two individually focused measures of the ineffectiveness dimension will be compared with an interpersonally-focused measure (i.e., interpersonal competence) to ascertain which approach is more
effective in predicting the severity of dysfunctional eating behaviour. If the association between dysfunctional eating and self-reported interpersonal competence is demonstrated in this preliminary investigation with a large nonclinical sample, future work exploring this relationship in samples which include both eating disordered and non-eating disordered participants will be justified.

HYPOTHESES

In the current investigation two principal hypotheses were tested; first the general hypothesis that psychological variables are significant predictors of eating disordered behaviour/attitudes was tested. Second, a more specific hypothesis regarding the relative strength of "ineffectiveness" measures was assessed. A third minor hypothesis dealt with the interrelationships among three predictor variables (i.e., I-E, Interpersonal Competence, Ineffectiveness).

Since the two principal hypotheses were each tested using three different dependent measures (i.e., drive for thinness, body dissatisfaction, and bulimic symptoms) in separate analyses, these hypotheses were further organized below in terms of the dependent variable used. The following hypotheses were evaluated in the current investigation:
Purpose I: Psychological Correlates of Eating-Disordered Behaviours/Attitudes

1) It was expected that the combination of scores on measures of interpersonal competence, control orientation, ineffectiveness, perfectionism, interpersonal distrust, interoceptive awareness, and maturity fears would account for variability in a measure of drive for thinness, after background variables (e.g., body mass index) were statistically controlled.

2) It was expected that scores on a measure of bulimia symptoms would be significantly predicted by the combination of scores on measures of interpersonal competence, control orientation, ineffectiveness, perfectionism, interpersonal distrust, interoceptive awareness, and maturity fears after relevant background variables were statistically controlled.

3) It was expected that the combination of scores on measures of interpersonal competence, control orientation, ineffectiveness, perfectionism, interpersonal distrust, interoceptive awareness, and maturity fears would significantly predict body dissatisfaction scores after relevant background variables were statistically controlled.
Purpose II: Relative Strength of "Ineffectiveness"

Measures as Predictors of Eating-disordered Behaviour/Attitudes

4) Measures of interpersonal competence, locus of control and personal ineffectiveness were expected to be significantly intercorrelated.

5) Interpersonal competence was expected to be a relatively stronger predictor of drive for thinness than measures of locus of control or ineffectiveness.

6) Interpersonal competence was expected to be a relatively stronger predictor of bulimia symptoms than measures of locus of control or ineffectiveness.

7) Interpersonal competence was expected to be a relatively stronger predictor of body dissatisfaction than measures of locus of control or ineffectiveness.
CHAPTER II

METHOD

Subjects and Procedure

Subjects were recruited on a volunteer basis from four undergraduate psychology classes at the University of Windsor during the 1991/1992 academic year. Students were provided with a written statement of the general research purposes prior to their participation in the study (see Appendix A). Informed consent was obtained from the volunteers (see Appendix B), who were given one experimental point for their participation in the study. Each participant was provided with a feedback sheet (see Appendix C) following data collection; in it, the hypotheses under investigation were disclosed in greater detail. The data collection required that subjects complete a set of five self-report questionnaires (see Appendix D).

Initially, three hundred fifty research questionnaires were distributed and returned; of this number, 200 met inclusion criteria for the present study. Subjects selected for inclusion in the study were women between the ages of 18 and 26. The sample was comprised of 200 female students and the mean age of the sample was 21.3 years (SD = 1.78). Data from 81 male subjects and data from 69 female subjects (age greater than 27 or unknown) were excluded prior to data analysis. These data were excluded from further
analysis in the present study but were retained for future research. The rationale for selecting only female students was based on achieving concordance with past research in this area as well as reflecting the population in which eating disturbances tend to be found. Restriction of the age range was intended to maintain homogeneity of the sample.

Measures

1. Eating Disorder Inventory (EDI)

The EDI (Garner, Olmsted, & Polivy, 1983) is a 64-item self-report inventory which assesses eating behaviours symptomatic of anorexia and bulimia as well as cognitive-behavioural and personality factors which have been associated with these disorders. Respondents assess the self-relevance of each item on a six-point scale ranging from "always" to "never". The EDI is comprised of 8 subscales: Drive for Thinness (DT), Bulimia (B), Body Dissatisfaction (BD), Ineffectiveness (I), Interoceptive Awareness (IA), Perfectionism (P), Interpersonal Distrust (ID) and Maturity Fears (MF).

The first three EDI subscales refer to attitudes and behaviours which are directly related to issues such as eating, weight and body shape. Drive for Thinness refers to the degree of self-reported weight preoccupation and fear of fatness an individual reports. Bulimia refers to the degree to which an
individual reports episodes of uncontrollable binge eating. Body Dissatisfaction reflects an individual's dissatisfaction with the shape/size of various areas of the body. The remaining five subscales of the original EDI assess psychological features which appear to be associated with eating disorders. Ineffectiveness assesses the individual's feelings of inadequacy, insecurity and lack of control over one's life. Perfectionism refers to the individual's tendency to set extremely high achievement standards for him/herself. Interpersonal Distrust assesses an individual's tendency to avoid intimate relationships with others. Interceptive Awareness assesses the degree of confusion and apprehension associated with emotional experiences and difficulty with identifying body sensations related to hunger. Maturity Fears assesses the degree to which an individual wishes to retreat from adult responsibilities and longs for the security of childhood.

Internal consistency of the EDI subscales is judged to be adequate. Garner & Olmsted (1984) reported the following reliability coefficients (Cronbach's alpha) for a non-patient female comparison sample: DT (.87), B (.83), BD (.92), I (.88), P (.76), ID (.80), IA (.81) and MF (.72). Similar internal consistency estimates were reported for a nonpatient group of female
Psychology students by Banderheyden, Fekken, and Boland (1987) (cited in Garner, 1991). Using a nonpatient sample Wear and Pratz (cited in Garner, 1991) found the following test-retest reliability coefficients over a three-week interval: DT (.92), B (.90), BD (.97), I (.85), P (.88), ID (.81), IA (.85), MF (.65). Reliability coefficients for all subscales were quite high; the possible exception is the MF subscale which was not central to the current investigation.

Garner, Olmsted, & Polivy (1983) reported that all EDI items discriminate effectively between eating disorder and nonpatient samples; this demonstrates criterion-related validity. Concurrent validity of the EDI was established comparing self-report EDI patient profiles with judgments made by clinicians who were familiar with the clinical presentation of the patients; correlations of patients' subscale scores with clinicians' ratings were all significant at the .001 level (Garner et al., 1983, cited in Garner, 1991). The instrument adequately discriminates between anorexic and normal female comparison subjects and also has been shown to differentiate between subtypes of anorexics (restricter vs. bulimic subtypes) (Garner, 1991). Finally, Garner and Olmsted (1984) reported that each EDI subscale demonstrated significant convergent validity, wherein high correlations were
found between individual subscales and established measures of theoretically similar constructs.

2. I-E Scale

The I-E scale (Reid & Ware, 1974) is a 45-item self-report measure with 13 buffer items and 32 forced choice items which differentiate internal and external control orientation. For the purposes of this investigation the 32 forced choice items were used while the 13 buffer items were deleted.

The I-E scale is based on Rotter's (1966) scale of Internal vs. External Control (cited in Hersch & Scheibe, 1967). Whereas Rotter's original scale was unidimensional, Reid and Ware's (1974) I-E Scale consists of three subscales which have been found to be independent by means of factor analysis: Fatalism, Social System Control, and Self-Control. The three factor scores may be summed to yield a total I-E score or retained as measures of independent dimensions of locus of control. Fatalism refers to the degree to which the subject attributes life events to the operation of controlling forces such as fate or luck. Social System Control refers to the degree to which an individual perceives the environment as subject to individual vs. sociopolitical control. The last factor, Self-control, refers to the degree of perceived control the individual feels with regard to his or her
impulses, desires and emotions.
Reid and Ware (1974) reported relatively high internal consistency; alpha coefficients for the three subscales were as follows: Self-Control, .71; Social System Control, .76 and Fatalism, .76. In addition, correlations between the subscales were found to be fairly low (Self-SSC, \( r = .30 \); Self-Fatalism, \( r = .27 \); & SSC-Fatalism, \( r = .39 \)) which suggests the dimensions are relatively independent of one another. Reid and Ware (cited in Reid and Ware, 1974) reported that using the Fatalism and Social System Control factors only, a multiple correlation of .75 was found with Rotter’s I-E scale for a sample of introductory psychology students. The individual correlation found between Rotter’s scale and individual dimensions of the I-E scale were \( r = .71 \) (Fatalism), and \( r = .42 \) (SSC). The last dimension of the I-E scale, Self-Control, has little association with Rotter’s scale (Reid & Ware, 1974).

3. **Interpersonal Competence Questionnaire (ICQ)**

The Interpersonal Competence Questionnaire (ICQ) is a 40-item questionnaire which assesses five dimensions of interpersonal competence; (1) Initiation: initiating relationships, (2) Disclosure: disclosing personal information, (3) Negative Assertion: asserting displeasure with others, (4) Emotional Support: providing emotional support and advice, and (5)
Conflict Management: managing interpersonal conflict (Buhrmester, Furman, Wittenberg & Reis, 1988). Each item describes a common interpersonal situation and respondents are required to rate their level of competence in managing that situation on a five-point scale. A further differentiation is made wherein the examinee responds to each item in two separate conditions: in Part A, the hypothetical situation involves a friend and in Part B, the situation involves a date or romantic partner. In the original validation study, subjects' responses on corresponding dimensions of the A and B conditions were found to be highly correlated, hence the ratings were collapsed across conditions to create five overall competence scores.

Buhrmester et al. (1988) report that the instrument has adequate reliability, concurrent validity, convergent and discriminant validity. The internal consistency coefficients (Cronbach alpha) for ICQ subscales range from $\rho=.78$ to $\rho=.87$, with a mean of $\rho=.83$. Buhrmester et al. (1988) report adequate test-retest reliability for ICQ subscales over a four-week interval, which are as follows: Initiation, $\rho=.89$; Negative Assertion, $\rho=.79$; Disclosure, $\rho=.75$; Emotional Support, $\rho=.76$; and Conflict Management, $\rho=.69$.

4. Bulimia Test (BULIT)
The Bulimia Test (BULIT; Smith & Thelen, 1984) is a 32 item self-report measure developed to assess the symptoms of bulimia. The test is structured in a multiple choice format with five possible responses per item; response choices are mutually exclusive and exhaustive. Each item is scored between 1 (least symptomatic response) and 5 (most symptomatic response) and the scores are summed to yield a total score. To control for possible bias, the order of presentation of the responses (most to least symptomatic or vice versa) is varied on several items. Four items pertaining to menstrual history, and use of laxatives and diuretics as weight loss aids are also included in the BULIT but are not added into the total score.

There is evidence showing that the BULIT is a reliable and valid measure of bulimic symptomatology. Smith & Thelen (1984) report that total BULIT scores successfully differentiates between identified bulimic subjects and normal control subjects. The authors also report a significant correlation between BULIT scores and group membership (bulimic or normal), $r=.80, p<.001$ (point-biserial correlation). Cross-validation of the BULIT was conducted using independent samples of identified bulimic subjects (n=20) and normal controls (n=94) (Smith & Thelen, 1984). Total BULIT scores of the bulimic and normal groups differed significantly
(p<.0001). With respect to individual items, 30 of the 32 items discriminated between the two groups at the .0001 level while the remaining two items discriminated between the bulimic and normal groups at the .01 level. A validity coefficient of .82 (p<.0001) was obtained by correlating total BULIT scores with group membership; this shows the BULIT to be a good predictor of the diagnosis of bulimia.

Smith and Thelen (1984) also reported validation of the BULIT in a nonclinical population. They administered the test to 652 female university students and classified subjects into bulimic and normal groups based on total BULIT scores; scores of 102 or above were classified as bulimic. Twenty-eight subjects (4% of the sample) were classified as bulimic using this cut-off score. Two months later, 69 subjects from the group were retested. The retest sample included 22 of the 28 bulimic subjects, 13 out of 14 normal subjects who scored just below the cutoff score (scores of 97-101), and a randomly chosen stratified sample of 34 normal subjects with scores less than 97. Overall test-retest reliability was .87 (p<.0001). The predictive ability of the BULIT was judged to be good since the test successfully discriminated between subjects judged to be normal and those judged to be bulimic by independent raters.
5. **Figure Ratings**

This measure consists of nine line-drawn female figures ranging ordinarily from extremely thin to extremely heavy. These stimuli were developed by Stunkard, Sorenson, and Schulzinger (1983). In the current study each figure corresponds to a number between 10 and 90; this rating scale allows subjects to choose figures not represented (e.g., a rating of 35 would correspond to a figure midway between Figure 30 and Figure 40).

In the current investigation, as in previous research (e.g., Fallon and Rozin, 1985; Thomas, 1991), subjects were asked to indicate which figure best represented their own current body shape and which figure best represented their ideal body shape. The discrepancy between current and ideal figure was used as a measure of body shape dissatisfaction (DISFIG); greater discrepancies correspond to lower body shape satisfaction.

6. **Weight-Related Measures**

Subjects were also asked to respond to items concerning their current height, weight, lowest past adult weight, and highest past adult weight (excluding pregnancy). From this information the following indices were constructed:

**Body Mass Index:**

Subjects were asked to report both height and
weight. Using this information, Body Mass Index (BMI) was calculated for each subject. This index, adapted from a chart published by the Ontario Ministry of Health (1989), is defined as a person's weight (kg) divided by the square of the person's height (m²). Values of less than 20 represent underweight, values between 20 and 25 represent average weight, and values above 25 represent overweight (Ministry of Health, Ontario, 1989).

Weight Stability:

Weight stability was defined as the degree to which a subject's weight has deviated above and below her current weight during adulthood. This measure was obtained by subtracting each subject's lowest past adult weight from her highest past adult weight.
CHAPTER III
RESULTS

Preliminary Analyses

Prior to testing the primary hypotheses, preliminary analyses were conducted to examine the characteristics of the sample and to screen the data for possible violations of statistical assumptions (e.g., normality, linearity, homoscedasticity) which underly the use of multivariate statistics. Furthermore, zero-order correlations were obtained between the sample characteristics and the dependent variables as well as the psychological indices and the dependent measures.

Sample Characteristics

Subjects' mean scores on variables of interest (i.e., ICO, I-E, EDI subscales, weight stability, body image dissatisfaction) are reported in Table 1. The frequency of binge eating and vomiting is reported in Table 2.

With respect to weight characteristics, using the Body Mass Index (BMI), 53% of subjects were classified as average in weight (BMI values between 20 and 25), 31% were classified as underweight (BMI values below 20), and 13% were classified as overweight (BMI values greater than 25).
Table 1

Means and Standard Deviations of Background Characteristics and Psychological Measures

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>21.4</td>
<td>1.7</td>
</tr>
<tr>
<td>Height (cm)</td>
<td>165.3</td>
<td>7.2</td>
</tr>
<tr>
<td>Weight (lb.)</td>
<td>131.8</td>
<td>25.0</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>59.9</td>
<td>11.4</td>
</tr>
<tr>
<td>Body Mass Index</td>
<td>21.9</td>
<td>4.1</td>
</tr>
<tr>
<td>Weight Stability</td>
<td>21.7</td>
<td>19.7</td>
</tr>
<tr>
<td>Current Body Image</td>
<td>35.2</td>
<td>11.0</td>
</tr>
<tr>
<td>Ideal Body Image</td>
<td>27.8</td>
<td>6.2</td>
</tr>
<tr>
<td>*Discrepancy between current and ideal body image</td>
<td>-7.4</td>
<td>9.8</td>
</tr>
<tr>
<td>Total Bulit Score</td>
<td>60.8</td>
<td>22.3</td>
</tr>
<tr>
<td>Total ICQ Score</td>
<td>18.0</td>
<td>2.4</td>
</tr>
<tr>
<td>Total I-E Score</td>
<td>14.2</td>
<td>5.4</td>
</tr>
<tr>
<td>EDI Subscales:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drive for thinness</td>
<td>5.2</td>
<td>5.9</td>
</tr>
<tr>
<td>Bulimia</td>
<td>1.9</td>
<td>3.6</td>
</tr>
<tr>
<td>Body dissatisfaction</td>
<td>11.4</td>
<td>8.7</td>
</tr>
<tr>
<td>Ineffectiveness</td>
<td>3.0</td>
<td>4.5</td>
</tr>
<tr>
<td>Interpersonal distrust</td>
<td>5.6</td>
<td>4.3</td>
</tr>
<tr>
<td>Interoceptive awareness</td>
<td>2.7</td>
<td>3.5</td>
</tr>
<tr>
<td>Maturity fears</td>
<td>3.3</td>
<td>5.0</td>
</tr>
</tbody>
</table>

n = 200

*Note: Mean includes the scores of 13 subjects whose discrepancy score (difference between current and ideal body image) was positive, that is, reported ideal weight was larger than reported current weight
Table 2

Frequency of Eating Binges and Self-Induced Vomiting

<table>
<thead>
<tr>
<th>Reported Eating Binges</th>
<th>n</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once a month or less (or never)</td>
<td>125</td>
<td>62.5%</td>
<td>62.5%</td>
</tr>
<tr>
<td>2-3 times a month</td>
<td>43</td>
<td>21.5%</td>
<td>84.0%</td>
</tr>
<tr>
<td>Once or twice a week</td>
<td>20</td>
<td>10.0%</td>
<td>94.0%</td>
</tr>
<tr>
<td>3-6 times a week</td>
<td>7</td>
<td>3.5%</td>
<td>97.5%</td>
</tr>
<tr>
<td>Once a day or more</td>
<td>5</td>
<td>2.5%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Missing data</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

n=200

<table>
<thead>
<tr>
<th>Reported Vomiting</th>
<th>n</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once a month or less (or never)</td>
<td>180</td>
<td>90.0%</td>
<td>90.0%</td>
</tr>
<tr>
<td>Once a month</td>
<td>5</td>
<td>2.5%</td>
<td>92.5%</td>
</tr>
<tr>
<td>2-3 times a month</td>
<td>4</td>
<td>2.0%</td>
<td>94.5%</td>
</tr>
<tr>
<td>Once a week</td>
<td>2</td>
<td>1.0%</td>
<td>95.5%</td>
</tr>
<tr>
<td>2 or more times a week</td>
<td>8</td>
<td>4.0%</td>
<td>99.5%</td>
</tr>
<tr>
<td>Missing data</td>
<td>1</td>
<td>0.5%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

n = 199
The remaining subjects (n=5; 2.5% of the sample) did not provide sufficient information for BMI to be calculated.

Subjects were asked to report whether they had ever been diagnosed and/or received treatment from a physician for anorexia nervosa, bulimia nervosa, or obesity. In total, 10 subjects reported having a clinical history of one or more of these disorders. Four of these subjects (2% of the total sample) reported diagnosis/treatment of obesity only. Six subjects (3% of the sample) reported a history of anorexia nervosa and/or bulimia nervosa. Two of these six subjects reported a history of anorexia nervosa, one subject reported a history of bulimia nervosa, and three subjects reported a history of anorexia nervosa and bulimia nervosa in combination. All 10 subjects who reported having been diagnosed or treated for eating disorders were excluded from the primary analyses. This was done to insure that results would be generalizable to a nonclinical population. It was necessary so that results would not be criticized as being biased by the inclusion of clinical subjects whose data might be qualitatively different from that obtained from nonclinical subjects.
Data Screening

Data screening procedures (see Tabachnick & Fidell, 1989) were conducted to assess the extent of missing data and to check the normality, linearity, homoscedasticity of the data. Following the deletion of cases in which data on crucial variables (i.e., age, sex) was missing, the remaining cases had little or no missing data; the distribution of the missing data also appeared to be random, not systematic. For these reasons, a decision was made to substitute the sample mean in instances where data were missing.

Some degree of positive skewness was detected in the univariate distributions of all measures of eating-disordered behaviour (i.e., all EDI subscales, BULIT), body mass index, and weight stability. This pattern was expected, given the nature of these scales, particularly the eating pathology measures which were designed to discriminate between clinical and normal populations. Overall, the degree of skewness observed was judged to be within acceptable limits. While, transformation of these variables was considered, it was judged that the resulting improvement in the regression analysis would not compensate for the loss of external validity associated with variable transformations. Transformation of variables may result in "overfitting" the data; that is, the best
possible statistical solution is obtained but it is useful only with respect to the sample on which it was developed; results may no longer be generalizable to the larger population from which the sample was drawn.

In addition, three extreme outliers were detected in the univariate distribution of body mass index. All outliers involved individuals who were extremely overweight (BMI > 33). These cases were deleted from subsequent analyses since their inclusion was contributing to the extreme positive skew of the distribution of body mass index.

A small number of multivariate outliers were also identified using an analysis of residuals from regressions on DT, BD, and BULIT. In general, the procedure was simply to eliminate multivariate outliers from the affected analyses. These deletions are noted below in the analyses to which they apply.

Tabachnick and Fidell (1989) suggest that variables which correlate with one another above r=.70 may cause multicollinearity in a regression analysis and optimally, they should not be included together as predictors. On this basis, a decision was made to remove Body-Shape Dissatisfaction from the analysis since it had a zero-order correlation of r=.75, p<.01, with Body Mass Index. Similarly, subjects' scores on different aspects of interpersonal competence were so
highly correlated that it was not feasible to include them all as separate variables and hence subscale scores were added together to form a global interpersonal competence score that did not differentiate between specific types of interpersonal interactions.

Initial runs of the regression analyses suggested that there were one or more suppressor variables present within the data. There were several variables whose beta weights and zero-order correlations with the dependent measure were opposite in sign. This situation is commonly indicative of a suppressor variable whereby an independent variable suppresses irrelevant variance in another independent variable so that the second variable may appear important to the prediction equation when it is not justified (Tabachnick and Fidell, 1989). Interpersonal Distrust and Body Dissatisfaction were both identified as problematic variables in this regard. Interpersonal Distrust was deleted as a predictor variable in all analyses since it was not necessary to test the hypotheses and was also a weak predictor that added little to the explanation of variance in any of the analyses. However, Body Dissatisfaction was retained since it is a theoretically important variable whose effect needed to be controlled in order to
realistically examine the importance of other variables which were central to the hypotheses. The impact of retaining Body Dissatisfaction as a predictor is explained below in the results analyses which were affected.

**Correlations between Background and Dependent Variables**

One purpose in examining zero-order correlations was to identify background variables which were significantly correlated with each dependent variable so that the influence of these variables could be statistically controlled in later primary analyses. These correlations are presented in Table 3.

Drive for Thinness was significantly correlated with age, $r = .16$, $p < .05$, Body Mass Index, $r = .30$, $p < .01$, Body Shape Dissatisfaction, $r = -.52$, $p < .01$, and with weight stability, $r = .45$, $p < .01$. BULIT scores were found to be correlated with age, $r = .22$, $p < .01$, Body Mass Index, $r = .39$, $p < .01$, Body Shape Dissatisfaction, $r = -.59$, $p < .01$, and with weight stability, $r = .36$, $p < .01$. Body Dissatisfaction was significantly correlated with Body Mass Index, $r = .44$, $p < .01$, Body Shape Dissatisfaction, $r = -.59$, $p < .01$, and with weight stability, $r = .38$, $p < .01$. In addition, Body Dissatisfaction was controlled as a background variable in the analyses which used BULIT and Drive for Thinness as the dependent measures. Body Dissatisfaction had a
Table 3

Correlations Between Background Variables and Dependent Variables

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (1)</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SMI (2)</td>
<td>.15</td>
<td>1.00</td>
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<tr>
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<td>.77**</td>
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<tr>
<td>WS (4)</td>
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<td>-.34**</td>
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<tr>
<td>BALIT (5)</td>
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<td>-.59**</td>
<td>.76**</td>
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<td></td>
</tr>
<tr>
<td>DT (6)</td>
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<td>.45**</td>
<td>.72**</td>
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</tr>
<tr>
<td>BD (7)</td>
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<td>.14**</td>
<td>-.59**</td>
<td>.38**</td>
<td>.51**</td>
<td>.66**</td>
<td>1.00</td>
</tr>
</tbody>
</table>

* p < .05, ** p < .01.

n = 200
significant correlation with Drive for Thinness, \( r = .66, p < .01 \), and with BULIT scores, \( r = .51, p < .01 \).

Correlations between Predictor Variables and Criterion Variables

Pearson correlations were also computed between the measures of dysfunctional eating behaviour/attitudes (i.e., DT, BD, BULIT) and hypothesized predictor variables (i.e., ICQ, I-E, other EDI subscales). These results are presented in Table 4. Interpersonal competence scores were not significantly correlated with Drive for thinness scores but were significantly correlated with BULIT scores, \( r = -.19, p < .01 \), and with Body Dissatisfaction scores, \( r = -.25, p < .01 \). I-E scores were found to be significantly correlated with Drive for Thinness, \( r = .14, p < .05 \), and BULIT, \( r = .17, p < .05 \), but were not related to Body Dissatisfaction scores. All the Eating Disorder Inventory subscales were significantly correlated with each of the dependent measures at the .01 level.

Purpose I: Psychological Correlates of Eating-Disordered Behaviours/Attitudes

In examining the hypotheses associated with Purpose I, a series of hierarchical regression analyses were conducted to examine the extent to which psychological predictors (i.e., ICQ, I-E, other EDI subscales) could account for variance in Drive for Thinness scores,
Table 1

Correlations Between Regression Predictor Variables and Dependent Variables

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<th>6</th>
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<tr>
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<td>.22**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>.50**</td>
<td>.43**</td>
<td>.51**</td>
<td>1.00</td>
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<td></td>
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<tr>
<td>P</td>
<td>.27**</td>
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<td>.23**</td>
<td>.21**</td>
<td>1.00</td>
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<td>IA</td>
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<td>.66**</td>
<td>.65**</td>
<td>.43**</td>
<td>.31**</td>
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<td>.32**</td>
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<td>.37**</td>
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<td>I-E</td>
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<td>.14</td>
<td>.12</td>
<td>.21**</td>
<td>-.02</td>
<td>.11</td>
<td>.20**</td>
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<td>-.20**</td>
<td>.08</td>
<td>-.16**</td>
<td>-.12</td>
<td>-.06</td>
</tr>
</tbody>
</table>

* p < .05, ** p < .01

n=200
BULIT scores and Body Dissatisfaction scores. For each dependent variable, predictor variables were entered into the analysis in blocks. In each case, the first set or block of variables entered included the background variables previously identified as being related to the dependent variable. The hypothesized psychological predictors were entered in the second block; the purpose was to assess whether they could explain additional variance in the dependent variable, above and beyond that already accounted for by the background variables.

**Predictors of Drive for Thinness.**

A hierarchical regression analysis was used to evaluate the ability of selected psychological variables to predict Drive for Thinness scores. Four multivariate outliers were identified and these cases were subsequently deleted from the analyses. Age, Body Dissatisfaction, Body Shape Dissatisfaction and the weight-related variables (i.e., Body Mass Index, Weight Stability) were entered into the regression analysis on the first step. After controlling for these variables, the remaining predictors were entered as a block on the second step.

The hypothesis that the combination of Interpersonal Competence, I-E, and Eating Disorder Inventory subscales (Perfectionism, Ineffectiveness,
Interoceptive Awareness. Maturity Fears) would significantly predict Drive for Thinness scores was supported. The results of the regression analysis are summarized in Table 5.

Multiple R for the regression equation was found to be significant. $F(10,167)=21.65, p<.0001$. With all predictors in the equation, 56% of the variability in Drive for Thinness scores could be accounted for. It was found that 49% of the total variance in Drive for Thinness scores was predicted by the combination of background variables (age, Body Dissatisfaction, Body Mass Index, weight stability), entered first into the equation. A smaller, but statistically reliable portion of variance (7%) was accounted for by the psychological variables entered into the equation in the second block.

With regard to the contributions of individual variables in the first block, Body Dissatisfaction, $sr^2=.42$, and weight stability, $sr^2=.18$, accounted for most of the explained variance. Age, $sr^2=.01$, was not found to contribute significantly to the prediction equation. Body Mass Index, $sr^2=-.11$, appeared to be a moderately good predictor of Drive for Thinness, however, it must be considered that this was likely the result of its relationship with Body Dissatisfaction. Body Dissatisfaction was determined
Table 5

Results of Hierarchical Regression Analysis on Drive for Thinness Scores

<table>
<thead>
<tr>
<th>Step</th>
<th>Predictor</th>
<th>B</th>
<th>Beta</th>
<th>sr²</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Age</td>
<td>.03</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td></td>
<td>Body Mass Index</td>
<td>-.28</td>
<td>-.15</td>
<td>-.11</td>
</tr>
<tr>
<td></td>
<td>Body Dissatisfaction</td>
<td>.33</td>
<td>.54</td>
<td>.42</td>
</tr>
<tr>
<td></td>
<td>Weight Stability</td>
<td>.10</td>
<td>.24</td>
<td>.18</td>
</tr>
<tr>
<td>2</td>
<td>Perfectionism</td>
<td>.08</td>
<td>.06</td>
<td>.05</td>
</tr>
<tr>
<td></td>
<td>I-E</td>
<td>.03</td>
<td>.03</td>
<td>.03</td>
</tr>
<tr>
<td></td>
<td>Maturity Fears</td>
<td>.06</td>
<td>.04</td>
<td>.03</td>
</tr>
<tr>
<td></td>
<td>Interpersonal Comp.</td>
<td>.11</td>
<td>.05</td>
<td>.05</td>
</tr>
<tr>
<td></td>
<td>Ineffectiveness</td>
<td>.09</td>
<td>.07</td>
<td>.05</td>
</tr>
<tr>
<td></td>
<td>Interoceptive Aware.</td>
<td>.26</td>
<td>.18</td>
<td>.13</td>
</tr>
</tbody>
</table>

Intercept=.26
R² = .56
Adj. R² = .54
Multiple R = .75
F = 21.65***

n = 178

*** p < .0001
to be acting as a suppressor variable in this instance. The result was that Body Mass Index appeared to be a more significant predictor of Drive for Thinness than it should have been. When the analysis was run without including Body Dissatisfaction among the predictors, Body Mass Index was found to have a nonsignificant semipartial correlation, \( s_r^2 = .02 \), with Drive for Thinness.

Among the second block of variables entered into the regression equation, only Interoceptive Awareness, \( s_r^2 = .13 \), was identified as a significant predictor. All other psychological predictors in the block were nonsignificant in terms of their individual contribution to the prediction equation.

**Predictors of BULIT Scores.**

A similar hierarchical regression analysis was used to investigate the predictors of BULIT scores. As before, age, Body Dissatisfaction, Body Mass Index, and weight stability were forced into the equation first to statistically remove their influence and allow for examination of the variables of interest. Scores on Interpersonal Competence, I-E, and the remaining EDI subscales were entered in the second block. One case was identified as a multivariate outlier and was subsequently deleted from the analysis. The results of this analysis are summarized in Table 6.
Table 6

Results of Hierarchical Regression Analysis on BULIT Scores

<table>
<thead>
<tr>
<th>Step</th>
<th>Predictor</th>
<th>B</th>
<th>Beta</th>
<th>sr²</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Body Dissatisfaction</td>
<td>.41</td>
<td>.18</td>
<td>.15</td>
</tr>
<tr>
<td></td>
<td>Age</td>
<td>.81</td>
<td>.07</td>
<td>.07</td>
</tr>
<tr>
<td></td>
<td>Weight Stability</td>
<td>.21</td>
<td>.14</td>
<td>.10</td>
</tr>
<tr>
<td></td>
<td>Body Mass Index</td>
<td>.75</td>
<td>.12</td>
<td>.09</td>
</tr>
<tr>
<td>2</td>
<td>Perfectionism</td>
<td>.42</td>
<td>.09</td>
<td>.08</td>
</tr>
<tr>
<td></td>
<td>I-E</td>
<td>.11</td>
<td>.03</td>
<td>.03</td>
</tr>
<tr>
<td></td>
<td>Maturity Fears</td>
<td>.43</td>
<td>.08</td>
<td>.06</td>
</tr>
<tr>
<td></td>
<td>Interpersonal Comp.</td>
<td>-.30</td>
<td>-.04</td>
<td>-.03</td>
</tr>
<tr>
<td></td>
<td>Ineffectiveness</td>
<td>1.23</td>
<td>.25</td>
<td>.18</td>
</tr>
<tr>
<td></td>
<td>Interoceptive Aware.</td>
<td>1.20</td>
<td>.26</td>
<td>.18</td>
</tr>
</tbody>
</table>

Intercept = 9.99
Multiple R = .76
R² = .57
Adj. R² = .55
F = 22.50***

n = 180

*** p < .0001
It was expected that after controlling for the influence of background variables, BULIT scores would be significantly predicted by the linear combination of ICO, I-E, Ineffectiveness, Perfectionism, Interoceptive Awareness, and Maturity Fears. This hypothesis was supported by the findings. The regression equation predicting BULIT scores was significant, $F(4,175)=20.72$, $p<.0001$. Multiple R for the equation was .76. The prediction equation was able to account for 57% of the variability in BULIT scores.

Thirty-two percent of the variability in BULIT scores was predicted by the combination of age, Body Dissatisfaction, Body Mass Index, and weight stability. A further 25% of the variability in BULIT scores was accounted for by the second block of predictors (I-E, Perfectionism, Ineffectiveness, Interoceptive Awareness, Maturity Fears, Interpersonal Competence).

The strongest individual predictor of BULIT scores among the variables entered in the first block was Body Dissatisfaction, $\beta^2 = .15$, followed by weight stability, $\beta^2 = .10$. Together, these two predictors accounted for most of the explained variance in BULIT scores. Body Mass Index, $\beta^2 = .09$, and age, $\beta^2 = .07$, were not significant.

Among the second block of variables entered into the regression equation, Interoceptive Awareness,
$\bar{r}^2 = .18$, and Ineffectiveness, $\bar{r}^2 = .18$, were identified as significant individual predictor variables. All other psychological predictors (Interpersonal Competence, I-E, Perfectionism, Maturity Fears) in the block failed to contribute significantly to the prediction equation.

**Predictors of Body Dissatisfaction.**

The third hierarchical regression analysis was conducted to investigate predictors of Body Dissatisfaction scores. The only variables forced into the first block in this regression analysis were the weight-related variables, Body Mass Index, and weight stability. Scores on Interpersonal Competence, the I-E scale, and the remaining EDI subscales were entered in the second block as in previous analyses. Two cases were identified as multivariate outliers and deleted from the analysis. The results of this regression analysis are summarized in Table 7.

As expected, scores on Body Dissatisfaction were significantly predicted by the linear combination of psychological variables, after removing the influence of Body Mass Index and weight stability. The regression equation predicting Body Dissatisfaction scores was found to be statistically significant, $F(8,177)=13.95$, $p<.0001$. Multiple $R$ for the prediction equation was .63. The prediction equation accounted
Table 7

Results of Hierarchical Regression Analysis on Body Dissatisfaction Scores

<table>
<thead>
<tr>
<th>Step</th>
<th>Predictor</th>
<th>B</th>
<th>Beta</th>
<th>( r^2 )</th>
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</thead>
<tbody>
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<td>1</td>
<td>Weight Stability</td>
<td>.08</td>
<td>.12</td>
<td>.09</td>
</tr>
<tr>
<td></td>
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<td>1.01</td>
<td>.35</td>
<td>.27</td>
</tr>
<tr>
<td>2</td>
<td>I-E</td>
<td>.13</td>
<td>.08</td>
<td>.07</td>
</tr>
<tr>
<td></td>
<td>Perfectionism</td>
<td>.21</td>
<td>.10</td>
<td>.09</td>
</tr>
<tr>
<td></td>
<td>Maturity Fears</td>
<td>.17</td>
<td>.07</td>
<td>.05</td>
</tr>
<tr>
<td></td>
<td>Interpersonal Comp.</td>
<td>-.49</td>
<td>-.14</td>
<td>-.13</td>
</tr>
<tr>
<td></td>
<td>Ineffectiveness</td>
<td>.43</td>
<td>.21</td>
<td>.16</td>
</tr>
<tr>
<td></td>
<td>Interoceptive Aware.</td>
<td>.20</td>
<td>.09</td>
<td>.06</td>
</tr>
</tbody>
</table>

Intercept = -8.70
Multiple \( R = .63 \)
\( R^2 = .39 \)
Adj. \( R^2 = .37 \)
\( F = 13.95^{***} \)

\( n = 181 \)

*** \( p < .0001 \)
for 39% of the variability in Body Dissatisfaction scores.

The weight-related variables accounted for 23% of the variance in Body Dissatisfaction, while the linear combination of Perfectionism, Ineffectiveness, Interoceptive Awareness, Maturity Fears, I-E scale, and Interpersonal Competence accounted for an additional 16% of the variance. Body Mass Index, $sr^2 = .27$, Interpersonal Competence, $sr^2 = -.13$, and Ineffectiveness, $sr^2 = .16$, made significant individual contributions to the prediction of Body Dissatisfaction scores.

**Purpose II: Comparison of the Relative Predictive Strength of "Ineffectiveness" Measures**

Prior to examination of the relative predictive strength of the "Ineffectiveness" measures, the correlation matrices reported earlier (see Table 4) were examined to determine the extent to which Interpersonal Competence, I-E, and Ineffectiveness were intercorrelated. It was expected in Hypothesis 4 that all three of these measures would be significantly correlated with one another. This hypothesis was supported by the findings. The Ineffectiveness subscale of the Eating Disorder Inventory was negatively correlated with the total score on the Interpersonal Competence Questionnaire, $r=-.20$, $p<.01$.
and with scores on the I-E scale, $r = .21$, $p < .01$. Interpersonal Competence scores were negatively correlated with scores on the I-E scale, $r = -.22$, $p < .01$.

Next, a second series of hierarchical regression analyses was conducted (Hypotheses 5, 6, 7). This procedure was intended to test the relative strength of I-E, Ineffectiveness, and Interpersonal Competence as predictors of each of the three dependent measures (Drive for Thinness, BULIT, Body Dissatisfaction scores). As in previous analyses, the first set or block of variables entered included the background variables previously identified as being related to each dependent variable. In this set of regressions however, only Ineffectiveness, I-E, and Interpersonal Competence were included in the second block to compete for entry into the equation at this level.

**Relative Strength of "Ineffectiveness" Measures as Predictors Of Drive for Thinness.**

A hierarchical regression analyses was undertaken to examine the relative strength of Interpersonal Competence, I-E, and Ineffectiveness as predictors of Drive for Thinness after extraneous variables (weight stability, Body Dissatisfaction) were controlled. Age and Body Mass Index were not used in this analysis since they were found to have no significant value as
predictors in the earlier regression which employed Drive for Thinness as the criterion measure.

It was expected that Interpersonal Competence would emerge as a more significant predictor than either I-E, or Ineffectiveness. This hypothesis was not supported by the findings; the results of this analysis are presented in Table 8.

The overall regression equation was significant, \( F(4,173)=58.37, p<.0001 \), and accounted for 50% of the variance in Drive for Thinness scores. The background variables entered in the first block predicted 47% of the variability in Drive for Thinness scores and Ineffectiveness, \( \text{pr}^2 = .15 \), accounted for an additional 3% of the variability in Drive for Thinness scores. Interpersonal Competence and I-E did not enter the equation since neither contributed significantly to the prediction of Drive for Thinness.

**Relative Strength of "Ineffectiveness" Measures as Predictors Of BULIT.**

A similar hierarchical regression analysis was computed using BULIT scores as the dependent measure. Body Dissatisfaction and weight stability were entered into the prediction equation in the first block; Age and Body Mass Index were again deleted since they made no significant contribution to the prediction of BULIT scores. Ineffectiveness, Interpersonal Competence and
Table 2

Results of Hierarchical Regression Analysis Examining the Relative Strength of "Ineffectiveness" Measures in Predicting Drive for Thinness Scores

<table>
<thead>
<tr>
<th>Step</th>
<th>Predictor</th>
<th>B</th>
<th>Beta</th>
<th>sr²</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Body Dissatisfaction</td>
<td>.31</td>
<td>.50</td>
<td>.43</td>
</tr>
<tr>
<td></td>
<td>Weight Stability</td>
<td>.08</td>
<td>.18</td>
<td>.16</td>
</tr>
<tr>
<td>2</td>
<td>Ineffectiveness</td>
<td>.26</td>
<td>.20</td>
<td>.18</td>
</tr>
</tbody>
</table>

Intercept = -1.08
Multiple R = .71
R² = .50
Adj. R² = .49
F = 58.37***

Variables Not In the Equation:

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Beta In</th>
<th>Partial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpersonal Competence</td>
<td>.07</td>
<td>.09</td>
</tr>
<tr>
<td>I-E</td>
<td>.05</td>
<td>.07</td>
</tr>
</tbody>
</table>

n = 178

*** p < .0001
I-E competed for entry within the second block to compare their strengths as individual predictors. It was hypothesized that Interpersonal Competence would account for more variance in BULIT scores than I-E or Ineffectiveness. This hypothesis was not supported; Table 9 summarizes the results of the analysis.

The regression equation, \( F(3,176) = 56.35, p < .0001, \) was significant. Multiple \( R \) for the regression was \( R = .70 \). The prediction equation accounted for 49% of the variance in BULIT scores. Body Dissatisfaction and weight stability accounted for 31% of the variability in BULIT scores. Ineffectiveness, \( \text{sr}^2 = .42 \), accounted for an additional 18% of the variability in BULIT scores. Of the three measures in the second block competing for entry into the equation, Ineffectiveness was the only statistically significant predictor.

Relative Strength of "Ineffectiveness" Measures as Predictors Of Body Dissatisfaction.

The final hierarchical regression analysis was computed using Body Dissatisfaction scores as the dependent measure. Body Mass Index was entered in the first block to statistically control for its relationship with the dependent measure. The second block of variables (Ineffectiveness, I-E, and Interpersonal Competence) competed for entry into the equation.
Table 9

Results of Hierarchical Regression Analysis Examining the Relative Strength of "Ineffectiveness" Measures in Predicting BULIT Scores

<table>
<thead>
<tr>
<th>Step</th>
<th>Predictor</th>
<th>B</th>
<th>Beta</th>
<th>sr²</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Body Dissatisfaction</td>
<td>.55</td>
<td>.25</td>
<td>.21</td>
</tr>
<tr>
<td></td>
<td>Weight Stability</td>
<td>.35</td>
<td>.23</td>
<td>.21</td>
</tr>
<tr>
<td>2</td>
<td>Ineffectiveness</td>
<td>2.23</td>
<td>.46</td>
<td>.42</td>
</tr>
</tbody>
</table>

Intercept = 39.48
Multiple R = .70
R² = .49
Adj. R² = .48
F = 56.35***

Variables Not In the Equation:

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Beta In</th>
<th>Partial</th>
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</thead>
<tbody>
<tr>
<td>Interpersonal Competence</td>
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<td>-.01</td>
</tr>
<tr>
<td>I-E</td>
<td>.05</td>
<td>.07</td>
</tr>
</tbody>
</table>

n = 180

*** p < .0001
It was hypothesized that Interpersonal Competence would account for more variance in Body Dissatisfaction scores than I-E or Ineffectiveness. This hypothesis was not corroborated. Table 10 summarizes this regression analysis.

The regression equation was statistically significant, $F(3,177)=31.83, p<.0001$, with Multiple $R = .59$. Thirty-five percent of the variance in the dependent measure was explained. Body Mass Index, $sr^2 = .39$, accounted for 21% of the variance in Body Dissatisfaction scores.

In the second block of variables, Ineffectiveness, $sr^2 = .30$, and Interpersonal Competence, $sr^2 = -.13$, accounted for an additional 14% of the variability in Body Dissatisfaction scores. Ineffectiveness was a relatively stronger predictor than Interpersonal Competence. I-E, failed to emerge as a significant predictor of Body Dissatisfaction scores.
Table 10

Results of Hierarchical Regression Analysis Examining the Relative Strength of "Ineffectiveness" Measures in Predicting Body Dissatisfaction Scores

<table>
<thead>
<tr>
<th>Step</th>
<th>Predictor</th>
<th>B</th>
<th>Beta</th>
<th>sr²</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Body Mass Index</td>
<td>1.17</td>
<td>.39</td>
<td>.39</td>
</tr>
<tr>
<td>2</td>
<td>Ineffectiveness</td>
<td>.70</td>
<td>.33</td>
<td>.30</td>
</tr>
<tr>
<td></td>
<td>Interpersonal Comp.</td>
<td>-.46</td>
<td>-.13</td>
<td>-.13</td>
</tr>
</tbody>
</table>

Intercept = -7.74
Multiple R = .59
R² = .35
Adj. R² = .34
F = 31.83***

Variables Not In the Equation:

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Beta In</th>
<th>Partial</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-E</td>
<td>.09</td>
<td>.11</td>
</tr>
</tbody>
</table>

n = 181

*** p < .0001
CHAPTER IV

DISCUSSION

Psychological Correlates of Eating-Disordered Behaviours/Attitudes

The first group of hypotheses stated that Drive for Thinness, Bulimia Test scores, and Body Dissatisfaction would each be significantly predicted by the combination of Interpersonal Competence I-E, Ineffectiveness, Perfectionism, Interoceptive Awareness and Maturity Fears, and all were supported. However, it is necessary to examine the importance of individual variables' contributions to the prediction equation in each case to assess the meaning of these findings.

Most of the explained variance in Drive for Thinness scores were explained by Body Dissatisfaction and weight stability. The only variable to contribute significantly to the prediction of Drive for Thinness after these variables were controlled for was Interoceptive Awareness. Higher Interoceptive Awareness scores were associated with higher Drive for Thinness scores. In other words, subjects reporting a high level of difficulty with perceiving internal stimuli (i.e., emotional experiences and hunger-related body sensations) were likely to also report a high degree of preoccupation with issues related to weight and dieting. The results obtained here were strikingly
similar to those reported by Faust (1987) who reported that body dissatisfaction and interoceptive awareness were the most significant predictors of drive for thinness in a non-clinical sample of female adolescents.

Similarly, with respect to the prediction of Bulimia Test scores, a large percentage of the explained variance was contributed by Body Dissatisfaction and weight stability. After these variables were statistically controlled, only Ineffectiveness was a statistically significant individual predictor of Bulimia test scores. Ineffectiveness scores and Bulimia Test scores were positively related, that is, subjects reporting a high degree of personal insecurity, feelings of inadequacy and lack of control were likely to score higher on the Bulimia Test than those not reporting these types of problems.

The results obtained regarding the psychological correlates of Drive for Thinness and the Bulimia Test corroborate the findings of previous researchers (e.g., Klemchuk et al., 1990; Aronson, Fredman & Gabriel, 1990) who have reported significant relationships between psychological factors and eating behaviour/attitudes in nonclinical populations.

Previous research has also shown that in
nonclinical samples of female university students, extremely high levels of body dissatisfaction are typically reported (see Garner et al., 1984; Klemchuk et al., 1990). Body dissatisfaction has been highlighted as the central psychological similarity between eating disordered individuals and those showing a lesser degree of eating/weight-related pathology. In the present study, body dissatisfaction was indeed found to be more strongly related to drive for thinness than any other psychological variable. However, it is notable that other psychological variables (i.e., Interoceptive Awareness, Ineffectiveness) were found to be related to indices of eating disordered behaviour/attitudes even when body dissatisfaction was controlled for.

Both the relationship between Interoceptive Awareness and Drive for Thinness and the relationship between Ineffectiveness and Bulimia Test scores were statistically significant although weaker than the relationship of body dissatisfaction to either dependent measure. The current results demonstrate that in a moderately large non-clinical sample, a significant relationship exists between the severity of eating disordered behaviour (as measured by Drive for Thinness and the Bulimia test) and the degree of specific psychological characteristics (e.g.,
Ineffectiveness, Interoceptive awareness).

It is entirely possible, as was found in previous studies (Klemchuk et al., 1990; Garner et al., 1984), that some individuals in the current sample were showing high levels of body dissatisfaction as well as other psychological characteristics related to eating disorders (i.e., ineffectiveness, interoceptive awareness) whereas others in the sample were only showing high levels of body dissatisfaction alone. However, if there is a replicable subgroup of individuals who share the same psychological difficulties as clinical eating disorder patients while exhibiting milder levels of eating/weight related pathology, it would indicate a need to adjust current diagnostic criteria to include these individuals. Along these lines, Hsu (1990) has suggested that DSM-IV should include separate categories for subclinical anorexia nervosa and subclinical bulimia nervosa rather than including these classifications under Eating Disorder Not Otherwise Specified. He has argued that both a categorical and a continuous model are valid and necessary approaches to the classification of eating disorders and that the criterion of severity separating a eating disorder case from a non-case is necessarily somewhat arbitrary.

The degree to which specific psychological
characteristics could predict degree of reported body dissatisfaction was also assessed in the current study. It should be pointed out that Body Dissatisfaction is not an index of eating disordered behaviour in the same sense as Drive for Thinness or the Bulimia test since very high levels of body dissatisfaction are routinely found in nonclinical populations. Body dissatisfaction is definitely associated with eating/weight-related pathology however it may apparently be present without definite eating problems or preoccupation with dieting (Klemchuk et al., 1990).

In the current investigation, it was found that Body Dissatisfaction scores were significantly predicted by the combination of Interpersonal Competence I-E, Ineffectiveness, Perfectionism, Interoceptive Awareness and Maturity Fears after the influence of weight-related variables (i.e., weight stability and body mass index) were removed.

For body dissatisfaction, as in previous analyses, very few of the hypothesized psychological variables were found to contribute significantly to the prediction equation. In this case, Ineffectiveness and Interpersonal Competence were found to be significant predictors. Higher Ineffectiveness scores were associated with higher Body Dissatisfaction scores. Greater body dissatisfaction was associated with self-
perceptions of incompetence in managing various interpersonal situations.

The finding that ineffectiveness was a significant predictor mirrors the earlier findings regarding the prediction of Bulimia Test scores. The finding that interpersonal competence was significantly related to body dissatisfaction is interesting since it is unique to this particular analysis. Interpersonal competence was not found to have any relationship to drive for thinness or to the degree of bulimic symptoms reported.

One interpretation of this finding is that individuals who perceive themselves negatively in terms of their ability to function socially and relate to other people generalize this negativity to their physical appearance. It is equally possible that people who consider themselves to be fat feel uncomfortable or self-conscious in many social situations despite having adequate interpersonal skills. Fatness is generally perceived negatively in our society and it is likely that many of the impressions and beliefs we form about others and about ourselves are influenced by physical appearance. The corollary to this is that people may use the quality or success of their social experiences as an indicator of the degree to which others find them attractive or unattractive. Given the correlational design of the
current investigation it is not possible to address the question of causality; it can only be noted that degree of body dissatisfaction does appear to be related to the degree to which people report being competent and comfortable in diverse social situations.

It is also interesting to note here that weight stability was not found to be significantly related to scores on Body Dissatisfaction although it was found to relate to scores on both Drive for Thinness and the Bulimia Test. This difference in the pattern of background predictors supports the idea that body dissatisfaction is a qualitatively different indicator than drive for thinness or reported bulimic symptoms.

**Purpose II: Comparison of the Relative Predictive Strength of "Ineffectiveness" Measures**

The second purpose of the current investigation was to explore the dimension of personal ineffectiveness which has been extent to which the three measures chosen to represent individual and interpersonal aspects of ineffectiveness were in fact measuring similar or related characteristics. It was first hypothesized that Interpersonal Competence scores, I-E scores and Ineffectiveness scores would be significantly correlated with one another. This hypothesis was supported. Each of the three measures was significantly related to the other two.
Surprisingly though, the intercorrelations were all quite low in terms of magnitude. The two measures of individually-focused ineffectiveness (i.e., I-E and Ineffectiveness) were related to one another with approximately the same degree of strength as their respective relationships with the interpersonally-focused measure (i.e., Interpersonal Competence). The fairly low intercorrelations may be interpreted as meaning that "ineffectiveness" as it has been presented in the clinical-theoretical literature, is a multi-faceted construct made up of very different specific components.

With regard to the relative strength of these variables as predictors the results were unequivocal. No support was found for the hypotheses which stated that Interpersonal Competence would be relatively stronger than I-E or Ineffectiveness in predicting Drive for Thinness scores, Bulimia Test scores, or Body Dissatisfaction scores. In each case, Ineffectiveness was the most efficient measure; it emerged as a significant predictor in each of the analyses. It is possible that method variance contributed to the superiority of the Ineffectiveness subcale as a predictor of Drive for Thinness and Body Dissatisfaction since both criterion variables are measured by the same response format as the
Ineffectiveness subscale. This factor, however, could not explain the finding that Ineffectiveness scores significantly predicted Bulimia Test scores whereas I-E scores and Interpersonal Competence scores did not.

In examining the similarities and differences between the analyses, it is apparent that Ineffectiveness was the only one of the three variables to emerge as a significant predictor of Drive for Thinness scores or of Bulimia Test scores. Slightly different results were obtained with respect to Body Dissatisfaction. Interpersonal Competence and Ineffectiveness both contributed significantly to the prediction of variability in Body Dissatisfaction scores however, Ineffectiveness was again found to be the stronger of the two predictors.

In the current investigation, the superiority of Ineffectiveness over both Interpersonal Competence and I-E as a predictor of eating/weight-related disturbance is consistent regardless of the dependent measure used. This suggests that ineffectiveness may be best conceptualized as an intrapersonal construct, rather than an interpersonal one, despite the fact that ineffectiveness is presumed to develop in an interpersonal milieu.

Based on a factor analysis of the Eating Disorder Inventory using a non-clinical population Welch, Hall,
and Wailey (1989) found that the Ineffectiveness subscale and Interpersonal Distrust subscale did not measure separate constructs. Rather these scales formed a replicable single factor which they suggested was more general and focused on self-esteem. Thus, it may be that the Ineffectiveness scale by itself is a better measure of general self-esteem than is the Interpersonal Competence scale.

**Limitations of the Current Study**

Any research study can contribute valid knowledge only when the findings are considered within the limits of the study, and this project is no exception. The generalizability of the findings are based on the sampling procedures which were used to obtain a fairly homogenous data set (i.e., female university students, aged 18-26 years, with no clinical history of eating disorders). Any generalizations which extend to populations outside these limits must be cautious since there could be important between-sample differences associated with age, sex, or clinical history. For example, the findings are not easily generalizable to female university students as a group since a fair proportion of this population can be expected to be over 26 years old and some percentage can be expected to have current or previous diagnoses of anorexia nervosa or bulimia nervosa. Some degree of selection
was judged necessary since no study can control for every possible extraneous variable in ways other than through selection. The population used for this study was chosen to reflect a large proportion of the population most affected by eating disorders. The use of these selection criteria are a necessary part of attempting to balance the advantages of greater internal validity with the corresponding loss of generalizability.

A similar issue arises with respect to data screening procedures used in the preliminary analyses. Additional deletions of subjects from the study during this phase created further distance from a true random sample and must be considered as limitations to the external validity of the findings.

There are also some difficulties regarding the reliability and validity of the measures used in the current investigation. With respect to the I-E scale, for example, the buffer items were not used in this study and all reliability and validity information regarding the scale was obtained with the buffer items included in the the administration of the test.

The design of this study was intended to maximize the use of information from the available pool of subjects through the use of correlational procedures (i.e., regression analyses). This type of design does
not allow causal inferences to be made with regard to the relationship between variables. Also it does not allow for a comparison of clinically diagnosed eating disorder subjects with those reporting varying degrees of subclinical eating pathology. A simple comparison between identified eating disorder patients and normal controls was not possible due to the very small number of subjects who reported diagnosis and/or treatment for one or more clinical eating disorders.

As a final point, it must also be considered that no objective criteria were used to classify individual subjects with respect to degree of eating/weight-related pathology. It was not feasible to interview subjects individually or have them evaluated by qualified raters. All information on their clinical history (as well as all other data collected in the study) was derived entirely from self-report questionnaires and hence could be validated against objective criteria. For example, it is entirely possible that some subjects with clinically significant eating disorders were included in the study inadvertently due to having never formally been diagnosed or treated, or because they did not report this information accurately.

**Further Research Directions**

One interesting extension of the present
investigation would be to replicate the study using a smaller group, such that it would be feasible to conduct individual interviews. The probability of sampling errors would be lesser and it might be possible to design an observable operational definition for key constructs such as ineffectiveness. (e.g., number of negative self-evaluative statements used in answering specific open-ended questions).

Other future directions for research in this area include the extension of the current type of methodology to other groups/populations (e.g., men, women of younger and older age groups, non-university students). Within the population chosen for this study, it should be possible to further refine our understanding of key factors such as ineffectiveness and body dissatisfaction, how they relate to eating problems in clinical and non-clinical populations and what other factors facilitate their development.

Conclusion

Consistent with findings from previous research, the present results support the conclusion that psychological correlates of disturbed eating behaviour do exist in non-clinical samples of female university students. As pointed out by Hsu (1990), individuals having milder levels of eating pathology combined with psychological problems comparable to eating disorder
patients are more likely to be identified and adequately treated if the diagnostic criteria for eating disorders are expanded to include subclinical categories of eating disorders. The difficulty is that not all women with subclinical eating problems have these same psychological features; more research is necessary to understand the risk factors that differentiate between individuals with and without these accompanying psychological problems.

The psychological characteristics associated with eating disorders are not entirely understood in and of themselves. Further research is necessary to adequately define and circumscribe these constructs. In the present study an attempt was made to evaluate different measures of ineffectiveness. While it appears that this concept is better conceptualized as an intrapersonal rather than an interpersonal quality (based on the measures used), one can only speculate as to the reason for these findings. One particularly intriguing finding was that the interpersonal conceptualization of ineffectiveness was able to explain significant additional variance in Body Dissatisfaction but did not predict measures of drive for thinness or the bulimic symptoms. As suggested by Klemchuk et al., (1990), body dissatisfaction seems to be a factor which warrants further investigation for its own sake, as a
widespread problem rather than simply an associated feature of other types of eating/weight-related pathology.
APPENDIX A

INFORMATION FOR VOLUNTEERS
Information for Volunteers

I am a graduate student in Clinical Psychology at the University of Windsor and I am currently conducting research on the relationship between individuals' eating behaviour and their attitudes and beliefs about themselves and their social relationships.

In order to collect data for this study, I am asking for volunteers from Psychology classes to complete a set of questionnaires. Should you choose to participate, it will take approximately 25-30 minutes for you to complete the set of questionnaires and course credit (1 experimental point) will be given for your participation. The questionnaires will be completely anonymous; that is you are not to write your name on them. When all data has been collected, I will provide you with a information sheet wherein I will provide a more comprehensive description of the hypotheses which my study addresses.

This research project has been examined and approved by the Ethics Committee of the Department of Psychology, University of Windsor. If you have any questions regarding the study which you would like addressed prior to or after signing this consent form please feel free to contact any of the following individuals:

Karen J. Narduzzi, B.A. (Experimenter) 256-6046
Cheryl Thomas, Ph.D. (Research supervisor) 253-4232, ext. 2252
Robert Orr, Ph.D. (Member of Ethics committee) 253-4232, ext. 2215
APPENDIX B

CONSENT FORM
Consent Form

If you choose to consent to participate in this research project after having read and understood following information, please sign this form in the space indicated.

1. You have the right to withdraw from the study at your request at any time.
2. If you wish, the experimenter will provide you with a summary of the research findings after the study is completed.
3. If you have questions about the study at any time you are invited to contact the experimenter, the research supervisor, or the Departmental Ethics Committee about your concerns.
4. Data collection will be anonymous and if you choose to participate all information which you provide will remain confidential.

I, ___________________________ (name of participant), having studied and understood the above conditions, agree to participate in this research study.

______________________________
Signature of participant

______________________________
Date
APPENDIX C

INFORMATION FOR PARTICIPANTS
Information for Participants:
Purposes of the Research Project

Purpose 1
The central focus of the proposed research will be an evaluation of the degree to which certain psychological characteristics are related to attitudes and behaviours associated with eating problems. Eating problems are defined here as preoccupation with losing weight and/or binge eating. It is hypothesized that a person's level of eating problems will be related to how much the person reports feelings of insecurity and lack of control, difficulty identifying their emotions and sensations and how much dissatisfaction is experienced regarding various areas of his or her body.

Purpose 2
One psychological factor that has been studied extensively with regard to eating problems is feelings of inadequacy/ insecurity or lack of control over one's life. In the present study one purpose is to examine two different ways of looking at this factor. Typically, it is presumed to reflect the feelings a person has about his or her self. I am examining the possibility that this factor may also be viewed as reflecting the feelings a person has regarding their ability to manage social relationships effectively. Managing social relationships is studied in terms of a person's reported level of comfort in initiating relationships, disclosing personal information, asserting displeasure with others and managing interpersonal conflict. I am hypothesizing that perceived problems managing social relationships will be strongly related to the level of eating problems people report.

Thank you for your participation in this study; I greatly appreciate your assistance in my research. If you are interested in receiving a summary of the research findings when my data analysis is complete, please feel free to contact me.

Karen J. Narduzzi,
Graduate student,
Psychology Department,
University of Windsor
(519) 256-6046
APPENDIX D

SET OF RESEARCH QUESTIONNAIRES
TEST I: ICQ

Instructions: Consider each of the following situations; on a five point scale rate your level of competence and comfort in handling each situation listed. Mark your response on the answer sheet only.

Rating Scale
1--- "I'm poor at this, I'd feel so uncomfortable and unable to handle this situation, I'd avoid it if possible".
2--- "I'm only fair at this; I'd feel uncomfortable and would have lots of difficulty handling this situation".
3--- "I'm OK at this; I'd feel somewhat uncomfortable and have some difficulty handling this situation."
4--- "I'm good at this; I'd feel quite comfortable and able to handle this situation."
5--- "I'm extremely good at this; I'd feel very comfortable and could handle this situation very well."

Situation
1. Asking or suggesting to someone new that you get together and do something, e.g., go out together.
2. Telling a companion you don't like a certain way he or she has been treating you.
3. Revealing something intimate about yourself while talking with someone you're just getting to know.
4. Helping a close companion work through his or her thoughts and feelings about a major life decision, e.g., a career choice.
5. Being able to admit that you might be wrong when a disagreement with a close companion begins to build into a serious fight.
6. Finding and suggesting things to do with new people whom you find interesting and attractive.
7. Saying "no" when a date/acquaintance asks you to do something you don't want to do.
8. Confiding in a new friend/date and letting him or her see your softer, more sensitive side.
9. Being able to patiently and sensitively listen to a companion "let off steam" about outside problems that he/she is having.

10. Being able to put begrudging (resentful) feelings aside when having a fight with a close companion.

11. Carrying on conversations with someone new whom you think you might like to get to know.

12. Turning down a request by a companion that is unreasonable.

13. Telling a close companion things about yourself that you’re ashamed of.

14. Helping a close companion get to the heart of a problem he or she is experiencing.

15. When having a conflict with a close companion, really listening to his or her complaints and not trying to "read" his/her mind.

16. Being an interesting and enjoyable person to be with when first getting to know people.

17. Standing up for your rights when a companion is neglecting you or being inconsiderate.

18. Letting a new companion get to know the "real" you.

19. Helping a close companion cope with family or roommate problems.

20. Being able to take a companion’s perspective in a fight and really understand his or her point of view.

21. Introducing yourself to someone you might like to get to know.

22. Telling an acquaintance that he or she is doing something that embarrasses you.

23. Letting down you protective "outer shell" and trusting a close companion.

24. Being a good and sensitive listener for a companion who is upset.

25. Refraining from saying things that might cause a disagreement to build into a big fight.
26. Calling (on the phone) a new acquaintance to set up a time to get together and do something.

27. Confronting a close companion when her or she has broken a promise.

28. Telling a close companion about the things that secretly make you afraid.

29. Being able to say and do things to support a close companion when he or she is feeling down.

30. Being able to work through a specific problem with a companion without resorting to global accusations ("you always do that").

31. Presenting good first impressions to people you might like to become friends with (or date).

32. Telling a companion that he or she has done something to hurt your feelings.

33. Telling a close companion how much you appreciate and care for him or her.

34. Being able to show empathic concern even when a companion's problem is uninteresting to you.

35. When angry with a companion, being able to accept that he or she has a valid point of view even if you don't agree with that view.

36. Going to parties or gatherings where you don't know people well in order to start up new relationships.

37. Telling an acquaintance that he or she has done something that made you angry.

38. Knowing how to move a conversation with a date/acquaintance beyond superficial talk to really get to know each other.

39. When a close companion needs help and support, being able to give advice in ways that are well received.

40. Not exploding at a close companion (even when it is justified) in order to avoid a damaging conflict.
Instructions: For each of the following items, select ONE of the presented options (A or B) which is most true of yourself; your own beliefs. MARK A OR B ON THE ANSWER SHEET.

1) A. There will always be wars no matter how hard people try to prevent them.
   B. One of the major reasons why we have wars is because people do not take enough interest in politics.

2) A. Even when there was nothing forcing me, I have found I will sometimes do things I really do not want to do.
   B. I always feel in control of what I am doing.

3) A. There are institutions in society that have considerable control over me.
   B. Little in this world controls me, I usually can do what I decide to do.

4) A. For the average citizen, becoming a success is a matter of hard work, luck has little or nothing to do with it.
   B. For the average person, getting a good job depends mainly on being in the right place at the right time.

5) A. In my case, getting what I want has little or nothing to do with luck.
   B. It is not always wise for me to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

6) A. Sometimes I impulsively do things which at other times I definitely would not let myself do.
   B. I find that I can keep my impulses in control.

7) A. In many situations, what happens to people seems to be determined by fate.
   B. People do not realize how much they personally determine their own outcomes.

8) A. Most people do not realize the extent to which their lives are controlled by accidental happenings.
   B. For any person, there is no such thing as luck.
9) A. If I put my mind to it, I could have an important influence on what a politician does in office.
   B. When I look at it carefully, I realize it is impossible for me to have any really important influence over what politicians do.

10) A. With fate the way it is, many times I feel that I have little influence over the things that happen to me.
    B. It is impossible for me to believe that chance or luck plays an important role in my life.

11) A. When I put my mind to it, I can constrain my emotions.
    B. There are moments when I cannot subdue my emotions and keep them in check.

12) A. As far as the affairs of our country are concerned, most people are the victim of forces they do not control and frequently do not even understand.
    B. By taking part in political and social events, the people can directly control much of the country's affairs.

13) A. People cannot always hold back their personal desires: they will behave out of impulse.
    B. If they want to, people can always control their immediate wishes, and not let these motives determine their total behaviour.

14) A. Many times I feel I might just as well decide what to do by flipping a coin.
    B. In most cases I do not depend on luck when I decide to do something.

15) A. I do not know why politicians make the decisions they do.
    B. It is easy for me to understand why politicians do the things they do.

16) A. Although sometimes it is difficult, I can always wilfully restrain my behaviour.
    B. Something I cannot do is have complete mastery over all my behavioural tendencies.

17) A. In the long run people receive the respect and good outcomes they worked for.
    B. Unfortunately, because of misfortune or bad luck, the average person's worth often passes unrecognized no matter how hard he or she tries.
18) A. With enough effort, people can wipe out political corruption.
   B. It is difficult for people to have much control over the things politicians do in office.

19) A. By active participation in the appropriate political organizations people can do a lot to keep the cost of living from going higher.
   B. There is very little people can do to keep the cost of living from going higher.

20) A. It is possible for me to behave in a manner very different from the way I want to behave.
   B. It would be very difficult for me to not have mastery over the way I behave.

21) A. In this world I am affected by social forces which I can neither control nor understand.
   B. It is easy for me to avoid and function independently of any social forces that may attempt to have control over me.

22) A. What people get out of life is always a function of how much effort they put into it.
   B. Quite often one finds that what happens to people has no relation to what they do, what happens just happens.

23) A. Generally speaking, my behaviour is not governed by others.
   B. My behaviour is frequently determined by other influential people.

24) A. People can and should do what they want to do both now and in the future.
   B. There is no point in people planning their lives too far in advance because other groups of people in our society will invariably upset their plans.

25) A. There is no such thing as luck, what happens to me is a result of my own behaviour.
   B. Sometimes I do not understand how I can have such poor luck.

26) A. Many of the unhappy things in people's lives are at least partly due to bad luck.
   B. People's misfortunes result from the mistakes they make.
27) A. Self-regulation of one's own behaviour is always possible.
   B. I frequently find that when certain things happen to me I cannot restrain my reaction.

28) A. The average person can have an influence in government decisions.
   B. This world is run by a few people in power and there is not much the little person can do about it.

29) A. When I make my mind up, I can always resist temptation and keep control of myself.
   B. Even if I try not to submit, I often find I cannot control myself from some of the enticements in life such as over-eating and drinking.

30) A. My getting a good job or promotion in the future will depend a lot on my getting the right turn of fate.
   B. When I get a good job, it is always a direct result of my own ability and/or motivation.

31) A. Most people do not understand why politicians behave the way they do.
   B. In the long run, people are responsible for bad government on a national as well as on a local level.

32) A. I often realize that, despite my best efforts, some outcomes seem to happen as if fate planned it that way.
   B. The misfortunes and successes I have had were the direct result of my own behaviour.
TEST 3: BULIT

Instructions: Answer each question as honestly as possible on the ANSWER SHEET only. Write the letter corresponding to the most appropriate response in the space provided. Remember, all of the information you provide will be kept strictly confidential.

1. Do you ever eat uncontrollably to the point of stuffing yourself (i.e., going on eating binges)?
   (a) Once a month or less (or never)
   (b) 2-3 times a month
   (c) Once or twice a week
   (d) 3-6 times a week
   (e) Once a day or more

2. I am satisfied with my eating patterns.
   (a) Agree
   (b) Neutral
   (c) Disagree a little
   (d) Disagree
   (e) Disagree strongly

3. Have you ever kept eating until you thought you’d explode?
   (a) Practically every time I eat
   (b) Very frequently
   (c) Often
   (d) Sometimes
   (e) Seldom or never

4. Would you presently call yourself a "binge eater"?
   (a) Yes, absolutely
   (b) Yes
   (c) Yes, probably
   (d) Yes, possibly
   (e) No, probably not

5. I prefer to eat:
   (a) At home alone
   (b) At home with others
   (c) In a public restaurant
   (d) At a friend’s house
   (e) Doesn’t matter

6. Do you feel you have control over the amount of food you consume?
   (a) Most or all of the time
   (b) A lot of the time
   (c) Occasionally
   (d) Rarely
   (e) Never

7. I use laxatives or suppositories to help control my weight.
   (a) Once a day or more
   (b) 2-3 times a week
   (c) Once or twice a week
   (d) 2-3 times a month
   (e) Once a month or less (or Never)
8. I eat until I feel too tired to continue.
   (a) At least once a day
   (b) 1-6 times a week
   (c) Once or twice a week
   (d) 2-3 times a month
   (e) Once a month or less (or Never)

9. How often do you prefer eating ice cream, milk shakes, or puddings during a binge?
   (a) Always  (d) Seldom or never
   (b) Frequently  (e) I don’t binge
   (c) Sometimes

10. How much are you concerned about your eating binges?
    (a) I don’t binge
    (b) Bothers me a little
    (c) Moderate concern
    (d) Major concern
    (e) Probably the biggest concern in my life

11. Most people I know would be amazed if they knew how much food I can consume at one sitting.
    (a) Without a doubt  (d) Possibly
    (b) Very probably  (e) No
    (c) Probably

12. Do you ever eat to the point of feeling sick?
    (a) Very frequently  (d) Occasionally
    (b) Frequently  (e) Rarely or never
    (c) Fairly often

13. I am afraid to eat anything for fear that I won’t be able to stop.
    (a) Always  (d) Sometimes
    (b) Almost always  (e) Seldom or never
    (c) Frequently

14. I don’t like myself after I eat too much.
    (a) Always  (d) Seldom or never
    (b) Frequently  (e) I don’t eat too much
    (c) Sometimes

15. How often do you intentionally vomit after eating?
    (a) 2 or more times a week
    (b) Once a week
    (c) 2-3 times a month
    (d) Once a month
    (e) Less than once a month (or never)
10. Which of the following describes your feelings after binge eating?
(a) I don't binge eat
(b) I feel O.K.
(c) I feel mildly upset with myself
(d) I feel quite upset with myself
(e) I hate myself

17. I eat a lot of food when I’m not even hungry.
(a) Very frequently
(b) Frequently
(c) Occasionally
(d) Sometimes
(e) Seldom or never

18. My eating patterns are different from eating patterns of most people.
(a) Always
(b) Almost always
(c) Frequently
(d) Sometimes
(e) Seldom or never

19. I have tried to lose weight by fasting or going on “crash” diets.
(a) Not in the past year
(b) Once in the past year
(c) 2-3 times in the past year
(d) 4-5 times in the past year
(e) More than 5 times in the past year

20. I feel sad or blue after eating more than I’d planned to eat.
(a) Always
(b) Almost always
(c) Frequently
(d) Sometimes
(e) Seldom or never, or not applicable

21. When engaged in an eating binge, I tend to eat foods that are high in carbohydrates (sweets and starches).
(a) Always
(b) Almost always
(c) Frequently
(d) Sometimes
(e) Seldom, or I don’t binge

22. Compared to most people, my ability to control my eating seems to be:
(a) Greater than others' ability
(b) About the same
(c) Less
(d) Much less
(e) I have absolutely no control
23. One of your best friends suddenly suggests that you both eat at a new restaurant buffet that night. Although you'd planned on eating something light at home, you go ahead and eat out, eating quite a lot and feeling uncomfortably full. How would you feel about yourself on the ride home?
(a) Fine, glad I'd tried that new restaurant
(b) A little regretful that I'd eaten so much
(c) Somewhat disappointed in myself
(d) Upset with myself
(e) Totally disgusted with myself

24. I would presently label myself a "compulsive eater" (one who engages in episodes of uncontrolled eating).
(a) Absolutely
(b) Yes
(c) Yes, probably
(d) Yes, possibly
(e) No, probably not

25. What is the most weight you've ever lost in 1 month?
(a) Over 20 pounds
(b) 12-20 pounds
(c) 8-11 pounds
(d) 4-7 pounds
(e) Less than 4 pounds

26. If I eat too much at night I feel depressed the next morning.
(a) Always
(b) Frequently
(c) Sometimes
(d) Seldom or never
(e) I don't eat too much at night

27. Do you believe it is easier for you to vomit than it is for most people?
(a) Yes, it's no problem at all for me
(b) Yes, it's easier
(c) Yes, it's a little easier
(d) About the same
(e) No, it's less easy

28. I feel that food controls my life.
(a) Always
(b) Almost always
(c) Frequently
(d) Sometimes
(e) Seldom or never

29. I feel depressed immediately after I eat too much.
(a) Always
(b) Frequently
(c) Sometimes
(d) Seldom or never
(e) I don't eat too much
30. How often do you vomit after eating in order to lose weight?
(a) Less than once a month (or never)
(b) Once a month
(c) 2-3 times a month
(d) Once a week
(e) 2 or more times a week

31. When consuming a large quantity of food, at what rate of speed do you usually eat?
(a) More rapidly than most people have ever eaten in their lives
(b) A lot more rapidly than most people
(c) A little more rapidly than most people
(d) About the same rate as most people
(e) More slowly than most people

32. What is the most weight you've ever gained in 1 month?
(a) Over 20 pounds
(b) 12-20 pounds
(c) 8-11 pounds
(d) 4-7 pounds
(e) Less than 4 pounds

33. (Females only). My last menstrual period was:
(a) Within the past month
(b) Within the past two months
(c) Within the past four months
(d) Within the past six months
(e) Not within the past six months

34. I use diuretics (water pills) to help control my weight.
(a) Once a day or more
(b) 3-6 times a week
(c) Once or twice a week
(d) 2-3 times a month
(e) Once a month or less (or never)

35. How do you think your appetite compares with that of most people you know?
(a) Many times larger than most
(b) Much larger
(c) A little larger
(d) About the same
(e) Smaller than most

36. (Females only): My menstrual cycles occur once a month:
(a) Always
(b) Usually
(c) Sometimes
(d) Seldom
(e) Never
TEST 4

Instructions: Using the figures (corresponding to your own sex) and rating scale below, answer the following questions on the answer sheet by writing a number from 10 to 90. You may choose a figure that is not represented on the drawing by selecting any number between 10 and 90. For example, the number "57" would represent a figure between 50 and 60. Answer the questions on the answer sheet by writing the number of the appropriate figure.

1. Which figure approximates your own current figure?
2. Which figure would you ideally like to look like?
3. Which figure do you think would be most attractive to the other sex?

TEST 5: EDI

General Instructions: Test 5 is the booklet labelled EDI. On the first page are some questions which are to be answered on the Answer Sheet in the space provided. Inside the EDI booklet are 64 statements. Indicate the degree to which each statement is true of yourself (Always/Usually/Often/Sometimes/Rarely/Never) and remember to respond only on the Answer Sheet. Please do NOT write in the EDI booklet.

Use the following codes to respond to the 64 items on this scale:

"Always" = A  "Sometimes" = S
"Usually" = U  "Rarely" = R
"Often" = O  "Never" = N

For example, if your response to an item is "Sometimes", write "S" in the space provided on the answer sheet.
### ANSWER SHEET

**TEST 1** (Mark 1, 2, 3, 4 or 5 as noted in Instructions for Test 1):

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**TEST 2** (Mark A or B, as noted in the instructions for Test 2):

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**TEST 3** (Mark a, b, c, d or e, as noted in instructions for Test 3):

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**TEST 4** (Write the number of the appropriate figure):

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**TEST 3: EDI**

- **Age**
- **Sex**
- Marital Status
- Present Weight
- Height
- **Highest Past Weight**
  - How Long at this weight
- **Lowest Past Adult Weight**
  - How Long at this weight
- Ideal weight?
- Age weight problems began (if any)
- Present occupation
- Father's occupation
- Mother's occupation

**Answer A, U, O, S, R, or N as noted in instructions for Test 3**:

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**Have you ever received diagnosis/treatment from a physician for any of the following eating disorders?**

- a) Anorexia Nervosa
- b) Bulimia
- c) Obesity
- d) None

98
References


Grune and Stratton.


106


VITA AUCTORIS

Karen J. Narduzzi was born in Niagara Falls, Ontario, on October 9, 1966 and was raised in Fort Erie, Ontario. She attended Loretto High School (1980-82) and St. Paul High School (1982-83) in Niagara Falls, Ontario, and graduated from Notre Dame College School in Welland, Ontario in 1985. She attended the University of Ottawa from for five years beginning in 1985, first majoring in Biology and later transferring into Psychology.

Karen graduated from the University of Ottawa in 1990 with a Bachelor of Arts degree (Honours) and moved to Windsor where she was accepted into the doctoral program in Clinical Psychology at the University of Windsor.