

INVESTIGATION OF A CONCEPTUAL FRAMEWORK FOR BODY-IMAGE  
ASSESSMENT: PERSONALITY FACTORS, PERCEPTION, AFFECT, AND  
BEHAVIOUR

BY

SUSAN L. BUCHANAN

A Thesis

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in Partial Fulfillment of the Requirements for the Degree of

MASTER OF ARTS

Department of Psychology

University of Manitoba

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- Folklore ..... 0358
- Geography ..... 0366
- Gerontology ..... 0351
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- Ancient ..... 0579
- Medieval ..... 0581
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- Black ..... 0328
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- Asia, Australia and Oceania ..... 0332
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- Latin American ..... 0336
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  - General ..... 0306
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  - Biostatistics ..... 0308
  - Botany ..... 0309
  - Cell ..... 0379
  - Ecology ..... 0329
  - Entomology ..... 0353
  - Genetics ..... 0369
  - Limnology ..... 0793
  - Microbiology ..... 0410
  - Molecular ..... 0307
  - Neuroscience ..... 0317
  - Oceanography ..... 0416
  - Physiology ..... 0433
  - Radiation ..... 0821
  - Veterinary Science ..... 0778
  - Zoology ..... 0472
- Biophysics
  - General ..... 0786
  - Medical ..... 0760

- Geodesy ..... 0370
- Geology ..... 0372
- Geophysics ..... 0373
- Hydrology ..... 0388
- Mineralogy ..... 0411
- Paleobotany ..... 0345
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- Paleozoology ..... 0985
- Palynology ..... 0427
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  - Nutrition ..... 0570
  - Obstetrics and Gynecology ..... 0380
  - Occupational Health and Therapy ..... 0354
  - Ophthalmology ..... 0381
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    - Organic ..... 0490
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    - Polymer ..... 0495
    - Radiation ..... 0754
  - Mathematics ..... 0405
  - Physics
    - General ..... 0605
    - Acoustics ..... 0986
    - Astronomy and Astrophysics ..... 0606
    - Atmospheric Science ..... 0608
    - Atomic ..... 0748
    - Electronics and Electricity ..... 0607
    - Elementary Particles and High Energy ..... 0798
    - Fluid and Plasma ..... 0759
    - Molecular ..... 0609
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    - Optics ..... 0752
    - Radiation ..... 0756
    - Solid State ..... 0611
    - Statistics ..... 0463
- Applied Sciences
  - Applied Mechanics ..... 0346
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## *Dedication*

i

*In memory of my mother I would like to dedicate this thesis. Through her precious words, unwavering support, and unconditional love I learned many valuable lessons. She always believed in me, and taught me that I could do anything with hardwork and patience. Mom taught me to always love the people in my life, and to care for everyone who passes through my world. She had so many wonderful expressions, and I still hear her words today. Mom is still the "wind beneath my wings". I will miss her and love her forever and everyday.*

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## TABLE OF CONTENTS

	<u>Page</u>
DEDICATION	i
ACKNOWLEDGEMENTS	ii
TABLE OF CONTENTS	iii
LIST OF TABLES	vi
LIST OF FIGURES	vii
TITLE PAGE	1
ABSTRACT	2
INTRODUCTION	4
Body-image Perception Assessment	5
Body-image Distortion	6
Body-image Discrepancy	8
Body Figures Ratings Scale	10
Body-Image Perceptions Scale	11
Etiological Factors	14
Sociocultural Factors	15
Personality Factors	19
Perfectionism	20
Need for Social Approval	22
Consequences of Body-Image	23
Affective Consequences	24
Depression	25
Self-Esteem	26
Behavioural and Attitudinal Consequences	28
Eating Behaviours	28
Pathological eating behaviours	29
Exercise	30
Body Attitudes and Behaviours Scale	32
Gender Differences	33
Gender Similarities	35

Preliminary Investigations	37
Current Study	39
Hypotheses	41
METHOD	42
Participants	42
Materials	42
Marlowe-Crowne Social Desirability Scale (MCSD)	42
Multidimensional Perfectionism Scale (MPS)	43
State Self-Esteem Scale (SSES)	44
Center for Epidemiologic Studies-Depression Scale (CES-D)	45
Body Image Perceptions Scale (BIPS)	46
Body Attitudes and Behaviours Scale (BABS)	47
Demographics Questionnaire	48
Procedure	48
RESULTS	49
Effects of Levels of Perfectionism on Body-Image Ratings	52
Effects of Level of Need for Social Approval on Body-Image Ratings	55
Gender Similarity and Differences on Body-Image Ratings	56
Effects of Level of Depression and Self-Esteem on Body-Image Ratings	59
Self-esteem	59
Depression	62
Effects of Level of Body-Image Discrepancy on Body-Altering Behaviours	62
Body Attitudes and Behaviours Scale	64
Factor Structure and Reliabilities of the BABS Factors	64
Correlations of the BABS with Body-Image, Self-Esteem and Depression Variables	69
Residual Findings	71
DISCUSSION	73
Antecedents of Body-Image	73
Perfectionism	73
Need for Social Approval	76
Body-Image Perceptions	78
Gender Differences and Similarities	78
Consequences of Body-Image	80

Affective Consequences	80
Depression	80
Self-esteem	81
Body Attitudes and Behaviours Scale (BABS)	84
Behavioural Consequences	84
Self-Attitudinal Consequences	87
Limitations of Present Research	88
Conclusions	88
Future Directions of Research	90
REFERENCES	91
APPENDICES	109
Appendix A: Body-image Conceptual Model	109
Appendix B: Body Figures Ratings Scale	110
Appendix C: Body-Image Perceptions Scale	111
Appendix D: Experimenter Statement for Beginning of Session	112
Appendix E: Marlowe-Crowne Social Desirability Scale (MCSD)	113
Appendix F: MCSD Scoring Instructions	115
Appendix G: Multidimensional Perfectionism Scale (MPS)	
Self-oriented and Socially-Prescribed Subscales	116
Appendix H: MPS Subscales Scoring Instructions	118
Appendix I: State Self-Esteem Scale (SSES)	119
Appendix J: SSES Subscales and Scoring Instructions	120
Appendix K: Centre for Epidemiological Studies	
-Depression (CES-D)	121
Appendix L: CES-D Scoring Instructions	122
Appendix M: Single Item Measure of Body-Image	
Satisfaction\Dissatisfaction	123
Appendix N: Body Attitudes and Behaviours Scale (BABS)	124
Appendix O: BABS Factor Structure	126
Appendix P: Questions Added to the BABS	127
Appendix Q: Demographics Questionnaire	128
Appendix R: Survey Booklet Cover Sheet	129
Appendix S: Subject Feedback	130

## List of Tables

Table 1	Means and Standard Deviations of All Variables by Gender	531
Table 2	Correlations Between BIPS, BIPS-Absolute Scores and MSCD, MPS Subscales by Gender	54
Table 3	Frequencies of Males and Females Within Each Body-Image Perception Category	58
Table 4	Frequencies of Males and Females Within Each Weight Discrepancy Category	60
Table 5	Correlations Between BIPS, BIPS-Absolute Scores and CESD, SSES Subscales by Gender	63
Table 6	Correlations Between BIPS, BIPS-Absolute Scores and Reduce Behaviour, Gain Behaviour by Gender	64
Table 7	Varimax Rotation Factor Analysis of the BABS-Attitudes Scales	67
Table 8	Eigenvalues and Percent of Variance for the BABS Factors	68
Table 9	Correlations Between BABS Factors and the Other Variables for Males	70
Table 10	Correlations Between BABS Factors and the Other Variables for Females	72
Table 11	Mean Body-image Dissatisfaction Rating for Each BIPS Category	74

## List of Figures

<u>Figure 1.</u> Correlations and partial correlations among variables for the BIPS with female subjects.	131
<u>Figure 2.</u> Correlations and partial correlations among variables for the BIPS with male subjects.	133
<u>Figure 3.</u> Correlations and partial correlations among variables for the BIPS absolute deviation from ideal with female subjects.	135
<u>Figure 4.</u> Correlations and partial correlations among variables for the BIPS absolute deviation from ideal with male subjects.	137
<u>Figure 5.</u> Percentage of Subject in Each BIPS Category: A Comparison of Males and Females.	139
<u>Figure 6.</u> Frequency of Scores for the BIPS: A Comparison of Males and Females.	141
<u>Figure 7.</u> Frequency of Scores for the BIPSABS: A Comparison of Males and Females.	143

## Abstract

A conceptual framework for body-image was investigated which details: antecedent personality factors, body-image self-perception, and affective, behavioural, and attitudinal consequences. Specifically, the study examined the associations among: (1) antecedent personality constructs: perfectionism [Multidimensional Perfectionism Scale (MPS; Hewitt & Flett, 1991)]; need for approval [Marlowe-Crowne Social Desirability Scale (MCSD; Crowne & Marlowe, 1967)]; (2) self-perceived body-image [Body-Image Perceptions Scale (BIPS; Sande & Buchanan, unpublished)]; (3) affective consequences: depressive symptomatology [Centre for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977)]; self-esteem [State Self-Esteem Scale (SSES; Heatherton & Polivy, 1991)]; and (4) behavioural and attitudinal consequences [Body Attitudes and Behaviours Scale (BABS; Sande & Buchanan, unpublished)]. A second purpose of the proposed research was the further testing of two unpublished scales: the Body-Image Perceptions Scale (BIPS), and the Body Attitudes and Behaviours Scale (BABS). These scales demonstrated adequate reliability, validity, and improved factor structure for the BABS. The analyses examined men ( $n = 197$ ) and women ( $n = 305$ ) separately, and compared the results across body-image discrepancy (BIPS) and the absolute deviation value of the BIPS. Most of the hypotheses were supported. Specifically, the evidence generally supported the associations of the antecedent personality factors: perfectionism and need for social approval with absolute deviation from ideal body-image. The results also supported the associations between the absolute deviation value of BIPS and most of the

affective, attitudinal, and behavioural consequences for both men and women.

Moreover, these results extend the conclusions of previous research which focused on the experiences of women to include both genders.

An Investigation of the Conceptual Framework for Body-image Assessment:  
Personality Factors, Perception, Affect, and Behaviour

In recent times, body-image assessment has been a highly prolific area of research. The body-image construct refers to a person's feelings about and perceptions of his or her body (Gleghorn, Penner, Powers, & Schulman, 1987). Body-image dissatisfaction has been conceptualized as a continuum ranging from unconcern with weight and normal eating, to "normative discontent" with weight and moderately disregulated eating, to the severe experiences of weight dissatisfaction and eating disorders (Striegel-Moore, Silberstein, & Rodin, 1986).

The proliferation of literature on body-image has led to many pieces of knowledge about the construct. A multitude of factors have been implicated in the etiology of body-image disturbance, and the general population's experience of a negative body-image. Thompson (1995) recommended that an assessment or evaluation of body-image is crucial to any treatment program for eating disorders or obesity. Thus, the measurement of this construct is vital to the understanding and treatment of clinical populations. Four basic measurement strategies have been developed and widely utilized: self-report questionnaires, projective tests, silhouette choices, and interview assessments (for a comprehensive review, see Ben-Tovim & Walker, 1991; Thompson, 1995). A few prominent researchers have attempted to summarize the literature and present their theoretical understanding of body-image (Cash & Pruzinsky, 1990; Thompson, 1990; Rodin, 1992a).

In this thesis, a working conceptual framework was advanced to clarify and extend

previous work on body-image assessment (see Appendix A). There are three components to this research program: measuring body-image, examining the antecedents, and the consequences of body-image. The first component, body-image self-perception, is what the individual perceives and what the individual feels about his or her body, this includes: body size and shape, and this image in various comparative positions. The body-image comparison may be: "how others see you", "how you see yourself in comparison to others or to an ideal", or "how you ought to be". The second component, the antecedents of body-image, is what influences the individual's body-image, this includes: personality factors, developmental factors, sociocultural environment, and the social context. Many antecedent components of body-image have been previously investigated.

The third component, the consequences of body-image, is what the individual experiences as a consequence of body-image, this includes: emotional, behavioural, and attitudinal experiences associated with the body-image concept. The emotional consequences include: depression, anxiety, self-criticism, and guilt. The behaviours which have been identified as outcomes of the body-image experience include: eating patterns (e.g., restrictive eating, binging), exercising, social avoidance, self-medication, and drug abuse. In extreme form, these behaviours are indicative of the presence of an eating disorder (Wilson & Pike, 1993). The attitudes which have been identified include: self-consciousness, social-consciousness, and attractiveness.

#### Body-Image Perception Assessment

The perceptual component of body-image assessment measures how large or

small the individual perceives his or her body, often in contrast to some normative indices of body size and shape. Historically, body-image assessment research has focused primarily on two areas: body-image distortion (or body size estimation inaccuracy) and body-image discrepancy. Body-image distortion assesses the individual's self-perceived body size, and empirically determines the accuracy of this body size estimation. This was determined by contrasting the self-perceived size estimation with body size measurement using an objective measurement apparatus. Body-image discrepancy also assesses the individual's self-perceived (actual) body size, but contrasts it with the individual's self-perceived ideal body size. The difference between the actual and ideal body-images is the degree of body-image discrepancy.

### Body-Image Distortion

Body-image measurement research has largely focused on the perceptual component, because of the initial association between body-image distortion and anorexia nervosa (Bruch, 1973; 1978; Cash & Brown, 1987; Garner, 1981; Thompson, Berland, Linton, & Weinsier, 1986; Thompson, Penner, & Altabe, 1990). Body-image distortion is defined as the discrepancy between the individual's body size estimation and an objective measurement of actual body size. There are many measures of body-image distortion with most instruments requiring the subject to adjust the width of light beams projected onto a wall, or a video image of their body to match their perceived size (for a comprehensive review, see Thompson, 1995) for example: Slade and Russell's Visual Size Estimation Task, Ruff and Barrios's Body

Image Detection Device, or the Freeman, Thomas, Solyom, and Miles's Video Distortion Technique (as cited in Keeton, Cash, & Brown, 1990).

Research conducted with non-eating disordered populations reported a high incidence of body size estimation inaccuracy (Dolan, Birtchnell, & Lacey, 1987; Cash & Brown, 1987). Many studies reported women's consistent exaggeration of body size, both overall body size and specific body parts (Thompson, 1990; Tiggemann & Rothblum, 1988). Researchers have concluded that body-image dissatisfaction is associated with greater distortion of body size (Gleghorn et al., 1987). Thompson et al. (1986) reported that 95% of women overestimated the size of their bodies, and that waist overestimation was to the greatest degree. However, other researchers have not replicated these findings (Huon & Brown, 1989; Lindholm & Wilson, 1988). Thus this large body of research has not provided conclusive or consistent results (Garner, 1981; Thompson, 1990).

Numerous researchers have reported a relation between body size estimation inaccuracy and degree of eating disturbance (Williamson, Kelley, Davis, Ruggerio, & Blouin, 1985), negative affect (Lindholm & Wilson, 1988; Taylor & Cooper, 1992), and lowered self-esteem (Ben-Tovim & Walker, 1991). However, other researchers reported no relation between body size over-estimation and level of eating disturbance (Covert, Thompson, & Kinder, 1988; Huon & Brown, 1986; Keeton et al., 1990; Lindholm & Wilson, 1988).

The inconsistencies with this line of research may result from the numerous apparati developed, or the inconsistent application of the body-size estimation

instruments (for a comprehensive review, see Thompson, 1995). Recent research has attempted to address this issue, by testing size measurement apparatus with various population samples, and various objects. Lindholm and Wilson (1988) concluded that body size overestimation may be more indicative of body-image dissatisfaction rather than perceptual distortion.

Research has now suggested that body size estimation may be problematic for the majority of individuals, regardless of body-image or eating disorder pathology (Cash & Brown, 1987; Hsu & Sobkiewicz, 1991; Keeton et al., 1990). Size estimation inaccuracy is common, whether the object being measured is an inanimate object, another person, or the individual's own body (Hundleby & Bourgoign, 1993; Thompson & Spana, 1991). In a review of the literature, Hsu and Sobkiewicz (1991) concluded that there is no evidence of a relationship between the perceptual distortion of body size and various affective body-image measures. Hundleby and Bourgoign (1993) stated that previous researchers have erroneously attributed a globally experienced size perception inaccuracy to body-image assessment.

#### Body-Image Discrepancy

The other aspect of body-image perception assessment is the measurement of body-image discrepancy. Body-image discrepancy is defined as the discrepancy between perceived self and ideal self. A widely held conclusion of previous research was that the degree of failure to match internalized ideal body size prompts self-criticism and damages self-esteem (Cash & Pruzinsky, 1990; Silberstein, Striegel-Moore, Timko, & Rodin, 1988; Thompson, 1990). As well, the self-ideal discrepancy

was strongly associated with general psychological adjustment, and level of eating disturbance (Keeton et al., 1990).

Researchers have pointed to the need to identify variables that predict the importance individuals place on their body-image (Sullivan & Harnish, 1990). The perceived difference between actual and ideal body type is a discrepancy with which the individual is constantly confronted (Sullivan & Harnish, 1990). Individuals for whom body-image is important would have greater awareness of their body-image discrepancy; thus the discrepancy would have a greater effect on their self-esteem. Previous investigations have concluded that perceived attractiveness is a very prominent and salient component of women's self-concept (for a comprehensive review, see Rodin, Silberstein, & Striegel-Moore, 1985). However, perceived attractiveness is assumed to be less important for men.

The components of body-image discrepancy, actual and ideal body-image, have not been studied separately. For example, is psychological adjustment associated more with misperceptions of the actual body, or unrealistic ideal body-image? Previous research concluded that the larger the individual's self-perceived size the greater the reported level of eating disturbance; however there was no relation between ideal size and level of eating disturbance (Thompson & Psaltis, 1988). The one-sided nature of this relationship illustrates the importance of self-perceived size to the general well-being of the individual. Another investigation concluded that body weight predicted body-image discrepancy better than other measures, such as eating pathology, dysfunctional cognitions, or sex-role identity (Fraenkel & Leichner, 1989; Thomas,

1991).

Body Figures Ratings Scale.

One of the most widely used body-image discrepancy measures, the Body Figures Ratings Scale, was originally developed by Stunkard, Sorenson, and Schlusinger (as cited in Thomas, 1991) and later redesigned by Fallon and Rozin (1985) and Thompson and Psaltis (1988)(see Appendix B). This measure uses schematic drawings of men and women ranging from very thin to very fat. The instructions for the original scale required the subject to choose the figure that best represented their current figure and ideal figure. A body-image discrepancy score is calculated by subtracting the actual image chosen from the ideal image chosen. Subsequent research has included alternate comparison statements such as: how she or he feels they look, the figure they thought would be most attractive to the opposite sex, the opposite sex figure that they found most attractive, how the average member of the opposite sex (or same sex) would rate them, and how she or he would rate the ideal image of the opposite sex (or same sex).

The modifications made to the Body Figure Rating Scale (Fallon & Rozin, 1985; Thompson & Psaltis, 1988; Thompson, 1995) in subsequent uses of this measure illustrate a debate currently in body-image research. Numerous researchers have modified the original measure by changing the instructional format from a cognitive rating "how you think you currently look", to an affective rating "how you feel most of the time". Subjects' ratings of how they 'thought they looked' were the same as how they 'thought other people saw them'; however, they felt larger than how they

thought others saw them (Thompson & Psaltis, 1988). Subsequent studies have also supported the cognitive versus affective instructional ratings discrepancies (Thompson & Altabe, 1991; Thompson & Dolce, 1989; Thompson & Spana, 1988).

Numerous researchers have proposed their own variations of the body figure drawings, for example: Body Silhouettes (Williamson, Davis, Goreczny, & Blouin, 1989), Upper Torso Rating Scale (Thompson, 1995), and Contour Drawing Rating Scale (Thompson, 1995). All of these scales consist of artists' drawings of variations of the human body from very thin to very fat (for a comprehensive review see Thompson, 1990; 1995). There are numerous problems inherent in these drawn human figures, such as: the body figures lack ethnic representation, there are restricted figure choices, and the variation in size increments is not empirically determined.

#### Body Image Perceptions Scale.

One purpose of the proposed research is the continued development of an alternate body-image perception rating scale, called the Body-Image Perceptions Scale (BIPS; Sande & Buchanan, unpublished) (see Appendix C). The purpose of this scale is to assess the individual's self-rating of his or her body size. The scale asks the individual to rate seven body areas and overall body according to the scale ranging from "much too small" through "just the right size" to "much too big".

The unique feature of this self-perception rating is that it incorporates two aspects of body-image assessment: perceived discrepancy between actual and ideal, and a body-image affective rating. The single rating for each body area incorporates both

the actual and the ideal perceptions, as one discrepancy score. The individual's own rating of body size is in comparison to a self-determined ideal. This scale incorporates the individual's own images of what the actual body and ideal body looks like. Thus the individual's self perceived body-image and ideal body-image are not restricted to the body figure drawings as represented in the Body Figure Rating Scale or any of its subsequent variations. In the instructions, I ask people to indicate what they "feel" their body looks like. Each endorsement of a deviation from "just the right size" involves an affective component of dissatisfaction with the self-perceived body-image and the body-image discrepancy. The "too big" or "too small" ratings statements incorporate the individual's feelings toward the body area and overall body. The BIPS eliminates the aforementioned problems inherent in the body figure ratings scales.

An important consideration in the measurement of body-image is the method for calculating the direction of the discrepancy or level of dissatisfaction. Previous researchers have averaged their data, which I will call the summative method of calculating body-image. This method of calculating body-image discrepancy results in the consistent finding of a general tendency for women to perceive that they are larger than their ideal body-image. The vast majority of women want to lose weight, no matter what their present size. This method of calculating body-image discrepancy has lead previous researchers to conclude that men do not experience a discrepancy between their actual and ideal body shapes (Fallon & Rozin, 1985). For men, the summative method results in the generally reported lack of body-image discrepancy, which leads to the erroneous conclusion that their actual body-image matches their

ideal body-image. However for men, the specific ideal is a mesomorphic body, so almost equal numbers of men want to lose weight as want to gain weight. Thus, the method of calculating body-image assessment must address the nature of the relationship between actual and ideal body-image.

A significant component of the BIPS is the scoring procedure, which is the calculation of the absolute deviation from ideal body-image score. The calculation of this score involves the conversion of the subjects' ratings to deviation from zero (or "just the right size"). This results in a score that represents the amount of deviation from the ideal body-image. The importance in calculating the absolute deviation score is in the large difference in ratings and relations attained for men. The total score method involves addition of the ratings. This calculation method results in minimal body-image discrepancy for men, thus as previous researchers have concluded men generally view their body as "just the right size". However, in preliminary investigations calculating the absolute deviation from ideal body-image score, the majority of men reported significant body-image discrepancies (78%). Thus, the trend for men to endorse opposite ratings of body size, 'too large' and 'too small', do not cancel each other out. In the same preliminary investigations, the absolute deviation score resulted in more women reporting significant body-image discrepancies (97%), than for the summative method (81%). Thus, this method of calculating body-image discrepancy is useful for women as well.

Preliminary investigations have compared the efficacy of the BIPS in measuring body-image discrepancy from ideal, and evaluated this against another measure of

body-image discrepancy (i.e., Body Figures Ratings Scale). The proposed utility of the BIPS is to assess both body-image discrepancy and level of satisfaction or dissatisfaction with one's body-image. The individual's feelings of satisfaction or dissatisfaction with his or her own body are an indication that they care about how their body appears. Thus the present research compared the efficacy of the BIPS in measuring the individual's feelings of satisfaction or dissatisfaction with his or her body-image. A comparison of the BIPS was made with a standard single-item question which assesses body-image satisfaction or dissatisfaction. The single-item rating of body dissatisfaction is widely used in clinical application and research (Cash, 1995; Thompson, 1995). The BIPS and the BIPS absolute deviation score results were compared with the single item rating results. It was expected that this single-item comparison would confirm that the BIPS is an adequate measure of the feelings of satisfaction or dissatisfaction with body-image.

Inherent in all of the body-image perception measures is the comparison of the individual's body to a particular ideal body-image. How is this ideal determined? Is this how the individual wants to look or is it how the individual believes she or he ought to look according to some societal standard?

#### Etiological Factors

Previous reviews of the body-image literature have outlined etiological factors that contribute to the development of a negative body-image (for a comprehensive review, see Thompson, 1990; Rodin, 1992a). Some of the factors previously defined as contributing factors in the development and maintenance of body-image dissatisfaction

include: sociocultural standards, developmental history, and personality factors.

### Sociocultural Factors

Sociocultural and sociohistorical factors have repeatedly been implicated as major contributors to the present day development and growth of negative body-image experience and eating disorders (Cash & Pruzinsky, 1990; Dolan & Gitzinger, 1994; Fallon, 1990; Rodin et al., 1985; Thompson, 1990). Throughout the twentieth century North American standards of ideal beauty have changed from the 1920's linear "flapper-look", the 1940's curvaceous "pin-up girls", the 1960's "bosom mania", to present day's "thin and fit" ideal (Mazur, 1986). The extreme behaviours of some women in response to culturally defined beauty ideals, whatever they may be at the time, have repeated themselves in various forms throughout history and across cultures (Sault, 1994).

Specific cultures define different standards of beauty. Anthropological studies of body shapes and their associated aesthetic values have concluded that in less affluent societies obesity is often admired (Furnham & Baguma, 1994). Few studies have investigated cultural comparison of body figure ratings. In one such study Ugandans rated the more obese female figure and the thinner male figure as more attractive than did the British (Furnham & Baguma, 1994). These differences in body-image attitudes may be a result of a lack of exposure to the mass media culture evident in industrialized societies today. Nasser (1988) postulated that the enculturation of the North American standard of thinness for feminine beauty will result in the increased incidence of eating disorders in these societies.

Most body-image research has been conducted on North American, Anglo-Saxon, female populations (Cash, 1990; Sault, 1994). Specific subcultures within the North American society differentially emphasize body-image and appearance. In research conducted with a sample of African-American women, there were significant levels of body-image dissatisfaction, most felt too fat (60%), and that their ideal body weight was significantly lower than their actual body weight (Thomas, 1989). Goldblatt, Moore, and Stunkard reported an inverse relationship between the amount of exposure to North American culture and the incidence of obesity (as cited in Nasser, 1988).

In today's industrialized society, the culturally defined standard of the ideal body type for women is becoming thinner (Nasser, 1988; Silverstein, Peterson, & Perdue, 1986). An investigation into American society's current standard of an ideal female body concluded that these ideal body weight standards are 13 to 19% below expected body weight for women in the same age group (Garner et al., 1980; Wiseman et al., 1992). As well, an investigation of eating attitudes and body concept reported that 73% of female models maintain body weights on average 15% below the recommended healthy weight for their age and height (Brenner & Cunningham, 1992). As a body weight below 15% of standard is considered one criteria of anorexia nervosa, Wiseman et al. (1992) concluded that the majority of these "ideal women" have one major symptom of an eating disorder. Investigations into women's body sizes depicted in magazines and the Miss America Pageant through the twentieth century concluded that women's bust to waist ratios has decreased significantly over the past twenty years (Garner et al., 1980; Silverstein, Peterson et al., 1986;

Silverstein, Perdue, Peterson, & Kelly, 1986).

Women's beauty ideal has become more uniform and standardized throughout industrialized countries through the pervasiveness of the mass media (Mazur, 1986; Silverstein, Perdue, Peterson, & Kelly, 1986; Striegel-Moore, Silberstein et al., 1986). Heinberg et al. (1995) stated that the mass media of present day society blurs the boundaries between glorified figure and reality. Rodin (1992b) declares that, "through movies, magazines, and TV, we see beautiful people as often as we see our own family members; the net effect is to make exceptional beauty appear real and attainable" (pp. 57). This ideal is in direct opposition to the trend recorded in Metropolitan Life's weight tables that women's weight is actually increasing (Garner, Garfinkel, Schwartz, & Thompson, 1980; Mazur, 1986; Wiseman, Gray, Mosimann, & Ahrens, 1992). Thus there is increased disparity between the standard and the ideal weight, which creates increased pressure to diet and exercise. This pressure is reflected in the increased number of diet and exercise articles (Wiseman et al., 1992), diet or 'lite' products, and diet advertisements in women's magazines (Andersen & DiDomenico, 1992).

The social comparison model states that a woman's tendency to compare her own body to those of others predicts her overall level of body satisfaction (Heinberg & Thompson, 1992; Striegel-Moore, McAvay, & Rodin, 1986; Thompson & Heinberg, 1993). Women who are heavier than their peers reported greater body dissatisfaction, and more frequently engage in extreme weight loss behaviours in an attempt to live up to societal norms of appropriate size (Wertheim, Paxton, Maude, Szumkler, Gibbons,

& Hiller, 1992). Silverstein, Perdue, Peterson, and Kelly (1986) concluded that women focus on their physical attractiveness because of culturally imposed standards of attractiveness. So women may have an "ought" self that stresses a standard of attractiveness that they feel obligated to attain (Sullivan & Harnish, 1990). Only recently have researchers attempted to assess women's acceptance of societally sanctioned standards of appearance (Heinberg, Thompson, & Stormer, 1995).

Dolan and Gitzinger (1994) proposed a cultural association of thinness with desirable social status. Mazur (1986) and other researchers have repeatedly stated that women are under pressure to meet an ideal standard of beauty because of culturally imposed associations between social opportunities and beauty. In North American culture, thinness has been associated with competence, intelligence, assertiveness, and higher socioeconomic status (Smith, Waldorf, & Trembath, 1990). Developmental and sociocultural factors associate thinness with greater femininity, which in turn acts to further focus women's self-esteem on physical attractiveness (Rodin et al., 1985; Silverstein, Perdue, Peterson, & Kelly, 1986; Silverstein, Peterson, & Perdue, 1986; Striegel-Moore et al., 1986; Sault, 1994; Thompson & Heinberg, 1993; Weeda-Mannak, 1994). Contrary to this is the association of curvaceous figures with femininity, which is associated with incompetence and a lack of intelligence (Silverstein, Perdue, Peterson, Vogel, & Fantini, 1986).

There is evidence that in today's society a strong prejudice against obese individuals begins in childhood. Researchers have documented children's and adults' negative stereotyping and treatment of obese individuals in comparison to non-obese

individuals (Garner, Rockert, Olmstead, Johnson, & Coscina, 1985; Langlois, 1986; Tiggemann & Rothblum, 1988). College students rate obese individuals as less active, intelligent, hardworking, successful, athletic, and popular than non-obese individuals (Tiggemann & Rothblum, 1988). Society condemns the individual for being overweight because it is deemed to be controllable. However, not only do others blame the overweight individual for lack of effort or lack of self-control, but the individual also blames himself or herself (Crocker, Cornwell, & Major, 1993).

The developmental history of size or weight teasing has been implicated as a possible predictor of the development of body-image disturbance and eating disorders (Thompson, 1990;1995; Thompson & Heinberg, 1993). Thompson (1990) concluded that girls who mature early were more likely to be teased. This teasing experience may produce body-image dissatisfaction and general psychological dysfunction (e.g., depression and lower self-esteem). Teasing may also lead to a fear of being fat, increased anxiety, and self-doubt in individuals predisposed to a heavier weight or to easily gaining weight. Crocker et al. (1993) concluded that "the overweight may be the most frequently and severely stigmatized group in this country (United States)" (pp.68).

### Personality Factors

A constellation of personality factors has been implicated in predisposing individuals to problems with body-image and the development of eating disorders, including: low self-assertion, self-directed hostility, external locus of control (Williams, Chamove & Millar, 1990), trait anxiety (Abadie, 1988), self-monitoring

(Sullivan & Harnish, 1990), narcissism (Jackson, Ervin, & Hodge, 1992), impulse control (Nagelberg, Hale, & Ware, 1984), perfectionism (Hewitt & Flett, 1991a; Mitzman, Slade, & Dewey, 1994), and need for social approval (Rodin et al., 1985). However, in the present investigation the discussion will be restricted to perfectionism and need for social approval. These personality constructs were chosen because practical considerations required limitations on the number of variables tested at the present time.

#### Perfectionism.

Perfectionism is defined as the tendency to hold and pursue unrealistically high goals (Pacht, 1984). The perfectionistic individual tends to see things in "all or nothing terms", where the only two outcomes are perfection and failure. Other characteristic reactions include: selective attention to and overgeneralization of failure, and harsh self-evaluations. The perfectionistic personality style has been linked to various negative outcomes including feelings of failure, guilt, indecisiveness, procrastination, shame, and low self-esteem (for a comprehensive review, see Hewitt & Flett, 1991a).

Recent investigations of perfectionism have described it as a multidimensional construct with personal and social components (Hewitt & Flett, 1991a; 1991b). The three components include: self-oriented, other-oriented, and socially-prescribed perfectionism. Self-oriented perfectionism is defined as the tendency to set exact standards for oneself, to evaluate oneself harshly, and to incorporate a discrepancy between actual self and ideal self. Other-oriented perfectionism includes setting

unrealistic standards and the harsh evaluation of the behaviours of others. Socially-prescribed perfectionism includes the belief that significant others set exact standards and harshly evaluate oneself, and includes the need to attempt to meet these standards. The researchers concluded that the perfectionism dimensions are differentially linked to the development and maintenance of various problems including achievement, physical, psychological and relationship difficulties, and other psychopathology (see Hewitt & Flett, 1991a; 1991b; Hewitt & Genest, 1990).

Self-oriented perfectionists base their self-worth on unrealistic performance standards, which usually cannot be met. Repeated failures to meet the ideal standard have been reported to negatively affect self-esteem (Hewitt & Flett, 1991b). Furthermore, perfectionism scores have been predictive of depressive mood reaction in response to failure (Hewitt, Mittlestaedt, & Wollert, 1989). From the aforementioned characteristics, one can understand how the cyclical nature of repeated dieting and failure to reach an ideal body weight or body size can have potentially severe outcomes such as: depression, body-image dissatisfaction, and low self-esteem for perfectionistic individuals.

Previous researchers have repeatedly associated perfectionism with various forms of psychopathology such as alcoholism, anorexia nervosa, depression, and personality disorders (American Psychological Association, 1994; Hewitt et al., 1990; Hewitt & Flett, 1991a; 1991b; Kerr, Skok, & McLaughlin, 1991). More specifically, self-oriented perfectionism has been associated with anorexia nervosa (Cooper, Cooper, & Fairburn, 1985; Garner, Olmstead, & Polivy, 1983) and sub-clinical depression

(Hewitt et al., 1989; Hewitt et al., 1990; Hewitt & Flett, 1991b; Hewitt & Genest, 1990). Socially-prescribed perfectionism is associated with clinical levels of unipolar depression and anxiety disorders (Hewitt, Flett, Turnbull-Donovan, & Mikail, 1991). Even in general population studies, women who have perfectionistic standards tend to be more dissatisfied with their bodies and feel fatter, regardless of their actual weight, than women who have lower perfectionism tendencies (Rodin et al., 1985). It was expected that this association between perfectionism and body-image would be supported. However, because this research is exploratory no specific hypotheses about the associations of the perfectionism subscales with body-image were proposed.

#### Need for Social Approval.

Social desirability is defined as the need to obtain approval by behaving in a culturally appropriate and acceptable manner (Crowne & Marlowe, 1964). Researchers have noted that the pursuit of thinness in women may be a means to gain social approval, thus improving one's self-concept (Dunn & Ondercin, 1981). Moreover, other researchers have proposed that women are socialized to believe that their self-concept is tied to interpersonal approval. Thus striving for thinness is an attempt to avoid social rejection (Dolan & Gitzinger, 1994; Rodin et al., 1985; Striegel-Moore, Silberstein et al., 1986). Tiggemann and Rothblum (1988) concluded that women are more affected by the social consequences of perceived and actually being overweight than men are, because of the importance of weight for women. Women are socialized to believe that society rewards women with thin bodies (Rodin et al., 1985).

There is very limited research investigating the relationship between body-image dissatisfaction, eating disorders, and the need for social approval. Katzman and Wolchik (1984) found that women with bulimia have higher need for approval than a non-bulimic sample. As well, Kerr et al.'s (1991) review of the eating disorder literature concluded that individuals with anorexia nervosa placed greater significance on social conformity than the general population.

Numerous researchers have used a measure of social desirability in order to assess the discriminant validity of various self-report instruments. This is to determine whether a need to present oneself in a socially desirable manner has affected the subjects' responses to the assessment instruments. This use of the Marlowe-Crowne Social Desirability scale (MCSD; Crowne & Marlowe, 1964) is reflective of a general trend in previous research. However, the MCSD was initially intended to assess important personality characteristics which can be summarized as a need for social approval.

#### Consequences of Body-Image

Because the majority of research investigating body-image has come from the eating disorder literature, much research attention has focussed on the accompanying psychopathology of body-image disturbance. The significance of the subjective experience of body-image lies in the intense emotional experiences associated with a negative body-image. The most severe repercussions of a negative body-image are evident in the American Psychological Association's DSM-IV (1994) diagnostic criteria for clinical populations of individuals with two eating disorders, Anorexia

Nervosa and Bulimia Nervosa. Both diagnostic categories discuss the intense fear of gaining weight and the dysfunctional behaviours (e.g., self-starvation, purging, laxative abuse, excessive exercising) characteristic of individuals with eating disorders.

These same consequences are evident in less pathological form in the general population's experience with negative body-image. The majority of the general population has at sometime engaged in non-clinical levels of dysfunctional eating behaviours (e.g., restrictive dieting, appetite suppressant use, bingeing, laxative use, skipping meals) and exercise behaviours for altering the body shape and size (e.g., running, aerobics, weight training). As well, elevated levels of depressed mood are evident in non-clinical samples of women who are dissatisfied with their bodies (Cooper & Taylor, 1986; Taylor & Cooper, 1992).

#### Affective Consequences

The experience of a negative body-image is accompanied by a high degree of body dissatisfaction, which is one of the strongest predictors for the development of eating disorders (Klemchuck, Hutchinson, & Frank, 1990; Leon, Fulkerson, Perry, & Cudeck, 1993). Many body-image assessment instruments utilize a ratings scale of levels of body satisfaction to dissatisfaction. An example of one such questionnaire is the Eating Disorders Inventory - Body Dissatisfaction Scale (Garner et al., 1983).

Body size dissatisfaction is problematic itself, but is also related to other affective consequences, such as: negative self-esteem, anxiety, depression, and poor coping with stress (Reed, Thompson, Brannick, & Sacco, 1991; Rosen, Gross, & Vara,

1987; Shatford & Evans, 1986; Thompson, 1990). In the present investigation, the discussion of affective consequences of a negative body-image will be limited to depression and self-esteem.

### Depression.

Previous research has repeatedly found a strong relationship between depression, eating disturbance, and body-image dissatisfaction (Cash & Brown, 1987; Cash, Winstead, & Janda, 1986; Kerr et al., 1991; Mintz & Betz, 1986; Thompson & Psaltis, 1988; Williamson et al., 1985). Striegel-Moore, Silberstein et al.'s (1986) review of the literature concluded that common markers of depression are body dissatisfaction and low self-esteem. As well, Mintz and Betz (1986) found that body-image was associated with depression-proneness. However, Grubb, Sellers, and Waligroski (1993) concluded that the association between body-image, self-esteem, and depression is not established.

One difficulty with the majority of previous research investigating depressive symptomatology in the general population is that the measure of depression utilized is designed to assess clinical depression, for example the Beck Depression Inventory (BDI; Beck, Steer, & Garbin, 1988). The BDI assesses the presence and severity of depressive symptomatology, and its main use is for diagnosis of clinical depression. The range of scores within the non-clinical population is severely restricted as the majority of the general population will not endorse many of the items. As well, the depressive symptomatology experienced by adolescents and children differs greatly from the adult population (Radloff, 1991).

The measure of depression to be used in the present research is the Center for Epidemiologic Studies-Depression Scale (CES-D; Radloff, 1977; 1991), which was designed to measure depressive symptomatology in the general population. The CES-D was designed for general population surveys, epidemiologic studies of depression, and pays particular attention to the experiences of adolescents. Radloff (1977) concluded that the broader range of possible scores across the general population allows for a more meaningful assessment of the relationship between depressive symptomatology and other variables. Noles, Cash, and Winstead (1985) used the CES-D in an investigation of body-image, physical attractiveness, and depression. The researchers concluded that depressed subjects reported greater body-image dissatisfaction than non-depressed subjects.

#### Self-Esteem.

Numerous researchers have suggested that, for women, feelings about the body are an important dimension of general self-esteem (Ben-Tovim & Walker, 1991; Franzoi & Shields, 1984; Rosen & Ross, 1968). Rodin et al. (1985) concluded that body dissatisfaction is intimately related to low self-esteem and a general feeling of personal inadequacy. Specifically, decreased self-esteem is proposed to be one of the effects of repeated self-criticism and sense of failure for not achieving an idealized body type or body weight (Josephs, Marks, & Tafarodi, 1992; Tiggemann, 1994).

Low self-esteem has repeatedly been identified as a risk factor for, and a characteristic typical of, individuals with eating disorders (Kerr et al., 1991; Nagelberg et al., 1984; Williamson et al., 1985). A major precursor of eating

disorders is the cyclic nature of repeated dieting and dieting failure (Tiggemann, 1994). Thus one possible explanation is that women with low self-esteem have a negative body-image, which motivates them to diet and almost always leads to failure, and in turn lowers their self-esteem (Tiggemann, 1994).

A few researchers have found little relationship between body satisfaction and self-esteem in women (Silberstein et al., 1988). Rodin et al. (1985) proposed that women's "normative discontent" with their bodies acts as a buffer, so a negative body-image does not impact on self-esteem because it is a normal, daily experience. Tiggemann (1994) proposed that individuals with an overweight body may have lower self-esteem, but also that people with low self-esteem may have a negative body-image. Thus the direction of the relationship between body-image and self-esteem is not established.

It is generally agreed upon that self-esteem is a multidimensional construct (Fleming & Watts, 1980; Sonstroem, 1981). Various theorists have outlined a constellation of attitudes and identities that comprise the individual's self-concept, for example Janis and Field's Feelings of Inadequacy Scale (as cited in Heatherton & Polivy, 1991), and Coopersmith's Self-Esteem Inventory (as cited in Grubb et al., 1993). Heatherton and Polivy (1991) identified three main dimensions of self-esteem: social self-esteem, appearance self-esteem, and performance self-esteem. They developed the State Self-Esteem Scale (SSES; Heatherton & Polivy, 1991) to assess fluctuations of self-esteem around a stable baseline. Social self-esteem measures the extent to which people feel self-conscious about their public image (e.g., "I am

worried about what other people think of me"). The appearance self-esteem factor measures satisfaction with current figure (e.g., "I am pleased with my appearance right now"). Performance self-esteem is the extent to which people feel their performance is worthy (e.g., "I feel confident about my abilities").

The results of preliminary investigations between self-esteem and body-image have supported the utility of this measure. One such study concluded that appearance self-esteem is more closely associated with dieting behaviour, depression, and body satisfaction than performance or social self-esteem factors (Heatherton & Polivy, 1991). Mintz and Betz (1986) concluded that body-image satisfaction was negatively correlated with social self-esteem. As well, overweight women reported lower overall self-esteem than did normal weight women. The difference was accounted for by the appearance self-esteem factor, which was significantly lower for the overweight women (Crocker et al., 1993).

### Behavioural and Attitudinal Consequences

#### Eating Behaviours.

Miller et al. (1980) concluded that the tendency for people to diet in an attempt to lose or gain weight is directly related to their degree of body-image dissatisfaction. The majority of individuals who diet also have low levels of self-esteem (Polivy, Heatherton, & Herman, 1988). Sixty percent of a college student sample, men and women, reported that they were dieting to gain or lose weight (Miller, Coffman, & Linke, 1980). The current North American emphasis on thinness has promoted the wide use of many weight loss strategies (Krejci et al., 1992). As well, living in a

culture with such food obsession encourages the bingeing and purging behaviours prevalent in today's North American society. Hsu (1989) concluded that there is a continuum of abnormal eating behaviours with 'normal' dieting on one end and eating disorders on the other end. Some of the consequences of prolonged food restriction include: depressive symptomatology, inability to concentrate, moodiness, fatigue, anxiety, apathy, and social isolation (Andersen et al., 1995; Mitchell, Specker, & de Zwaan, 1991; Mizes, 1985).

Pathological eating behaviours. Previous research has clearly indicated that prolonged and repeated dieting is a risk factor or precursor for the development of eating disorders (Polivy & Herman, 1992; Wertheim et al., 1992; Wilson & Pike, 1993). The majority of body-image assessment research has focused on the relation between body-image disturbance and eating disorders. The DSM-IV (1994) states that a disturbance in perception of body shape and weight is an essential feature of both Anorexia Nervosa and Bulimia Nervosa. The eating disorders are characterized by pathological levels of specific criterion behaviours including: self-induced vomiting; misuse of laxatives, diuretics, or other medications; enemas; fasting; or excessive exercise. Eating dysfunction in women has repeatedly been associated with lower physical appearance rating and greater body figure discrepancy (Keeton et al., 1990; Silberstein et al., 1988; Thompson & Psaltis; 1988). The cyclic nature of dieting and dieting failure is implicated in the disinhibition of eating characteristic of bulimia (Polivy et al., 1988).

Previous investigations have concluded that specific subcultures are at greater risk

for developing eating disorders. One group at risk for dysfunctional eating is athletes (for a comprehensive review, see Brownell, Rodin, & Wilmore, 1992). More specifically, the athletes at risk engage in sports that emphasize specific weight categories (e.g., wrestling or rowing), are rated by judges (e.g., gymnastics, skating), or whose performance is affected by body weight (e.g., distance running) (Brownell et al., 1992; Sykora, Grilo, Wilfley, & Brownell, 1993).

### Exercise.

The emphasis on thinness and fitness in today's society also promotes exercise behaviours as a weight control strategy. Just as eating behaviours fall on a continuum, exercise behaviours also fall on a continuum from non-exercisers to obligatory exercisers. Obligatory exercisers are characterized by a need to maintain a rigid schedule of intense exercise, detailed record keeping, feelings of guilt and anxiety when the exercise schedule is not adhered to, and exercising even when tired, injured, or ill (Krejci et al., 1992). Researchers have concluded that women exercise more for weight control than do men (McDonald & Thompson, 1992). As well, exercising for weight and tone is associated with greater body dissatisfaction and eating disturbance in both genders (McDonald & Thompson, 1992).

However, other researchers propose that the success experiences and personal growth of a physical fitness training program enhanced self-esteem (Caruso & Gill, 1992; Sonstroem, 1981). Individuals who participated in a weight-training program reported significantly better self-concepts than those who did not, and more positive motivations for exercise (Mamuza & Jamieson, 1995; Tucker, 1982). As well, an

investigation of obligatory exercisers concluded that female exercisers did not report the body dissatisfaction, nor the drive for thinness, depressive symptomatology, or dietary restraint characteristic of women with bulimia (Krejci et al., 1992). However, other researchers have concluded that participation in an exercise program may promote excessive concern with weight and dieting in women (Davis, Fox, Cowles, Hastings, & Schwass, 1990). Davis and Cowles (1991) concluded that the relationship between body-image and exercise participation is not yet clearly understood.

Researchers have reported that men use physical exercise rather than dieting for weight control (Drewnowski & Yee, 1987; Drewnowski, Kurth, & Krahn, 1995). As well, the muscular ideal for men requires that they engage in strenuous aerobic and weight training activities. It has been proposed that the increasing cultural attention to a muscular ideal for men will result in men becoming increasingly engaged in body altering behaviours such as weight lifting and exercising (Davis & Cowles, 1991; Davis, Elliott, & Mitchell, 1991). However, high-intensity exercising in men is not considered analogous to the eating disorders experienced by women (Nudelman, Rosen, & Leitenberg, 1988). Drewnowski and Yee (1987) concluded that this may explain why eating disorders are not as prevalent among men.

One subculture engaged in these body altering behaviours is competitive body-builders. Recent research has investigated the weight loss patterns in male and female competitive body-builders (Andersen, Bartlett, Morgan, & Brownell, 1995; Klein, 1994). These researchers concluded that severe dieting practices were prevalent in this population. Thirty-nine percent of the athletes reported a preoccupation with food

(i.e., counting calories, restricting meal size, fasting). As well, the majority of body-builders reported using amino acid or protein powder supplements to increase weight.

#### Body Attitudes and Behaviours Scale.

The Body Attitudes and Behaviours Scale (BABS) is designed to assess the behaviours, self-attitudes, and social consequences of body-image perception.

Preliminary investigations confirmed five subscales: Attractiveness, Self-consciousness, Social-consciousness, Gaining behaviours, and Reducing behaviours.

However, because the BABS questionnaire is still under development previous questions were removed and additional questions were included for the present investigation.

Two subscales of the Body Attitudes and Behaviours Scale (BABS; Sande & Buchanan, unpublished), Gain behaviours and Reduce behaviours, are designed to assess the behavioural consequences of body-image. Some of the dysfunctional eating behaviours include: skipping meals, dieting, ingesting food additives or medication, and vomiting. The Gain behaviours and Reduce behaviours subscales also include items which assess exercise behaviours (e.g., "I exercise to try to reduce my weight", "I exercise or work out to try to increase my body size"). As well, two items assess the amount of time spent exercising per week.

There are other measures which assess the presence of dysfunctional eating behaviours. However, these questionnaires have primarily been designed for use with a clinical population, and for the diagnosis of eating disorders, for example: the Bulimia Test (BULIT-R; Thelen, Farmer, Wonderlich, & Smith, 1991) and the Eating

Disorders Inventory - 2 (EDI-2; Garner, 1991). Thus, these scales were not designed for the assessment of eating dysfunction in the general population.

The purpose of the BABS is to assess the level of dysfunctional eating and exercise behaviours in the general population. A few of the gaining and reducing behaviours have very low frequencies of endorsement for example, medication use and vomiting. However, it is important to record the incidence of occurrence for these more pathological and harmful behaviours. This information will aid future clinical use of the BABS, and will record rates of occurrence in the university population.

The attitudinal subscales of the BABS are exploratory constructs. Self-consciousness is defined as the individual's level of body self-awareness. Social-consciousness is defined as the individual's level of awareness of others' ratings of his or her physical attractiveness. Attractiveness is the individual's self-perception of his or her own attractiveness. In preliminary investigations, the correlations between the previous version of the BABS subscales and the Rosenberg Self-Esteem Scale (RSE) for a university sample of women ( $n = 664$ ) and men ( $n = 468$ ) are: Attractiveness .54 and .45, Self-Consciousness -.26 and -.10, Social-Consciousness -.37 and -.27, respectively.

#### Gender Differences

It is commonly assumed that women are more concerned about body-image and weight than men (e.g., Drenowski & Yee, 1987; Fallon & Rozin, 1985; Striegel-Moore, Silberstein et al., 1986; Sykora et al., 1993; Thompson, 1990). Moreover,

some researchers have concluded that a strong relationship exists between body satisfaction and self-esteem for women, but not for men (Lerner, Karabenick, & Stuart, 1973; Mintz & Betz, 1986). As a result of this relationship, women report weight to be a greater issue, they feel more overweight, diet more, express more body consciousness, and report that weight interfered with social activities more than men (Cash & Brown, 1989). Nudelman et al. (1988) concluded that eating disorders are probably rare in men because they are less likely to base their self-worth on physical appearance.

In a review of body-image disturbance, Thompson (1990) repeated a widely held conclusion that men generally do not have body-image dysfunction. As well, Thompson (1990) noted that previous findings illustrate the large gender gap in subjective body dissatisfaction. "Men's perceptions serve to keep them satisfied with their figures, whereas women's perceptions place pressure on them to lose weight" (Fallon & Rozin, 1985, pp. 102). Research assessing male subjects' body-image discrepancies has found that men's current figure, their ideal size, and the figure they thought would be most attractive to women are almost identical (Fallon & Rozin, 1985; Striegel-Moore, McAvay et al., 1986; Thompson, 1990).

Some researchers conclude that women's body-image satisfaction is more highly correlated with self-esteem than is men's, but other researchers have found the reverse to be true. Thompson and Altabe (1991) found no relation between men's body-image discrepancy and self-esteem, and a significant relation for women. However, Silberstein, Striegel-Moore, Timko, and Rodin (1988) concluded that for

women, there is no relation between weight dissatisfaction and self-esteem, but a significant relation for men. Due to these conflicting results, no clear conclusions can be drawn. The reasons for these inconsistencies remain unclear.

It has been proposed that women primarily define themselves in relation to others, whereas men define themselves in terms of individualization, accomplishment, and performance (Rodin, 1992a; Rodin et al., 1985; Dolan & Gitzinger, 1994). Thus women are considered to be more sensitive to sociocultural pressures and need for approval. As well, Cash and Brown (1989) argue that the greater prevalence of body-image dysfunction among women is due to their greater tendency for self-disclosure. However, an unpublished investigation found that body-image is as highly correlated with self-esteem for both men and women (Sande & Buchanan, unpublished). The findings of this research will be discussed in greater detail at a later point.

#### Gender Similarities

Ussery and Prentice-Dunn (1992) noted that dysfunctional eating attitudes and behaviours are more alike than dissimilar in men and women. It has been demonstrated that there is approximate equality of body dissatisfaction between the genders. Drewnowski and Yee (1987) found that 87% of women want to lose weight. As well, these researchers found that that 45% of men wanted to gain weight and 40% wanted to lose weight, which is stating that 85% of men want to change their weight. Thus approximately equal numbers of men and women are dissatisfied with their current weight. Cantrell and Ellis (1991) note that for both genders, masculinity and androgyny are associated with weight preoccupation and perfectionism. In an

investigation of physical activity and body satisfaction in men, it was concluded that approximately 80% of all men, exercisers or not, are dissatisfied with their current weight (Davis et al., 1991).

In a review of risk factors for bulimia, Striegel-Moore, Silberstein et al. (1986) concluded that men are becoming increasingly at risk for developing eating disorders. Additionally, Mishkind et al. (1986) stated that men are moving further along the continuum of bodily concern. Society's fitness consciousness applies to men as much as to women, as a body-image focusing on muscularity becomes a more widely aspired to ideal for men (Brenner & Cunningham, 1992; Drewnowski et al., 1995; Mishkind et al., 1986; Striegel-Moore, Silberstein et al., 1986). It has been shown that more and more frequently, young men desire to gain weight to attain a more muscular build (Drewnowski & Yee, 1987; Drewnowski et al., 1995; McCaulay et al., 1988). Lucas found that between 3 and 12% of male high school students use anabolic steroids (as cited in Drewnowski et al., 1995). Other research has associated the use of steroids with the desire to gain weight for a more muscular build (Brower, 1992).

These findings are indicative of the sociocultural impact of the ideal body-image on both women and men. In research findings outlined by Striegel-Moore, Silberstein et al. (1986) the mesomorphic male silhouette is associated with greater perceived masculinity, and the ectomorphic female silhouette is associated with greater perceived femininity. These findings illustrate that society associates thinness with femininity, and muscularity with masculinity. Traditional stereotypes focus on

physical fitness for men, defining a socially desirable male to be one who is powerful, strong, active, and athletic (Jackson, Sullivan, & Rostiker, 1988; Mishkind, Rodin, Silberstein, & Striegel-Moore, 1986; Sullivan & Harnish, 1990). Tucker (1982) notes that the muscular male is viewed by others as more successful, and as possessing more favourable skills and personality traits than less mesomorphic men.

Due to the limited amount of research conducted with men, supporting evidence for these conclusions are lacking. However, researchers have investigated specific male subcultures, for example, athletes (wrestlers, rowers, and body-builders) or homosexual men. Homosexual men place greater emphasis on appearance; there is an increased incidence of body dissatisfaction and eating disorders within this subculture (Brand, Rothblum, & Solomon, 1992; Silberstein, Mishkind, Striegel-Moore, Timko, & Rodin, 1989; Sykora et al., 1993). As well, Klein stated that "body building is a complex of behavior historically premised on a male need for increased size, partially to compensate for feelings of inadequacy... and built on a low sense of self-esteem" (pp. 102). Another male subgroup, the underweight male, has expressed greater body-image dissatisfaction than women in the same weight category (McCaulay, Mintz, & Glenn, 1988). The underweight male has demonstrated negative self-image and poor social adjustment equal in severity to over-weight women (Harmatz, Gronendyke, & Thomas, 1985).

#### Preliminary Investigations

A number of preliminary investigations have been conducted to assess the utility of two unpublished measures of body-image perception, and their associated attitudes

and behaviours. Two mass surveys were conducted to gather empirical evidence of the reliability and validity of the Body Image Perceptions Scale (BIPS) and the Body Attitudes and Behaviours Scale (BABS). Both female ( $n = 1021$ ) and male ( $n = 726$ ) University of Manitoba students were administered a number of psychological measures. The initial investigations were designed to assess the validity and reliability of the scales, the factor structure of the BABS, and the incidence of these behaviours and attitudes within the university population. As well, the instruments were tested with other established measures of body discrepancy (e.g., Body Figures Ratings Scale), and global self-esteem (e.g., Rosenberg Self-Esteem Scale).

The Body Image Perceptions Scale (BIPS) revealed similarities and differences between men and women. Preliminary findings showed that 81% of women consider themselves too large, and 13% consider themselves too small (Sande & Buchanan, unpublished). For men, 36% consider themselves too large, and 53% consider themselves too small. Thus approximately equal numbers of men (89%) and women (94%) are dissatisfied with their body size. The direction of body size dissatisfaction for both genders was confirmed with a body weight measure which indicated that women perceived themselves as 12 pounds overweight and men perceived themselves as 4 pounds underweight (Sande & Buchanan, unpublished).

As well, a preliminary investigation of the association between body-image (BIPS) and self-esteem revealed the strength and nature of the relationship. For women, the calculation of a total score for BIPS resulted in a negative significant relation between body-image and self-esteem ( $r = -.23$ ). However, the calculation of the BIPS absolute

score revealed a stronger relation ( $r = -.37$ ). For women, the direction of body-image discrepancy was generally linear and most women reported that they want to be smaller than their present size. Thus, being larger than the ideal, but not smaller, was predictive of lower levels of self-esteem in women. For men, the difference in findings reported between the total score and absolute deviation score was striking. For men, the calculation of the BIPS total score resulted in no relation between body-image and self-esteem ( $r = -.02$ ). However, the calculation of the BIPS absolute deviation score revealed a significant relation between body-image and self-esteem ( $r = -.37$ ). These results for men illustrated a quadratic relation between body-image and self-esteem. The quadratic relation indicated that the greater the deviation from their ideal body-image, whether larger or smaller, the greater the negative association with self-esteem.

Another important finding of these preliminary investigations is that women, no matter what their current size, desire a smaller body. However, men desire a body which is larger if they are thin, or smaller if they are heavy. Thus, men desire a specific ideal body-image which is muscular. This specific ideal body-image has not been represented in previous investigations with body figure or silhouette ratings scales. Thus men's body-image discrepancy experience has yet to be fully assessed and understood.

#### Current Study

The purpose of the present investigation was to assess a conceptual framework for body-image, which details: antecedent personality factors, body-image self-perception,

and affective, behavioural, and attitudinal consequences. For the present investigation, only a selected part of the conceptual framework was examined. The components tested were grouped according to the hypothesized relations between the components of the model. Specifically, the study examined the associations among: (1) antecedent personality constructs: perfectionism [Multidimensional Perfectionism Scale (MPS; Hewitt & Flett, 1991)]; need for approval [Marlowe Crowne Social Desirability Scale (MCSD; Crowne & Marlowe, 1967)]; (2) self-perceived body-image (BIPS; Sande & Buchanan, unpublished); (3) affective consequences: depressive symptomatology [Centre for Epidemiologic Studies Depression Scale (CESD; Radloff, 1977)]; self-esteem [State Self-Esteem Scale (SSES; Heatherton & Polivy, 1991)]; and (4) behavioural and attitudinal consequences: body altering behaviours and negative self-attitudes (BABS; Sande & Buchanan, unpublished).

A second purpose of the proposed research was the further testing of two unpublished scales: the Body-Image Perceptions Scale (BIPS), and the Body Attitudes and Behaviours Scale (BABS). The BIPS scale is designed to measure self-perceived body-image. The Body Attitudes and Behaviours Scale (BABS) is designed to measure attitudes and behaviours related to body-image. An important test of the validity of a psychological instrument involves testing its ability to predict outcomes of theoretically related factors. The predictive validity of the new scales was assessed in the proposed study by testing the relationship of body-image, as defined by the BIPS, with the aforementioned components of the conceptual framework.

As well, the present study examined the prevalence of negative self-perceived

body-image, and the extent to which men and women engaged in body altering behaviours and negative self-attitudes, as defined by the Body Attitudes and Behaviours Scale (BABS). Of particular interest was the assessment of gender similarities and differences in the present investigation utilizing the newly developed body-image assessment instruments, BIPS and BABS. The research focus was on the normal range of experiences in a non-clinical sample of male and female university students.

Based on previous research conducted by myself and others, the following hypotheses are advanced:

#### Hypotheses

- 1 a. Subjects with higher levels of self-perfectionism will report greater body-image discrepancy.
- b. Subjects with higher levels of socially-prescribed perfectionism will report greater body-image discrepancy
2. Subjects with higher need for social approval will report greater body-image discrepancy.
3. Men and women will report similar levels of body-image discrepancy. More specifically, the majority of women will report wanting to be smaller; approximately equal numbers of men will want to be smaller or larger. The body-image discrepancy score will be calculated as a linear score and an absolute deviation score for men and women.
4. Subjects with greater body-image discrepancy will have greater levels of

- depressive symptomatology and lower levels of self-esteem.
- a. Men and women will report an equally high degree of relationship between body-image discrepancy and self-esteem.
5. Subjects with greater body-image discrepancy will engage in greater levels of body-altering behaviours including: eating and exercising behaviours.
- a. Men and women will engage in levels of body-altering behaviours that correspond to their direction of body-image discrepancy: women will generally engage in reducing behaviours; men will generally engage in gaining behaviours.
6. Subjects with greater body-image discrepancy will report greater levels of Self-conscious and Social-conscious attitudes, and lower levels of Attractiveness attitudes.

## Method

### Participants

Participants were 197 male and 304 female, single (93.7%), university students enrolled in Introductory Psychology, with a mean age of 19.6 years ( $SD = 3.78$ ). Seventy-six percent of the sample were Caucasian, 13% Asian, 3% African American, 2% East Indian, and 1.6% North American Aboriginal. The remaining students described themselves as West Indian (.8%) or another category (2.2%).

### Materials

Marlowe-Crowne Social-Desirability Scale (MCSD; see Appendix E). The MCSD (Crowne & Marlowe, 1967) is a 33-item scale which measured individual differences

in the need for approval. Individuals decide whether the statements are applicable to themselves by endorsing true or false. Some items are considered socially desirable and others are considered socially undesirable, with 18 items keyed true and 15 items keyed false (see Appendix F).

This scale has been widely used in research as check of subject response set bias. However, the MCSD was intended to assess important personality characteristics which can be summarized as a need for approval. The need for approval is defined as an individual's need to be thought well of by others. For those individuals whose need is stronger, approval is attained by engaging in culturally sanctioned and approved behaviours. Higher total scores reflect a higher need for approval. The scale has been widely tested and empirically supported. Crowne and Marlowe (1967) reported an internal consistency coefficient of .88, and test-retest correlation of .88. The scale's convergent and discriminant validity were demonstrated in tests with the MMPI scales (Crowne & Marlowe, 1967; Robinette, 1991) and the Edwards social desirability scale ( $r = .87$ ).

Multidimensional Perfectionism Scale (MPS). The MPS (Hewitt & Flett, 1989) is a 45-item scale with three subscales which assess self-oriented perfectionism, other-oriented perfectionism, and socially-prescribed perfectionism. For the present investigation, two subscales were tested: self-oriented and socially-prescribed perfectionism (30-items)(see Appendix G). The responses range from "strongly disagree" to "strongly agree" on a 7-point rating scale (see Appendix H). Higher subscale scores indicate higher levels of perfectionistic behaviour.

Hewitt and Flett (1991a) have provided evidence of the scale's reliability and validity. The coefficient alphas for the three subscales were .86 for self-oriented perfectionism, .82 for other-oriented perfectionism, and .87 for socially-prescribed perfectionism. Subscale intercorrelations (ranged between .25 and .40) indicated the expected degree of overlap among the three dimensions of perfectionism. Convergent and discriminant validity were demonstrated by examining the MPS with numerous personality measures and performance measures, for example: Locus of Control, Narcissistic Personality Inventory, Symptom Check List-90-R (Hewitt & Flett, 1991a; Hewitt et al., 1991). Finally, test-retest reliabilities (ranging from .75 to .88) for the three subscales demonstrated the stability of this measure.

State Self-Esteem Scale (SSES; see Appendix I). This measure of self-esteem is designed to be sensitive to the fluctuations of self-esteem around a stable baseline self-concept (Heatherton & Polivy, 1991). The SSES consists of 20 items which were adapted from the Janis-Field Feelings of Inadequacy Scale (as cited in Heatherton & Polivy, 1991). The SSES yields three self-esteem subscales: performance self-esteem, social self-esteem, and appearance self-esteem (see Appendix J).

High internal consistency (coefficient alpha = .92), with inter-item correlations ranging from .09 to .69 (mean inter-item correlation of .36) are reported by Heatherton and Polivy (1991). The correlations between the SSES total score and various scales were in the predicted direction: trait self-esteem (.72), trait anxiety (-.59), and depression (-.59). Subjects who scored high on the total SSES also scored high on the Rosenberg Self-Esteem Scale (RSE), and the Janis-Field Feelings of

Inadequacy Scale (as cited in Heatherton & Polivy, 1991).

Discriminant validity of the SSES was determined by correlating SSES total score and subscales with related measures (see Heatherton & Polivy, 1991). Social self-esteem was highly correlated with public self-consciousness (-.51) and social anxiety (-.42); however, performance self-esteem was not. Performance self-esteem was highly affected by poor performance on exams, but appearance and social self-esteem were not. Appearance self-esteem was highly correlated with satisfaction with current body shape (-.34); however, performance and social self-esteem were not.

Center for Epidemiologic Studies-Depression Scale (CES-D; see Appendix K).

The CES-D is designed to measure the current level of depressive symptomatology and depressed mood in general population surveys (Radloff, 1977). This 20-item self-report measure addresses the major components of depressive symptomatology: depressed mood, feelings of guilt and worthlessness, feelings of helplessness and hopelessness, psychomotor retardation, loss of appetite, and sleep disturbance. The respondents are explicitly asked to respond to the amount of time 'during the past week' they experienced these symptoms. The present research adopted a 4-point response scale ranging from (0) 'rarely or none of the time' to (3) 'most or all of the time'. The total score is attained by summing the weights of the items, with positive items reversed (see Appendix L). The possible range of scores is from 20 to 80 with higher scores indicating greater depressive symptomatology.

Moderate ranges of test-retest reliability ( $r = .51$  after two weeks,  $r = .67$  after four weeks) are comparable to other standard depression scales ( $r = .58$  for the

Symptom Check List - 90 after four weeks). The moderate range is explained by the fact that the CES-D is designed to measure 'current' levels of depressive symptomatology. The CES-D scale demonstrates adequate reliability for population subgroups tested across three geographical testing areas (coefficient alpha = .80 or above). Criterion-oriented validity of the CES-D is demonstrated in generally high correlations (range of .70 to .83) with other previously validated measures of depression (Beck Depression scale, Zung depression scale), but not with the other general psychopathology scales (SCL-90).

The CES-D also demonstrates adequate predictive ability to discriminate between patients and non-patients with 70% of psychiatric inpatients and only 21% of the general population scoring above a clinical cutoff score of 16. CES-D scores have differed predictably between various populations (alcoholics, drug addicts, recovered depressives). High levels of internal consistency are reported across three national samples in which the coefficient alpha ranged between .84 to .85 for the general population and .90 for patient samples (Radloff, 1977).

Body-Image Perceptions Scale (BIPS; see Appendix C). The BIPS is designed to measure body perceptions as the degree of self-perceived deviation from the individual's ideal. The questionnaire asks each respondent to rate seven areas of his or her body (stomach, face, chest, hips, thighs, arms, rear end) and overall body. The scale consists of seven possible responses ranging from -3 = "much too small" to +3 = "much too large". The total score indicates the participant's perception of his or her body's degree of deviation from their own ideal, with negative scores representing

smaller than ideal and positive scores representing larger than ideal.

The BIPS questionnaire is in the preliminary stages of development, so it requires further testing. However, the results of preliminary research demonstrated a mean inter-item correlation of .50, and a coefficient alpha of .91. The correlations between BIPS and Rosenberg Self-Esteem Scale (RSE) for a sample of university women ( $n = 664$ ) and men ( $n = 468$ ) were  $-.37$  and  $-.36$ , respectively, whereas, the correlations between the Body Figure Ratings Scale (Fallon & Rozin, 1985) and the RSE were  $-.12$  for males and  $-.24$  for females.

For the purposes of further empirical testing of the BIPS questionnaire, a single item was included to assess general body-image satisfaction or dissatisfaction (see Appendix M). This one item measure of body-image satisfaction was appended to the end of the BIPS.

Body Attitudes and Behaviours Scale (BABS; see Appendix N). The BABS is a self-report questionnaire designed to measure the behaviours and attitudes associated with an individual's body-image. All items are scored with the higher frequency of occurrence receiving higher scores, except items 8 and 10 which are reverse scored. Previous research yielded five sub-scales for this questionnaire: Attractiveness, Self-Consciousness, Social-Consciousness, Gaining Behaviours, and Reducing Behaviours (see Appendix O). Self-consciousness is defined as the individual's level of body self-awareness. Social-consciousness is defined as the individual's level of awareness of others' ratings of his or her physical attractiveness. Attractiveness is the individual's self-perception of his or her own attractiveness.

The coefficient alpha reliability scores for the factors in a previous version of the questionnaire were: Attractiveness (.26), Self-Consciousness (.81), Social-Consciousness (.76), Gaining Behaviours (.64), and Reducing Behaviours (.73). In order to address the low reliability of the Attractiveness factor, it was rescored and tested in the present research. The BABS is still under development, so a few questions were added to the previous version of the scale (see Appendix P).

A demographics questionnaire (see Appendix Q) asked sex, age, ethnic origin, height, weight, and ideal weight. As well, questions about dieting history, gaining weight or body size history, presently dieting, and presently attempting to gain weight or body size were included.

#### Procedure

Some students participated during their Introductory Psychology classes. Other students were recruited from Introductory Psychology classes, and participated in mass testing sessions (between 60 and 150 students). Participants were informed as to the experiment requirements and assured of the confidentiality and anonymity of their responses prior to commencing the testing session (see Appendix D). They were also informed of their right to withdraw from the study at any time without academic penalty. These principles were repeated on the cover of the questionnaire booklet (see Appendix R). The students received experimental credit toward their course mark for participation.

There were two separate series of questionnaires: one included the BIPS, MPS, and the MCSD, and the other included the BIPS, BABS, SSES, and the CES-D. The

order of questionnaire presentation was varied in both booklets to control for order effects. All questionnaires, IBM sheets, and demographic sheets were numbered to keep track of the participant's raw data and questionnaire form. The questionnaires took up to a maximum of 60 minutes to complete. Upon completion of the questionnaire booklet the participants received a handout explaining the study, providing information about available agencies, and instructions as to the availability of written feedback (see Appendix S).

### Results

The hypotheses were examined using correlations, t-tests, z-tests, and analyses of variance (ANOVAs). The assumptions of these procedures were evaluated prior to use (normality, homogeneity of variance) and found to be met. As well, based on the large  $N$  (505) of the sample and the absence of skewed data, the assumptions of sphericity, and homoscedasticity were met. The sample sizes for the two versions of the questionnaire were: for the antecedents version (BIPS, MPS, and the MCSD) males  $n = 71$  and females  $n = 136$ , for the consequences version (BIPS, BABS, SSES, and the CES-D) males  $n = 126$  females  $n = 167$ .

For each analyses, the sample was subdivided by gender. For each hypothesis, the analyses were conducted for men, women, using the BIPS discrepancy score, and then the BIPS absolute deviation score (see Figures 1,2,3,4).

A check on the data was conducted by examining group means of the CES-D, MPS, and SSES scales as reported in Table 1. This was performed to determine whether the participants' responses on the dependent measures were consistent with

those from previous research. Obtained mean scores for the CES-D were higher than that reported by Radloff (1991) in his community based sample. Based on the scoring methods described by Radloff (1991), 56% of the current sample scored at or above the cutoff score of 16, which indicates the presence of depressive symptomatology. Eighteen percent of the current sample scored at or above the cutoff score of 28, which indicates the presence of a major depressive disorder. For both cutoff scores, the present sample reported greater levels of depressive symptomatology than the original sample used by Radloff (80th percentile for cutoff score of 16 and 95th percentile for cutoff score of 28). This may be explained by the greater level of life stress experienced by university students, such as restricted income, and end of term examinations. As well, the students had just returned from an interruption in their first-term classes by a strike by the faculty at the University of Manitoba. Similar levels of depressive symptomatology were reported by men ( $M = 18.2$ ,  $SD = 9.8$ ) and women ( $M = 19.7$ ,  $SD = 10.8$ ),  $t(291) = -1.25$ ,  $p = .213$ .

The obtained mean scores for the two MPS subscales approximated those reported by Hewitt, Flett, Turnbull-Donovan, and Mikail (1991) in their community sample ( $n = 199$ ). As well, the obtained mean scores for the SSES total score and three subscales were similar to those reported by Heatherton and Polivy (1991) in their sample of university students.

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Insert Table 1 about here

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Table 1

Means and Standard Deviations of All Variables by Gender

	Males (n=197)			Females (n=304)		
	M	SD	Range	M	SD	Range
BIPS <sup>a*</sup>	-1.1	4.0	-10-15	4.5	5.5	-11-21
BIPSABS <sup>a*</sup>	4.6	3.3	0-16	7.1	4.4	0-25
BI-sat <sup>a</sup>	5.4	1.6	2-8	5.1	1.6	2-8
SSES-total <sup>b*</sup>	72.7	12.6	35-99	66.8	14.1	31-97
SSES-app <sup>b*</sup>	21.0	4.6	7-30	18.6	4.9	6-30
SSES-per <sup>b*</sup>	26.8	4.7	11-35	24.5	6.0	8-35
SSES-social <sup>b</sup>	24.8	5.8	12-35	23.8	5.7	9-35
CESD <sup>b</sup>	18.2	9.8	0-45	19.7	10.8	0-55
MCSD <sup>c</sup>	29.8	26.8	5-188	33.4	27.8	5-171
MPS-self <sup>c</sup>	72.2	14.6	37-103	69.8	15.6	36-105
MPS-social <sup>c</sup>	54.1	9.4	26-75	50.6	11.7	24-77
BABS						
self-con <sup>b*</sup>	15.5	5.2	3-30	19.6	5.9	7-30
social-con <sup>b</sup>	15.9	4.6	0-24	16.4	4.0	4-24
avoid <sup>b</sup>	10.3	3.7	4-21	11.3	3.5	5-21
attract <sup>b</sup>	17.6	3.0	10-24	17.8	2.7	9-24
gain beh <sup>b*</sup>	7.1	2.9	3-14	3.9	1.6	1-11
lose beh <sup>b*</sup>	11.9	4.6	6-26	14.4	4.9	6-31
exercise <sup>b</sup>	17.0	11.3	4-64	11.9	8.8	4-49
Weight disc <sup>a</sup>	-7.6	15.7	-70-40	10.6	13.6	-22-101

Note. BABS = Body Attitudes and Behaviours Scale subscales: Self-consciousness, Social-Consciousness, Attractiveness, Avoid, Gain Behaviours, Lose Behaviours; BIPS = Body-Image Perceptions Scale; BIPSABS = Body-Image Perceptions Scale Absolute Deviation Score; CES-D = Centre for Epidemiologic Studies - Depression; MCSD = Marlowe-Crowne Social Desirability; MPS = Multidimensional Perfectionism Scale subscales: Self, Social; SSES = State Self-Esteem Scale subscales: Performance, Appearance, Social. a = males n = 197, females n = 304. b = males n = 126, females n = 167. c = males n = 71, females n = 136. (\*) means that the means between males and females are significantly different ( $p < .001$ ) according to Independent Samples t-test.

The questionnaire presentation order was counterbalanced. This procedure was designed to have equal numbers of subjects in each order, thereby reducing effects due to subject fatigue or questionnaire priming. However, the final sample did not include equal numbers of subjects or equal numbers of men and women completing each questionnaire. A series of 2 (sex) by 2 (order) ANOVAs revealed that there were main effects for order on the following variables: social-perfectionism,  $F(1,206) = 15.21$ ,  $MSe = 1703$ ,  $p < .01$ , and depression,  $F(1,292) = 12.86$ ,  $MSe = 1323$ ,  $p < .01$ . When the social-perfectionism questionnaire was completed before the need for social approval scale the reported self-perfectionism increased ( $M = 54.9$ ,  $n = 105$ ). When the social-perfectionism questionnaire was completed after the need for social approval scale the reported self-perfectionism decreased ( $M = 48.6$ ,  $n = 102$ ). When the depression questionnaire was completed after the BABS, the reported depression levels increased ( $M = 21.1$ ,  $n = 149$ ). When the depression questionnaire was completed before the BABS, the reported depression levels reduced ( $M = 16.9$ ,  $n = 144$ ). There were no sex by order interaction effects on any of the measures.

#### Effects of Levels of Perfectionism on Body-Image Ratings

Hypothesis one predicted that participants with higher levels of self-perfectionism would report greater body-image discrepancy. As well, participants with higher levels of socially-prescribed perfectionism would report greater body-image discrepancy. For men, there was no relation between self-perfectionism and body-image discrepancy, Pearson  $r(69) = -.05$ , or the absolute deviation from ideal, Pearson  $r(69) = -.14$ . However, greater levels of social-perfectionism were associated with greater body-

image discrepancy for the absolute deviation from ideal only, Pearson  $r(69) = .34$ ,  $p < .01$ . There was no association between social-perfectionism and body-image discrepancy, Pearson  $r(69) = -.11$ .

As Table 2 indicates, a series of partial correlations was performed to reveal the strength of association between body-image and the antecedent variables: need for social approval and the two perfectionism subscales. Partial correlations were used because this procedure is appropriate for detecting spurious relationships, identifying intervening variables, and detecting hidden relationships (Norusis,1993). Partialling out the need for social approval and either the social-perfectionism or self-perfectionism subscales, respectively, revealed correlations between the body-image absolute deviation score and both self-perfectionism,  $pr(69) = -.30$ ,  $p < .01$ , and social-perfectionism,  $pr(69) = .41$ ,  $p < .01$  for men. However, there was no association between body-image discrepancy and self-perfectionism,  $pr(69) = .02$ , or social-perfectionism,  $pr(69) = -.14$

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Insert Table 2 about here

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For women, there was no relation between self-perfectionism and body-image discrepancy, Pearson  $r(134) = .06$ , or for absolute deviation from ideal, Pearson  $r(134) = -.06$ . However, greater levels of social-perfectionism were associated with greater body-image discrepancy, Pearson  $r(134) = .23$ ,  $p < .01$ , and absolute deviation from ideal, Pearson  $r(134) = .28$ ,  $p < .01$ . As Table 2 indicates, partialling out the

Table 2

Correlations Between BIPS, BIPS-Absolute Scores and MCSD, MPS Subscales by Gender

	Males (n=71)		Females (n=136)	
	BIPS	BIPSABS	BIPS	BIPSABS
MPS-self	-.05	-.14	.06	-.06
partial	.02	-.30**	-.06	-.22**
MPS-social	-.11	.34**	.23**	.28**
partial	-.14	.41**	.25**	.35**
MCSD	-.09	-.04	-.03	-.07
partial	-.11	.08	-.01	-.01

Note. BIPS = Body-Image Perceptions Scale; BIPSABS = Body-Image Perceptions Scale Absolute Deviation Score; MCSD = Marlowe-Crowne Social Desirability; MPS = Multidimensional Perfectionism Scale subscales: Self, Social. \*  $p < .05$ , \*\* $p < .01$ .

need for social approval and social-perfectionism revealed correlations between self-perfectionism and absolute deviation from ideal,  $r(134) = -.22, p < .01$ . As well, partialling out the need for social approval and self-perfectionism revealed correlations between social-perfectionism and body-image discrepancy,  $r(134) = .25, p < .01$ , and absolute deviation from ideal,  $r(134) = .35, p < .01$ . Differences in the sample means as a function of gender were examined with an independent samples t-test, which resulted in no significant differences between men and women for either self-oriented perfectionism or social-perfectionism.

#### Effects of Level of Need for Social Approval on Body-Image Ratings

Hypothesis two predicted that participants with higher need for social approval would report greater body-image discrepancy. This hypothesis was not supported as stated. Because of the attenuated range of scores for the MCSD, I followed-up the initial correlational analysis with a median split of the MCSD scores.

The MCSD scores were split into two groups: high need for social approval (High NSA) and low need for social approval (Low NSA) by the median score of 28. Crowne and Marlowe (1967) recommended splitting the sample into high need for social approval and low need for social approval.

Two 2 (NSA category) by 2 (sex) ANOVAs were performed to investigate need for social approval and gender differences in level of body-image discrepancy (BIPS) and absolute deviation from ideal (BIPSABS). The findings indicated that men (High NSA  $M = 5.27$ , Low NSA  $M = 4.35$ ) and women (High NSA  $M = 7.54$ , Low NSA  $M = 5.73$ ) who had a greater desire for approval by others also experienced greater

absolute deviation from ideal body-image (BIPSABS),  $F(1, 205) = 7.9$ ,  $MSe = 117.5$ ,  $p < .01$ . The amount of body-image discrepancy, as measured by the BIPS summative score, was the same for both categories of need for social approval. Women reported significantly greater absolute deviation from ideal,  $F(1, 205) = 10.4$ ,  $MSe = 161.4$ ,  $p < .001$ , and body-image discrepancy,  $F(1, 205) = 62.9$ ,  $MSe = 1541.4$ ,  $p < .001$ , for both levels of need for social approval than men did. There were no two-way interactions.

#### Gender Similarity and Differences on Body-Image Ratings

Hypothesis three examined whether men and women would report similar levels of body-image discrepancy. As well, it was hypothesized that the majority of women would report wanting to be smaller, but that approximately equal numbers of men would want to be smaller and larger.

The BIPS total score was separated into three categories: too small, just the right size, and too large (see Figure 5). The 'too small' category includes the BIPS total scores less than zero, the 'just the right size' category includes the scores equal to zero, and the 'too large' category includes the scores greater than zero. As Table 3 illustrates, a categorical split of the BIPS scores revealed that 17% (52) of women wanted to be larger than their actual body size, 6% (17) were just the right size, and 77% (234) wanted to be smaller than their actual body size. On the other hand, 56% (110) of men wanted to be larger than their actual body size, 17% (33) were just the right size, and 27% (54) wanted to be smaller than their actual body size. Three times as many men (16.8%) considered themselves to be just the right size than do women

(5.6%).

A Chi-square was used to test whether men and women were significantly different in their body-image self-perception. The likelihood-ratio chi-square is  $X^2(2, N = 500) = 125.1, p < .01$ . Therefore, results indicated that sex of subject was related to body-image category. As shown in Figure 6, the pattern of body-image self-perception appeared to be more skewed for women than for men. In general, the majority of women perceived themselves as too large, whereas twice as many men perceived themselves as too small than too large. Women ( $M = 7.1, SD = 4.4$ ) reported a greater overall level of absolute deviation from one's ideal body than did men ( $M = 4.6, SD = 3.3$ ) (see Figure 7). There were significant differences in the sample means as a function of gender for body-image discrepancy,  $t(498) = -12.39, p < .001$ , and absolute deviation from ideal,  $t(498) = -7.06, p < .001$ .

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Insert Table 3 about here

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The reported actual weight and ideal weight were calculated into a weight discrepancy score. This score was separated into three categories: no weight discrepancy, lighter than ideal weight, and heavier than ideal weight. As Table 4 illustrates, a categorical split of the weight discrepancy score revealed that 7% (21) of females were lighter than their ideal weight, 13% (37) were their ideal weight, and 79% (224) were heavier than their ideal weight. On average, women indicated that they weighed 10.6 pounds ( $SD = 13.6$ ) more than their ideal weight. On the other

Table 3

Frequencies of Males and Females Within Each Body-Image Perception Category

BIPS Category	Males (n=197)	Females (n=304)
too small	56% (110)	17% (52)
just right size	17% (33)	6% (18)
too large	27% (53)	77% (234)

Note. BIPS = Body-Image Perceptions Scale.

hand, 65% (123) of males were lighter than their ideal weight, 13% (25) were their ideal weight, and 22% (41) were heavier than their ideal weight. On average, men indicated that they weighed 7.6 pounds ( $SD = 15.7$ ) less than their ideal weight. It is interesting to note that 8% (23) of women and 4% (8) men did not report their weight.

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Insert Table 4 about here

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#### Effects of Level of Depression and Self-Esteem on Body-Image Ratings

Hypothesis four predicted that participants with greater body-image discrepancy would report greater levels of depressive symptomatology and lower levels of self-esteem.

##### Self-esteem.

As Table 5 indicates, for men, there was no relation between body-image discrepancy with overall self-esteem, or for any of the self-esteem subscales: appearance, social, or performance. However, the absolute deviation from ideal was associated with overall self-esteem, Pearson  $r$  (124) =  $-.49$ ,  $p < .01$ , and all of the self-esteem subscales: appearance, Pearson  $r$  (124) =  $-.54$ ,  $p < .01$ , social, Pearson  $r$  (124) =  $-.38$ ,  $p < .01$ , and performance, Pearson  $r$  (124) =  $-.32$ ,  $p < .01$ .

A series of partial correlations were performed to reveal the strength of association between body-image and the affective consequences: depression and self-esteem. Partialling out depression revealed correlations between overall self-esteem and absolute deviation from ideal,  $r$  (124) =  $-.48$ ,  $p < .01$ . As well, testing the

Table 4

Frequencies of Males and Females Within Each Weight Discrepancy Category

Weight Discrepancy Category	Males (n=189)	Females (n=282)
Smaller than Ideal Weight	65% (123)	13% (37)
Ideal Weight	13% (25)	7% (21)
Larger than Ideal Weight	22% (41)	79% (224)

Note. BIPS = Body-Image Perceptions Scale.

individual self-esteem subscales required partialling out depression and the other self-esteem subscales. As Table 5 indicates, for men only the association between appearance self-esteem and body-image remained for both body-image discrepancy,  $r(124) = -.21, p < .01$ , and absolute deviation from ideal,  $r(124) = -.41, p < .01$ .

For women, there were associations between overall self-esteem and both body-image discrepancy, Pearson  $r(165) = -.34, p < .01$ , and absolute deviation from ideal, Pearson  $r(165) = -.55, p < .01$ . As Table 5 indicates, body-image discrepancy was associated with appearance self-esteem and social self-esteem. Absolute deviation from ideal was associated with overall self-esteem and all of the self-esteem subscales: appearance, social, and performance.

Partialling out depression revealed correlations between self-esteem and body-image discrepancy,  $r(165) = -.31, p < .01$ , and absolute deviation from ideal,  $r(165) = -.46, p < .01$ . Once the other self-esteem subscales and depression were partialled out, only the association between appearance self-esteem remained for body-image discrepancy,  $r(165) = -.46, p < .01$ , and absolute deviation from ideal,  $r(165) = -.55, p < .01$ .

As well, differences in the correlations between men and women for self-esteem were examined with the Fisher  $r$  to  $z$ -transformations. The correlations between body-image discrepancy and overall self-esteem, Pearson  $r = -.34, p < .01$  and Pearson  $r = -.01$ , respectively ( $z = 2.884, p < .01$ ), and body-image discrepancy and appearance self-esteem, Pearson  $r = -.48, p < .01$  and Pearson  $r = -.11$ , respectively ( $z = 3.462, p < .01$ ) were significantly different for men and women. These gender differences apply

to the BIPS linear (summation) score only. There were significant associations between body-image discrepancy (BIPS) and overall self-esteem and appearance self-esteem for women, but not for men. This has replicated the findings of many previous researchers (Thompson, 1991). However, the correlations between the absolute deviation from ideal score (BIPSABS) and all self-esteem scores are similar for men and women.

#### Depression.

For men, level of depression was associated with absolute deviation from ideal, Pearson  $r$  (124) = .18,  $p < .05$ . However, for women the level of depression was associated with both body-image discrepancy, Pearson  $r$  (165) = .16,  $p < .05$ , and absolute deviation from ideal, Pearson  $r$  (165) = .35,  $p < .01$ . Partialling out self-esteem, only the absolute deviation from ideal was associated with depression for men,  $r$  (124) = .15,  $p < .05$ .

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Insert Table 5 about here

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#### Effects of Level of Body-Image Discrepancy on Body-Altering Behaviours

Hypothesis five predicted that participants with greater body-image discrepancy would engage in greater levels of body-altering behaviours, such as gaining behaviours and reducing behaviours.

For men, only the body-image score, BIPS, was associated with greater levels of reduce behaviours,  $r$  (126) = .26,  $p < .01$ , and lower levels of gain behaviours,  $r$  (126)

Table 5

Correlations Between BIPS, BIPS-Absolute Scores and CESD, SSES Subscales by Gender

	Males (n=126)		Females (n=167)	
	BIPS	BIPSABS	BIPS	BIPSABS
SSES-total	-.01	-.49**	-.34**	-.55**
partial	-.08	-.48**	-.31**	-.46**
SSES-appearance	-.11	-.54**	-.48**	-.66**
partial	-.21**	-.41**	-.46**	-.55**
SSES-social	-.09	-.38**	-.24*	-.42**
partial	.15*	-.11	.01	-.03
SSES-performance	-.02	-.32**	-.14	-.33**
partial	-.03	-.07	.12	.06
CES-D	-.09	.18*	.16*	.35**
partial	.12	.15*	-.07	.01

Note. BIPS = Body-Image Perceptions Scale; BIPSABS = Body-Image Perceptions Scale Absolute Deviation Score; CES-D = Centre for Epidemiologic Studies - Depression; SSES = State Self-Esteem Scale subscales: Performance, Appearance, Social. Partial means that a partial correlation has been performed removing the other scales and subscales. \* $p < .05$ , \*\* $p < .01$ .

= -.24,  $p < .01$  (see Table 6). Absolute deviation from ideal was not associated with gain or reduce behaviours for men. These results were as expected, because the absolute score (BIPSABS) combines the too big and too small body-image discrepancies. For women, the greater the body-image discrepancy and absolute deviation from ideal the greater the levels of reduce behaviours, and the lower the levels of gain behaviours (see Table 6).

Demographics questions pertaining to dieting history indicated that men dieted on average less than one time in the previous two years ( $M = .5$ ), whereas women dieted on average three times in the previous two years. On average, men attempted to gain weight or body size 3.3 times and women less than one time in the previous two years ( $M = .4$ ). Only 6% (11) of men and 16% (49) of women reported that they were presently dieting. However, 53% (105) of men and 6% (19) of women reported that they were presently attempting to gain weight or body size at the time of the study. The majority of women who indicated that they were attempting to gain weight or body size commented that they were attempting to gain muscle or body tone.

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Insert Table 6 about here

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### Body Attitudes and Behaviours Scale

#### Factor Structure and Reliabilities of the BABS Factors

Hypothesis six predicted that participants with greater body-image discrepancy would report greater levels of self-conscious and social-conscious attitudes, and less

Table 6

Correlations Between BIPS, BIPS Absolute Scores and Reduce Behaviours, Gain Behaviours by Gender

	Males (n=126)		Females (n=167)	
	BIPS	BIPSABS	BIPS	BIPSABS
Reduce	.26**	.12	.44**	.41**
Gain	-.24**	.12	-.36**	-.23**

Note. BIPS = Body-Image Perceptions Scale; BIPSABS = Body-Image Perceptions Scale Absolute Deviation Score. \* $p < .05$ , \*\* $p < .01$ .

attractiveness self-attitudes. Initially, the BABS factor structure was re-examined, because of the changes to the questionnaire items. The factor structure of the BABS did change (see Appendix O). Strong a priori notions of what behaviours should go together in a factor eliminated the need for these items to be included in the factor analysis. Both the Gain and Reduce behaviour items were removed from the factor analysis. As well, the behaviour components are different from the attitude components of the BABS, so I decided to take out the behaviour items and do the factor analysis on the attitude items only. A varimax rotation of the factor matrix resulted in three body attitude factors: Self-consciousness, Social-consciousness, Attractiveness, and three behaviour factors: Avoidance, Reduce and Gain behaviours (see Table 7). Most of the items loaded on one factor only.

These four BABS attitude factors account for 57% of the total variance (see Table 8). Inter-item correlations range from .40 to .89, with a mean inter-item correlation of .67. The coefficient alpha reliability scores for the BABS factors were: Attractiveness (.49), Self-Consciousness (.82), Social-Consciousness (.80), Avoidance (.18), Gain Behaviours (.57), and Reduce Behaviours (.57). The majority of the BABS factors demonstrated moderate reliability; however the Avoidance factor of the BABS demonstrated inadequate reliability.

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Insert Tables 7, 8 about here

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Table 7

Varimax Rotation Factor Analysis of the BABS-Attitudes Scales

	BABS Factors			
	SELFCON	SOCCON	ATTRACT	AVOID
BABS9	.785			
BABS4	.779			
BABS6	.773			
BABS7	.646			
BABS1	.479			
BABS12		.881		
BABS11		.856		
BABS2		.683		
BABS5		.500		
BABS31			.757	
BABS32			.692	
BABS3			-.571	
BABS10			-.532	
BABS8			-.462	
BABS27				.893
BABS28				-.822
BABS30				.539
BABS29				.398

Note. BABS = Body Attitudes and Behaviours Scale; SELFCON = Self-consciousness; SOCCON = Social-consciousness; ATTRACT = Attractiveness; AVOID = Avoidance.

Table 8

Eigenvalues and Percent of Variance for the BABS Factors

Factor	Eigenvalue	Percent of Variance
SELFCON	5.0	27.5
SOCCON	2.4	13.5
ATTRACT	1.5	8.3
AVOID	1.4	7.8

Note. BABS = Body Attitudes and Behaviours Scale; SELFCON = Self-consciousness; SOCCON = Social-consciousness; ATTRACT = Attractiveness; AVOID = Avoidance.

Correlations of the BABS with Body-Image, Self-Esteem, and DepressionVariables

There were numerous associations between the BABS attitude factors and self-esteem, depression, and body-image. However, the correlations for the social-avoidance factor were attenuated by the low reliability of this factor. As Table 9 illustrates, for men, self-consciousness was associated with the absolute deviation from ideal,  $r(124) = .38, p < .01$ . Thus, for men, the greater the deviation from one's ideal the greater the level of self-consciousness. Self-consciousness was associated with self-esteem and all three self-esteem subscales. The greater the level of self-consciousness and social-consciousness attitudes the lower the level of overall self-esteem, appearance self-esteem, social self-esteem, and performance self-esteem. The greater the level of self-consciousness and social-consciousness attitudes, the greater the level of depressive symptomatology ( $n=126, r = .22$  and  $.21, p < .05$ , respectively). The attractiveness attitudes factor was not associated with any other variables tested. As well, for men, the time spent exercising was not associated with any other variables tested.

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Insert Table 9 about here

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For women, self-consciousness and social-consciousness were associated with all variables: overall self-esteem (including all subscales), depression, body-image discrepancy, and absolute deviation from ideal (see Table 10). Thus, the greater the

Table 9

Correlations Between BABS Factors and the Other Variables for Males

	BABS Factors					
	SELFCON	SOCCON	ATTRACT	AVOID	GAIN	REDUCE
BIPS	.14	-.02	-.05	-.01	-.24**	.26**
BIPS-absolute	.38**	.21*	-.15*	.13	.12	.12
BI-sat	-.36**	-.13	.16*	-.14	.10	-.02
SSES-total	-.48**	-.46**	.00	-.31**	-.12	-.05
SSES-app	-.46**	-.30**	.11	-.29**	.03	-.05
SSES-per	-.32**	-.22**	-.05	-.24**	-.18*	-.12
SSES-social	-.42**	-.57**	-.06	-.25**	-.13	.03
CESD	.22*	.21*	-.18*	.06	.20*	-.14

Note.  $n = 126$ . BIPS = Body-Image Perceptions Scale; BABS = Body Attitudes and Behaviours Scale; SELFCON = Self-consciousness; SOCCON = Social-consciousness; ATTRACT = Attractiveness; AVOID = Avoidance; GAIN = Gain Behaviours; REDUCE = REDUCE Behaviours; CES-D = Centre for Epidemiologic Studies - Depression; SSES = State Self-Esteem Scale subscales: Performance, Appearance, Social. \* $p < .05$ , \*\* $p < .01$ .

level of self-consciousness, the greater depressive symptomatology, the greater the body-image discrepancy and deviation from ideal, and the lower the level of self-esteem (including all subscales). The associations for social-consciousness are the same as for self-consciousness. As well, the attractiveness attitudes factor was not associated with any other variables tested. The greater the level of reduce behaviours, the greater the depressive symptomatology, body-image discrepancy and deviation from ideal, and the lower the level of self-esteem (including all subscales). For women, exercise time was associated with lower depressive symptoms,  $r(165) = -.18$ ,  $p < .05$ , and greater overall self-esteem,  $r(165) = .18$ ,  $p < .05$ , appearance self-esteem,  $r(165) = .16$ ,  $p < .05$ , and performance self-esteem,  $r(165) = .19$ ,  $p < .05$ .

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Insert Table 10 about here

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An examination of gender differences within the BABS factors was performed (see Table 1 for summary of means). Women reported more self-consciousness attitudes,  $t(291) = 6.25$ ,  $p < .001$ , more reduce behaviours,  $t(291) = 4.42$ ,  $p < .001$ , and less gain behaviours,  $t(291) = 12.06$ ,  $p < .001$ , than men did.

#### Residual Findings

The single-item body-image satisfaction question (BIDISS) was appended to the BIPS questionnaire in order to confirm that perceptions of one's body as too big or too small were associated with dissatisfaction (see Table 11). For women, there were significant correlations between the body-image dissatisfaction and body-image

Table 10

Correlations Between BABS Factors and the Other Variables for Females

	BABS Factors					
	SELFCON	SOCCON	ATTRACT	AVOID	GAIN	REDUCE
BIPS	.37**	.26**	.14	.16*	-.35**	.43**
BIPS-absolute	.44**	.37**	.10	.18*	-.23**	.41**
BI-sat	-.37**	-.24**	.05	-.16*	.14	-.42**
SSES-total	-.48**	-.46**	.03	-.28**	.10	-.47**
SSES-app	-.46**	-.36**	.04	-.26**	.19	-.50**
SSES-per	-.30**	-.26**	.08	-.19*	.05	-.32**
SSES-social	-.48**	-.53**	-.01	-.25**	.02	-.39**
CESD	.35**	.28**	.03	.10	.02	.22**

Note.  $n = 167$ . BIPS = Body-Image Perceptions Scale; BABS = Body Attitudes and Behaviours Scale; SELFCON = Self-consciousness; SOCCON = Social-consciousness; ATTRACT = Attractiveness; AVOID = Avoidance; GAIN = Gain Behaviours; REDUCE = Reduce Behaviours; CES-D = Centre for Epidemiologic Studies - Depression; SSES = State Self-Esteem Scale subscales: Performance, Appearance, Social. \* $p < .05$ , \*\* $p < .01$ .

discrepancy (BIPS) and deviation from ideal ( $n=303$ ,  $r = -.48$  and  $-.63$ ,  $p < .01$ , respectively). For men, there were significant correlations between the body-image dissatisfaction question and deviation from ideal (BIPSABS) ( $n=195$ ,  $r = -.58$ ,  $p < .01$ ), but not body-image discrepancy (BIPS) ( $n=195$ ,  $r = -.04$ ).

A 2 (sex) by 3 (BIPS category) ANOVA was performed to investigate gender differences in level of body-image dissatisfaction. Both men and women who consider themselves too small or too large are dissatisfied with their body-image,  $F(2,303) = 9.8$ ,  $MSe = 24.5$ ,  $p < .01$ .

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Insert Table 11 about here

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## Discussion

In this study a conceptual framework for body-image was investigated, which detailed antecedent personality factors, body-image self-perception, and affective, behavioural, and attitudinal consequences. As well, this study investigated two unpublished scales: Body-Image Perceptions Scale (BIPS) and the Body Attitudes and Behaviours Scale (BABS). For each analysis, the sample was subdivided by gender. For each hypothesis, the results were examined for men, women, the BIPS discrepancy score, and the BIPS absolute deviation score.

### Antecedents of Body-Image

#### Perfectionism

It was hypothesized that subjects with higher levels of self-perfectionism would

Table 11  
Mean Body-image Satisfaction Rating for Each BIPS Category

BIPS Category	Males (n=197)	Females (n=304)
too small	5.5 (110)	5.6 (52)
just right size	6.0 (33)	5.8 (18)
too large	5.0 (53)	4.9 (234)

Note. BIPS = Body-Image Perceptions Scale.

report greater body-image discrepancy. As well, participants with higher levels of socially-prescribed perfectionism would report greater body-image discrepancy. Self-oriented perfectionism is defined as the tendency to set exact standards for oneself, to evaluate oneself harshly, and to incorporate a discrepancy between actual self and ideal self. Socially-prescribed perfectionism includes the belief that significant others set exact standards and harshly evaluate oneself, and includes the need to attempt to meet these standards (Hewitt & Flett, 1991).

The results of this study showed that self-perfectionism and social-perfectionism were associated with the absolute deviation from ideal body-image, for both women and men. However, different patterns of association emerged for self-perfectionism and social perfectionism. Individuals, men and women, with greater social-perfectionistic characteristics experienced greater body-image deviation from ideal. These individuals incorporated the exact standards of others and felt harshly evaluated, which acted to emphasize their body-image discrepancy. Individuals, men and women, with greater self-perfectionistic characteristics experienced less body-image deviation from ideal. These individuals incorporated their own standards, which acted to decrease their body-image discrepancy.

One possible interpretation of these results is that social comparison of an ideal body promoted the feeling of dissatisfaction and highlighted the body-image discrepancy. As Judith Rodin (1992b) stated, exceptional beauty portrayed in the mass media seems real and attainable. However, this ideal body-image is not attainable by the vast majority of the population. Individuals are exposed to this ideal standard on a

daily basis, and one's inability to meet this socially-prescribed standard is confronted every time one looks in the mirror. Moreover, if perfectionistic individuals have a general tendency to incorporate standards of others for themselves, the body is a very objective and real way to evaluate oneself.

Another interpretation of these findings is that social comparison highlights the discrepancy between the bodies of others who the individual sees in their daily life and their own body. There is always someone thinner, taller, more muscular, etc. The previous findings that perfectionistic women feel fatter, regardless of their actual weight (Rodin et al., 1985), are supported by the results of the present investigation. The present results also extend these findings to perfectionistic men. Specifically, men who feel that they do not meet the mesomorphic ideal standard portrayed by society as ideal, feel generally too small or too big depending on the direction of the body-image discrepancy.

On the other hand, an individually determined image of the ideal body may reflect what is possible for the individual. Thus, when the person sets his or her own body's standards of an ideal body-image the level of discrepancy experienced is reduced. This level of discrepancy may be less than the level of discrepancy experienced between the person's actual body and the ideal body portrayed by the mass media.

#### Need for Social Approval

Hypothesis two stated that subjects with higher need for social approval would report greater body-image discrepancy. This hypothesis was not supported as stated.

However, the analysis of variance did partially support it. The findings indicated that both men and women who had a greater desire for approval by others also experienced greater absolute deviation from ideal body-image. In both levels of need for social approval, women reported a more negative body-image than men did. These results confirm the conclusions of previous research that women are more affected by the social consequences of deviating from an ideal body-image than men are (Tiggemann & Rothblum, 1988).

These data also suggest that the discrepancy between actual and ideal body-image is highlighted for the individuals with a drive to behave in a culturally appropriate manner. One possible interpretation is that individuals with a higher need for social approval are more prone to accept the body-image portrayed as ideal by the mass media and society. As previously stated, this sanctioned ideal body, thin for women and muscular for men, is not possible for the majority of the population (Rodin, 1992b; Drewnowski et al., 1995). This research shows both women and men are socialized to believe that their self-concept is tied to interpersonal approval. Thus culturally determined images of an ideal body-image are tied to interpersonal approval for both women and men; however women seemed more affected by this. To my knowledge, a similar finding has not been reported in the literature.

These results extend the conclusions of previous research which focused on the experiences of women to include both genders (Dolan & Gitzinger, 1994; Rodin et al., 1985; Striegel-Moore, Silberstein et al., 1986). These findings indicated that women are socialized to believe that society rewards women with thin bodies (Rodin et al.,

1985), and men are socialized to believe that society rewards men with mesomorphic bodies. However, it appears that women's body-image is more influenced by their desire for social approval than men's are.

### Body-Image Perceptions

One of the primary purposes for the present research was the empirical testing and further investigation of the Body Image Perceptions Scale (BIPS; Sande & Buchanan, unpublished). A couple of the major contributions this scale makes to body-image assessment are: (1) the "too big" or "too small" ratings statements incorporate the individual's feelings toward the body area and overall body; (2) the method of calculating body-image assessment addresses the nature of the relation between actual and ideal body-image: summative discrepancy score and absolute deviation from ideal score.

### Gender Differences and Similarities

It was hypothesized that men and women would report overall equal levels of body-image discrepancy. The specific direction of the discrepancy would differ, with women reporting that they are too big, and approximately equal numbers of men reporting that they are too small or too large. The two methods of calculating the body-image discrepancy score, summative and absolute value, provided evidence for these two patterns of body-image discrepancy.

The summative calculation of the body-image discrepancy score revealed the direction of the discrepancy. Most women, no matter what their actual size, wanted to be smaller. As well, very few women did not report a discrepancy between their actual

body-image and their ideal body-image. One interpretation of this finding is, as previous research indicated, that there is a growing disparity between the actual and the ideal body size for women, because the ideal is becoming thinner and women's weight is actually increasing (Garner, Garfinkel, Schwartz, & Thompson, 1980; Mazur, 1986; Wiseman, Gray, Mosimann, & Ahrens, 1992). Few women can actually look like the ideal body-image which is portrayed by the mass media as attainable (Rodin, 1992b).

The BIPS revealed a specific pattern of body-image discrepancy experienced by men. Twice as many men wanted to be larger than the number of men who wanted to be smaller. This contradicts the findings of previous research, which concluded that males do not experience body-image discrepancy (Fallon & Rozin, 1985; Striegel-Moore, McAvay et al., 1986; Thompson, 1990). Also, this supports previous findings that the majority of men desire to gain weight to attain a more muscular build (Drewnowski & Yee, 1987; Drewnowski et al., 1995; McCaulay et al., 1988). One interpretation of this result is that there is a very specific ideal for men which is a mesomorphic body. If men deviate from this ideal, either smaller or larger, they experience a negative body-image. This desire for a very specific ideal body-image can be best understood by what can be called the "Goldilocks desire": not too big, not too small, but just the right size.

These results demonstrated that approximately equal numbers of men and women experience body-image discrepancy. This provides evidence for previous findings that society's focus on physical appearance and fitness applies to men as much as to

women (Davis et al., 1991; Drewnowski and Yee, 1987).

### Consequences of Body-Image

#### Affective Consequences

It was hypothesized that subjects with greater body-image discrepancy would have greater levels of depressive symptomatology, and lower levels of self-esteem.

#### Depression.

The hypothesized association between body-image discrepancy and depression was not generally supported for women, but was supported for men. For women, the association between depression and body-image disappeared once self-esteem was removed from the analysis. These results contradict previous research which reported a strong relationship between depression and body-image dissatisfaction (Cash & Brown, 1987; Cash, Winstead, & Janda, 1986; Kerr et al., 1991; Mintz & Betz, 1986; Thompson & Psaltis, 1988; Williamson et al., 1985). Also the data did not completely support the findings of Noles, Cash, and Winstead (1985) who used the CES-D and concluded that depressed subjects reported greater body-image dissatisfaction than non-depressed subjects.

There are a couple of possible explanations for this result. First, as previous researchers have stated, negative body-image may be so pervasive for women that it has become a normal experience, called a 'normative discontent' (Rodin et al., 1985). Because negative body-image is a normal, daily experience for women, it no longer creates the general symptomatology of depression. For women, the impact of a negative body-image may be limited to body-image dissatisfaction instead of general

depressive symptomatology. These data support the conclusion that the association between body-image, self-esteem, and depression is not established (Grubb, Sellers, & Waligroski, 1993).

For men, depression was associated with absolute deviation from ideal body-image. Thus, men with a negative body-image experienced greater depressive symptomatology. The impact of a negative body-image on men's reported emotional experience indicates that body-image is an area of their life that they care about. Overall, this finding suggests some potentially important insights into the experiences of a negative body-image for men. To our knowledge, a similar finding has not been reported in the literature.

#### Self-esteem.

The hypothesized association between body-image discrepancy and self-esteem was supported. Social self-esteem measures the extent that people feel self-conscious about their public image. The appearance self-esteem factor measures satisfaction with one's current figure. Performance self-esteem is the extent to which individuals feel their performance is worthy. The present investigation resulted in the expected pattern of associations between overall self-esteem, the self-esteem subscales and the other variables.

The fact that the self-esteem dimensions were associated differentially with body-image is further support for Heatherton and Polivy's (1991) multidimensional self-esteem construct. For both men and women, performance self-esteem and social self-esteem were not associated with body-image. For both men and women, overall

self-esteem and appearance self-esteem were associated with body-image (Heatherton & Polivy, 1991; Mintz and Betz, 1986). These findings provide more evidence for the importance of body-image to the overall self-concept of women (Ben-Tovim & Walker, 1991; Franzoi & Shields, 1984; Rodin et al. 1985; Rosen & Ross, 1968), and extends these findings to the experience of men.

All self-esteem measures were associated with the absolute deviation from body-image, for both men and women, when Pearson correlations were used. However, when the other self-esteem scales and depression were partialled out, only appearance self-esteem and overall self-esteem remained associated with body-image. These results may be explained by the partial correlation removing the shared variance between the self-esteem subscales. As well, the association between body-image and overall self-esteem may be simply due to the association between body-image and appearance self-esteem.

For women, lower levels of overall self-esteem and appearance related self-esteem were associated with negative body-image for both body-image discrepancy and absolute deviation from ideal body-image. The present findings support the conclusion that negative body-image is intimately related to low self-esteem (Mintz & Betz, 1986). One possible explanation is that repeated self-criticism and sense of failure for not achieving an idealized body type or body weight results in a general feeling of personal inadequacy and lowered self-concept (Josephs, Marks, & Tatarodi, 1992; Tiggemann, 1994). These results contradict the conclusion that negative body-image does not impact on self-esteem because it is a normal, daily experience

described as 'normative discontent' (Rodin, 1985; Silberstein et al., 1988).

For men, only the absolute deviation from ideal body-image was associated with lower levels of overall self-esteem and appearance related self-esteem. One interpretation of the lack of association between body-image discrepancy and self-esteem for men is simply due to the method of calculating body-image. In the summative method of calculating body-image discrepancy the trend for males to endorse opposite ratings of body size, 'too large' and 'too small', cancel each other out. Thus explaining the previous conclusions for males including: minimal body-image discrepancy, and the conclusion that males generally view their body as "just the right size" (Fallon & Rozin, 1985; Striegel-Moore, McAvay et al., 1986; Thompson, 1990). However, this does not occur with the absolute deviation from ideal calculation method these scores. This would explain the pattern of associations between absolute discrepancy from ideal body-image and self-esteem for men in the present investigation.

The similar correlations between a negative body-image with self-esteem for both men and women contradict the conclusions of previous research (Drewnowski & Yee, 1987; Fallon & Rozin, 1985; Lerner, Karabenick, & Stuart, 1973; Mintz & Betz, 1986; Striegel-Moore, Silberstein et al., 1986; Sykora et al., 1993; Thompson, 1990). These results highlight the need to extend the investigation of sociocultural and developmental influences on body-image to both women and men. Hopefully, the present investigation will provide incentive for further investigation of the body-image experience for men. The present results lead to the conclusion that self-esteem is

impacted by a negative body-image for both men and women.

### Body Attitudes and Behaviours Scale (BABS)

Another primary purpose for the present research is the empirical testing and further investigation of the Body Attitudes and Behaviours Scale (BABS). A couple of the major contributions this scale makes to understanding the consequences of body-image are as follows: (1) assessment of dysfunctional eating and exercise behaviours associated with body-image; (2) assessment of negative self-attitudes associated with body-image.

The present revision of the BABS improved the factor structure over previous versions of the questionnaire. However, one new factor, the social avoidance factor (AVOID), remains weak. One possible interpretation of these findings is that not all subjects engage in all of the behaviours associated with a negative body-image. Moreover, it may be that social-avoidance behaviours are the last resort solution. Social-avoidance behaviours may be more prevalent among those individuals who are 30 pounds or more from their ideal weight. Most individuals of the present sample were within 10 to 15 pounds of their ideal weight, so social-avoidance would not be a probable behaviour. Alternatively, the behaviours of the social-avoidance factor may not tap into the kinds of avoidance behaviour people engage in when they feel unattractive.

### Behavioural Consequences

It was hypothesized that subjects with greater body-image discrepancy would engage in greater levels of body-altering behaviours, including eating and exercising

behaviours. A sub-component of this hypothesis stated that men and women would engage in levels of body-altering behaviours that corresponded to their direction of body-image discrepancy. The body-altering behaviours were assessed by two methods: the BABS behaviours scales (Gaining and Reducing behaviours), and the demographics questions about dieting history and gaining weight or body size history.

Only a few women were dieting either at the time of the study or during the previous two years. These results contradict previous findings that sixty percent of a college student sample, men and women, reported that they were dieting to gain or lose weight at the time of the study (Miller, Coffman, & Linke, 1980). One possible explanation is that recent public education campaign about the physical damage and the inadequate results of dieting may be reducing the overall level of dieting behaviour for women. Another explanation may be the ambiguity of the term "diet". The term, diet, can be associated with a regimented meal plan, reduced food intake, or restricted food choice. The term was not defined in the questionnaire, so it was subject to interpretation by the participants. Their interpretation may be stricter than my definition, which would account for the reduced level of reported dieting behaviour. In other words, they may be engaged in dieting behaviours according to my definition of the term, but did not consider their own eating pattern as dieting.

Women with greater body-image discrepancy and absolute deviation from ideal engaged in more reducing behaviours, as measured by the BABS. The behaviours sampled by the BABS reducing behaviours scale include weight reduction behaviours other than dieting. Thus, the reduction in dieting behaviour does not preclude the use

of other harmful weight reduction strategies.

As was expected, the absolute deviation from ideal body-image was not associated with the BABS reducing or gaining behaviours. This occurred because men reported their body-image as too small and too large, which counteracted each other in the overall rating score. Men engaged in more BABS reducing behaviours and less gaining behaviours with greater body-image discrepancy. The BABS gaining behaviours factor may not tap into the kinds of behaviours men engage in when they want to gain body size or weight. As reported on the demographics questionnaire, the majority of men were either engaging in gaining behaviours at the time of the study or had recently been doing so. Men have increasingly focused on their body-image because of increased pressure to attain the culturally imposed standards of muscularity (Davis & Cowles, 1991; Davis, Elliott, & Mitchell, 1991). The majority of men reported that they were too small, so they would experience pressure to increase their body size and muscularity.

The social-avoidance behaviours were associated with increased body-image discrepancy for women only. However, the social-avoidance behaviours were associated with overall self-esteem and the appearance, performance, and social self-esteem subscales for both men and women. A possible interpretation of these results is that individuals with lowered self-esteem may generally feel more self-conscious, and less comfortable in social situations, thus they avoid social situations. These results must be interpreted with caution because of the low reliability of the social-avoidance factor.

### Self-Attitudinal Consequences

It was hypothesized that subjects with greater body-image discrepancy would report greater levels of Self-conscious and Social-conscious attitudes, and lower levels of Attractiveness attitudes. For women, both body-image discrepancy and absolute deviation from ideal were associated with self-consciousness, social-consciousness, and social-avoidance self-attitudes. An interpretation of these findings is that women with a negative body-image feel more self-conscious, and less comfortable in social situations. Attractiveness self-attitudes were not associated with either body-image rating scores. The lack of findings for the attractiveness self-attitudes confirms similar lack of results in preliminary investigations of the BABS. These results may have occurred because the attractiveness measure did not tap into women's experience of feeling attractive or unattractive. The previous findings with the BABS attractiveness factor was not replicated, because the factor items were changed. The previous version of the BABS attractiveness factor had low reliability, so we added new items in an attempt to improve the reliability .

As expected, only the absolute deviation from ideal was associated with self-consciousness, social-consciousness, and attractiveness self-attitudes for men. Social-avoidance was not associated with the body-image ratings scores. Thus men who report a negative body-image may generally feel self-conscious, less attractive, and less comfortable in social situations.

The reported associations of the BABS self-attitude factors with self-esteem were similar for both men and women. Both men and women who reported increased self-

consciousness and social-consciousness also reported lower levels of overall self-esteem, appearance, social, and performance specific self-esteem. A possible interpretation of these results is that individuals with lowered self-esteem may generally feel more self-conscious, and less comfortable in social situations.

#### Limitations of Present Research

One limitation of correlational research is that it permits only the inference that the 'tested variables' are reliably associated with other 'tested variables'. Results based on correlational statistic permit the discussion of the strength of relation between variables, not the direction of the relationship nor the causality. However, this limitation may be extended to the majority of research conducted in this area.

#### Conclusions

An initial conclusion is that the BIPS is a valuable tool for body-image assessment, and it improves on previous body-image measures. There are a number of values of the BIPS. First, the BIPS is a practical assessment tool, because it is concise and has a simple format. Second, the BIPS provides information about the direction of body-image discrepancy, as well as the magnitude of deviation from the individual's ideal body-image. Third, the BIPS provides evidence and furthers understanding of the male body-image experience.

A second conclusion of the present research is that the method of calculating the absolute deviation from ideal advances the understanding of body-image. This measure provides evidence for the pattern of body-image discrepancy. Women desire a smaller body, regardless of their actual body size. Men desire a specific body, which is

muscular and mesomorphic. For men, if they are larger than that specific ideal body-image they desire a smaller body. However, the experience of most men is that they are smaller than that specific ideal body-image, so they desire a larger body. This contradicts a widely held conclusion that men do not experience a negative body-image or body-image discrepancy (Thompson, 1991).

Another conclusion of the present research is that body-image is associated with overall self-esteem for both men and women. For men, self-esteem is associated with the absolute body-image score, not the body-image discrepancy score (the summative calculation). This pattern of results for men would explain why this association was hidden in previous research. This also contradicts a widely held conclusion that body-image is more important to the self-concept of women than it is for men. The present investigation confirms previous conclusions that self-esteem is associated with body-image for women (Ben-Tovim & Walker, 1991; Franzoi & Shields, 1984; Mintz & Betz, 1986; Rodin et al. 1985). However, this association is present for both methods of calculating the body-image score. This conclusion furthers our understanding of the importance of body-image for the overall self-concept, and that it impacts on self-esteem equally for men and women.

Overall, these data suggest some important advances in the assessment and understanding of body-image. This research provided important initial evidence for the proposed conceptual framework of body-image. Specifically, the evidence generally supported the antecedent personality factors (what leads to body-image) and the affective, behavioural, and attitudinal consequences of body-image. As well, the

present investigation has extended the limited research conducted on the male body-image experience, and provided evidence for the similarity of experiences for men and women. These conclusions lead us to believe that this is a promising line of research.

#### Future Directions of Research

The next step of testing for the BIPS and the BABS is to obtain test-retest reliability. Future research should examine body-image perceptions in young children. It would be interesting to see what degree of negative self-perception is present in children, and at what age self-image becomes a concern. Understanding the etiology of negative body-image may help to understand and prevent the development of an eating disorder or other associated pathology.

Another recommendation is the testing of the BIPS and BABS with a clinical population of individuals with eating disorders: Bulimia Nervosa, Anorexia Nervosa, and Binge-Eating Disorder. This would examine the characteristics of these clinical populations, in comparison to the student samples already tested. This information would support the use of the BIPS and BABS to improve our understanding of the experiences associated with these psychological disorders, and eventually design treatment in accordance with these characteristic experiences.

## References

- Abadie, B. R. (1988). Relating trait anxiety to perceived physical fitness. Perceptual and Motor Skills, *67*, 539-543.
- Agras, W. S. (1991). Nonpharmacologic treatments of bulimia nervosa. Journal of Clinical Psychiatry, *52*, 29-33.
- Andersen, A. E., & DiDomenico, L. (1992). Diet vs. shape content of popular male and female magazines: A dose-response relationship to the incidence of eating disorders? International Journal of Eating Disorders, *11*, 283-287.
- Andersen, R. E., Bartlett, S. J., Morgan, G. D., & Brownell, K. D. (1995). Weight loss, psychological, and nutritional patterns in competitive male body builders. International Journal of Eating Disorders, *18*, 49-57.
- Beck, A. T., Steer, R. A., & Garbin, M. G. (1988). Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. Clinical Psychology Review, *8*, 77-100.
- Ben-Tovim, D. I., & Walker, M. K. (1991). Women's body attitudes: A review of measurement techniques. International Journal of Eating Disorders, *10*, 155-167.
- Brand, P. A., Rothblum, E. D., & Solomon, L. J. (1992). A comparison of lesbians, gay men, and heterosexuals on weight and restrained eating. International Journal of Eating Disorders, *11*, 253-259.
- Brenner, J. B., & Cunningham, J. G. (1992). Gender differences in eating attitudes, body concept, and self-esteem among models. Sex Roles, *27*, 413-437.

- Brower, K. J. (1992). Addictive potential of anabolic steroids. Psychiatric Annals, 22, 30-34.
- Brownell, K. D., Rodin, J., & Wilmore, J. H. (Eds.). (1992). Eating, bodyweight and performance in athletes. Philadelphia: Lea and Febiger.
- Bruch, H. (1973). Eating disorders: Obesity, anorexia nervosa and the person within. New York: Basic Books.
- Bruch, H. (1978). The golden cage: The enigma of anorexia nervosa. Cambridge, MA: Harvard University Press.
- Cantrell, P. J., & Ellis, J. B. (1991). Gender role and risk patterns for eatings disorders in men and women. Journal of Clinical Psychology, 47, 53-57.
- Caruso, C. M., & Gill, D. L. (1992). Strengthening physical self-perceptions through exercise. The Journal of Sports Medicine and Physical Fitness, 32, 416-427.
- Cash, T. F. (1990). The psychology of physical appearance: Aesthetics, attributes, and images. In T. F. Cash & T. Pruzinsky (Eds.), Body image: Development, deviance and change (pp. 51-78). New York: Guilford Press.
- Cash, T. F. (1995). What do you see when you look in the mirror?: Helping yourself to a positive body image. New York: Bantam Books.
- Cash, T. F., & Brown, T. A. (1987). Body image in anorexia nervosa and bulimia nervosa. Behavior Modification, 11, 487-521.
- Cash, T. F., & Brown, T. A. (1989). Gender and body images: Stereotypes and realities. Sex Roles, 21, 361-373.

- Cash, T. F., & Pruzinsky, T. (Eds.). (1990). Body image: Development, deviance and change. New York: Guilford Press.
- Cash, T. F., Winstead, B. A., & Janda, L. H. (1986, April). The great American shape-up. Psychology Today, 20, 30-37.
- Cooper, P. J., & Taylor, M. J. (1986). Body size overestimation and depressed mood. British Journal of Psychiatry, 153, 32-36.
- Cooper, Z., Cooper, P. J., & Fairburn, C. G. (1985). The specificity of the Eating Disorder Inventory. British Journal of Clinical Psychology, 24, 77-84.
- Covert, D. L., Thompson, J. K., & Kinder, B. N. (1988). Interrelationships among multiple aspects of body-image and eating disturbance. International Journal of Eating Disorders, 7, 495-502.
- Crocker, J., Cornwell, B., & Major, B. (1993). The stigma of overweight: Affective consequences of attributional ambiguity. Journal of Personality and Social Psychology, 64, 60-70.
- Crowne, D. P., & Marlowe, D. (1964). The approval motive: Studies in evaluative dependence. New York: John Wiley & Sons.
- Davis, C., & Cowles, M. (1991). Body image and exercise: A study of relationships and comparisons between physically active men and women. Sex Roles, 25, 33-44.
- Davis, C., Elliott, S., Dionne, M., & Mitchell, I. (1991). The relationship of personality factors and physical activity to body satisfaction in men. Personality and Individual Differences, 12, 689-694.

Davis, C., Fox, J., Cowles, M., Hastings, P., & Schwass, K. (1990). The functional role of exercise in the development of weight and diet concerns in women. Journal of Psychosomatic Research, *34*, 563-574.

Dolan, B. M., Birtchnell, S. A., & Lacey, J. H. (1987). Body image distortion in non-eating disordered women and men. Journal of Psychosomatic Research, *31*, 513-520.

Dolan, B. M., & Gitzinger, I. (Eds.). (1994). Why women? Gender issues and eating disorders. London: The Athlone Press.

Drewnowski, A., & Yee, D. K. (1987). Men and body image: Are males satisfied with their body weight? Psychosomatic Medicine, *49*, 626-634.

Drewnowski, A., Kurth, C. L., & Krahn, D. D. (1995). Effects of body image on dieting, exercise, and anabolic steroid use in adolescent males. International Journal of Eating Disorders, *17*, 381-386.

Dunn, P., & Ondercin, P. (1981). Personality variables related to compulsive eating in college women. Journal of Clinical Psychology, *37*, 43-49.

Fallon, A. E. (1990). Culture in the mirror: Sociocultural determinants of body image. In T. F. Cash & T. Pruzinsky (Eds.), Body images: Development, deviance, and change. New York: Guilford Press.

Fallon, A. E., & Rozin, P. (1985). Sex differences in perceptions of desirable body shape. Journal of Abnormal Psychology, *94*, 102-105.

Fleming, J. S., & Watts, W. A. (1980). The dimensionality of self-esteem: Some results for a college sample. Journal of Personality and Social Psychology, *39*, 921-929.

Fraenkel, L., & Leichner, P. P. (1989). Relationship of body-image distortion to sex-role identifications, irrational cognitions, and body weight in eating-disordered females. Journal of Clinical Psychology, *45*, 61-65.

Franzoi, S. L., & Shields, S. A. (1984). The Body Esteem Scale: Multidimensional structure and sex differences in a college population. Journal of Personality Assessment, *48*, 173-178.

Furnham, A., & Baguma, P. (1994). Cross-cultural differences in the evaluation of male and female body shapes. International Journal of Eating Disorders, *15*, 81-89.

Garner, D. M. (1981). Body image in anorexia nervosa. Canadian Journal of Psychiatry, *26*, 224-227.

Garner, D. M. (1991). Eating Disorder Inventory - 2. Odessa, FL: Psychological Assessment Resources.

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

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

Garner, D. M., Rockert, W., Olmstead, M. P., Johnson, C., & Coscina, D. V. (1985). Psychoeducational principles in the treatment of bulimia and anorexia

nervosa. In D. M. Garner, & P. E. Garfinkel (Eds.), Handbook of psychotherapy for anorexia nervosa and bulimia (pp. 513-572). New York: Guilford Press.

Gleghorn, A. A., Penner, L. A., Powers, P. S., & Schulman, R. (1987). The psychometric properties of several measures of body image. Journal of Psychopathology and Behavioral Assessment, *9*, 203-218.

Grubb, H. J., Sellers, M. I., & Waligroski, K. (1993). Factors related to depression and eating disorders: Self-esteem, body image, and attractiveness. Psychological Reports, *72*, 1003-1010.

Harmatz, M. G., Gronendyke, B. A., & Thomas, T. (1985). The underweight male: The unrecognized problem group of body image research. The Journal of Obesity and Weight Regulation, *4*, 258-267.

Heatherton, T. F., & Polivy, J. (1991). Development and validation of a scale for measuring state self-esteem. Journal of Personality and Social Psychology, *60*, 895-910.

Heinberg, L. J., & Thompson, J. K. (1992). The effects of figure size feedback (positive vs. negative) and target comparison group (particularistic vs. universalistic) on body image disturbance. International Journal of Eating Disorders, *12*, 441-448.

Heinberg, L. J., Thompson, J. K., & Stormer, S. (1995). Development and validation of the sociocultural attitudes towards appearance questionnaire. International Journal of Eating Disorders, *17*, 81-89.

Hewitt, P. L., & Flett, G. L. (1991a). Perfectionism in the self and social contexts: Conceptualization, assessment, and association with psychopathology.

Journal of Personality and Social Psychology, *60*, 456-470.

Hewitt, P. L., & Flett, G. L. (1991b). Dimensions of perfectionism in unipolar depression. Journal of Abnormal Psychology, *100*, 98-101.

Hewitt, P. L., Flett, G. L., Turnbull-Donovan, W., & Mikail, S. F. (1991). The Multidimensional Perfectionism Scale: Reliability, validity, and psychometric properties in psychiatric samples. Psychological Assessment: A Journal of Consulting and Clinical Psychology, *3*, 464-468.

Hewitt, P. L., & Genest, M. (1990). The ideal self: Schematic processing of perfectionistic content in dysphoric university students. Journal of Personality and Social Psychology, *59*, 802-808.

Hewitt, P. L., Mittelstaedt, W., & Wollert, R. (1989). Validation of a measure of perfectionism. Journal of Personality Assessment, *53*, 133-144.

Hsu, L. K. G. (1989). The gender gap in eating disorders: Why are the eating disorders more common among women? Clinical Psychology Review, *9*, 393-407.

Hsu, L. K. G., & Sobkiewicz, T. A. (1991). Body image disturbance: Time to abandon the concept of eating disorders? International Journal of Eating Disorders, *10*, 15-30.

Hundley, J. D., & Bourgooin, N. C. (1993). Generality in the errors of estimation of body image. International Journal of Eating Disorders, *13*, 85-92.

Huon, G. F., & Brown, L. B. (1989). Assessing bulimics' dissatisfaction with their body. British Journal of Clinical Psychology, *28*, 283-284.

Jackson, L. A., Ervin, K. S., & Hodge, C. N. (1992). Narcissism and body image. Journal of Research in Personality, *26*, 357-370.

Jackson, L. A., Sullivan, L. A., & Rostiker, R. (1988). Gender, gender role, and body image. Sex Roles, *19*, 429-443.

Josephs, R. A., Markus, H. R., & Tafarodi, R. W. (1992). Gender and self-esteem. Journal of Personality and Social Psychology, *63*, 391-402.

Katzman, M. A., & Wolchik, S. A. (1984). Bulimia and binge eating in college women: A comparison of personality and behavioral characteristics. Journal of Consulting and Clinical Psychology, *52*, 423-428.

Keeton, W. P., Cash, T. F., & Brown, T. A. (1990). Body image or body images?: Comparative, multidimensional assessment among college students. Journal of Personality Assessment, *54*, 213-230.

Kerr, J. K., Skok, R. L., & McLaughlin, T. F. (1991). Characteristics common to females who exhibit anorexic or bulimic behavior: A review of current literature. Journal of Clinical Psychology, *47*, 846-853.

Klein, A. M. (1994). The cultural anatomy of competitive women's bodybuilding. In N. Sault (Ed.), Many mirrors: Body image and social relations. (pp. 76-104). New Brunswick, NJ: Rutgers University Press.

Klemchuck, H. P., Hutchinson, C. B., & Frank, R. I. (1990). Body dissatisfaction and eating-related problems on the college campus: Usefulness and the

Eating Disorder Inventory with a nonclinical population. Journal of Consulting and Clinical Psychology, 55, 628-634.

Krejci, R. C., Sargent, R., Forand, K. J., Ureda, J. R., Saunders, R. P., & Durstine, J. L. (1992). Psychological and behavioral differences among females classified as bulimic, obligatory exerciser, and normal control. Psychiatry, 55, 185-193.

Langlois, J. H. (1986). From the eye of the beholder to behavioral reality: Development of social behaviors and social relations as a function of physical attractiveness. In C. P. Herman, M. P. Zanna, & E. T. Higgins (Eds.), The Ontario Symposium: Physical Appearance, Stigma and Social Behavior: Vol. 3 (pp. 23-51). Hillsdale, NJ: Erlbaum & Assoc.

Leon, G. R., Fulkerson, J. A., Perry, C. L., & Cudeck, R. (1993). Personality and behavioral vulnerabilities associated with risk status for eating disorders in adolescent girls. Journal of Abnormal Psychology, 102, 438-444.

Lerner, R. M., Karabenick, S. A., & Stuart, J. L. (1973). Relations among physical attractiveness, body attitudes, and self-concept in male and female college students. The Journal of Psychology, 85, 119-129.

Lindholm, L., & Wilson, G. T. (1988). Body image assessment in patients with bulimia nervosa and normal controls. International Journal of Eating Disorders, 7, 527-539.

Mamuza, J., & Jamieson, J. (1995, June). Exercise and body-image. Poster presented at the annual meeting of the Canadian Psychological Association, Charlottetown, P. E. I.

Mazur, A. (1986). U.S. trends in feminine beauty and overadaptation. The Journal of Sex Research, *22*, 281-303.

McCaulay, M., Mintz, L., & Glenn, A. A. (1988). Body image, self-esteem, and depression-proneness: Closing the gender gap. Sex Roles, *18*, 381-391.

McDonald, K., & Thompson, J. K. (1992). Eating disturbance, body image dissatisfaction, and reasons for exercising: Gender differences and correlational findings. International Journal of Eating Disorders, *11*, 289-292.

Miller, T. M., Coffman, J. G., & Linke, R. A. (1980). Survey on body image, weight, and diet of college students. Journal of American Dietetic Association, *77*, 561-566.

Mintz, L. B., & Betz, N. E. (1986). Sex differences in the nature, realism, and correlates of body image. Sex Roles, *15*, 185-195.

Mishkind, M. E., Rodin, J., Silberstein, L. R., & Striegel-Moore, R. H. (1986). The embodiment of masculinity. American Behavioral Scientist, *29*, 545-562.

Mitchell, J. E., Specker, S. M., & de Zwaan, M. (1991). Comorbidity and medical complications of bulimia nervosa. Journal of Clinical Psychiatry, *52*, 13-20.

Mitzman, S. F., Slade, P., & Dewey, M. E. (1994). Preliminary development of a questionnaire designed to measure neurotic perfectionism in the eating disorders. Journal of Clinical Psychology, *50*, 516-528.

- Mizes, J. S. (1985). Bulimia: A review of its symptomatology and treatment. Advances in Behavior Research and Therapy, *7*, 91-142.
- Nagelberg, D. B., Hale, S. L., & Ware, S. L. (1984). The assessment of bulimic symptoms and personality correlates in female college students. Journal of Clinical Psychology, *40*, 440-445.
- Nassar, M. (1988). Culture and weight consciousness. Journal of Psychosomatic Research, *32*, 573-577.
- Noles, S. W., Cash, T. F., & Winstead, B. A. (1985). Body image, physical attractiveness, and depression. Journal of Consulting and Clinical Psychology, *53*, 88-94.
- Norussis, M.J. (1993). SPSS for Windows: Base system user's guide release 6.0. Chicago: SPSS Inc.
- Nudelman, S., Rosen, J. C., & Leitenberg, H. (1988). Dissimilarities in eating attitudes, body image distortion, depression, and self-esteem between high-intensity male runners and women with bulimia nervosa. International Journal of Eating Disorders, *7*, 625-634.
- Pacht, A. R. (1984). Reflections on perfection. American Psychologist, *39*, 386-390.
- Polivy, J., Heatherton, T. F., & Herman, C. P. (1988). Self-esteem, restraint, and eating behavior. Journal of Abnormal Psychology, *97*, 354-356.
- Polivy, J., & Herman, C. P. (1992). Undieting: A program to help people to stop dieting. International Journal of Eating Disorders, *11*, 261-268.

Radloff, L. S. (1977). The CES-D Scale: A self-report depression scale for research in the general population. Applied Psychological Measurement, 1, 385-401.

Radloff, L. S. (1991). The use of the Centre for Epidemiologic Studies Depression Scale in adolescents and young adults. Journal of Youth and Adolescents, 20, 149-166.

Reed, D., Thompson, J. K., Brannick, M. T., & Sacco, W. P. (1991). Development and validation of the Physical Appearance State and Trait Anxiety Scale (PASTAS). Journal of Anxiety Disorders, 5, 323-332.

Robinette, R. L. (1991). The relationship between the Marlowe-Crowne Form C and the validity scales of the MMPI. Journal of Clinical Psychology, 47, 396-399.

Rodin, J. (1992a). Body traps: Breaking the binds that keep you from feeling good about your body. New York: William Morrow and Company.

Rodin, J. (January/February, 1992b). Body mania. Psychology Today, 25, 56-60.

Rodin, J., Silberstein, L., & Striegel-Moore, R. (1985). Women and weight: A normative discontent. In T. B. Sonderegger (Ed.), Psychology and Gender: 1984 Nebraska Symposium on Motivation (Vol. 32, pp. 267-307). Lincoln, NE: University of Nebraska Press.

Rosen, G. M., & Ross, A. O. (1968). Relationship of body image to self-concept. Journal of Consulting and Clinical Psychology, 32, 100.

Rosen, J. C., Gross, J., & Vara, L. (1987). Psychological adjustment of adolescents attempting to lose or gain weight. Journal of Consulting and Clinical Psychology, 55, 742-747.

Sande, G. N., & Buchanan, S. L. (1994). [Preliminary development of the Body-Image Perceptions Scale and the Body Attitudes and Behaviours Scale]. Unpublished raw data.

Sault, N. (1994). The human mirror. In N. Sault (Ed.), Many mirrors: Body image and social relations (pp. 1-28). New Brunswick, NJ: Rutgers University Press.

Shatford, L. A., & Evans, D. R. (1986). Bulimia as a manifestation of the stress process: A LISREL causal modeling analysis. International Journal of Eating Disorders, 5, 451-473.

Silberstein, L. R., Mishkind, M. E., Striegel-Moore, R. H., Timko, C., & Rodin, J. (1989). Men and their bodies: A comparison of homosexual and heterosexual men. Psychosomatic Medicine, 51, 337-346.

Silberstein, L. R., Striegel-Moore, R. H., Timko, C., & Rodin, J. (1988). Behavioral and psychological implications of body dissatisfaction: Do men and women differ? Sex Roles, 19, 219-232.

Silverstein, B., Perdue, L., Peterson, B., & Kelly, E. (1986). The role of the mass media in promoting a thin standard of bodily attractiveness for women. Sex Roles, 14, 519-532.

Silverstein, B., Perdue, L., Peterson, B., Vogel, L., & Fantini, D. A. (1986). Possible causes of the thin standard of bodily attractiveness for women. International Journal of Eating Disorders, 5, 907-916.

Silverstein, B., Peterson, B., & Perdue, L. (1986). Some correlates of the thin standard of bodily attractiveness for women. International Journal of Eating Disorders, 5, 895-905.

Smith, J. E., Waldorf, V. A., & Trembath, D. L. (1990). "Single white male looking for thin, very attractive...". Sex Roles, 23, 675-685.

Sonstroem, R. J. (1981). Exercise and self-esteem: Recommendations for expository research. Quest, 33, 124-139.

Striegel-Moore, R. H., McAvey, G., & Rodin, J. (1986). Psychological and behavioral correlates of feeling fat in women. International Journal of Eating Disorders, 5, 935-947.

Striegel-Moore, R. H., Silberstein, L. R., & Rodin, J. (1986). Toward an understanding of risk factors for bulimia. American Psychologist, 41, 246-263.

Sullivan, L. A., & Harnish, R. J. (1990). Body image: Differences between high and low self-monitoring males and females. Journal of Research in Personality, 24, 291-302.

Sykora, C., Grilo, C. M., Wilfley, D. E., & Brownell, K. D. (1993). Eating, weight, and dieting disturbances in male and female lightweight and heavyweight rowers. International Journal of Eating Disorders, 14, 203-211.

Taylor, M. J., & Cooper, P. J. (1992). An experimental study of the effect of mood on body size perception. Behaviour Research and Therapy, 30, 53-58.

Thelen, M. H., Farmer, J., Wonderlich, S., & Smith, M. (1991). A revision of the bulimia test: The BULIT-R. Psychological Assessment: A Journal of Consulting and Clinical Psychology, 3, 119-124.

Thomas, C. D. (1991). Stable vs. unstable weight history, body-image, and weight concern in women of average body weight. Psychological Reports, 68, 491-499.

Thomas, V. G. (1989). Body-image satisfaction among black women. The Journal of Social Psychology, 129, 107-112.

Thompson, J. K. (1990). Body image disturbance: Assessment and treatment. New York: Pergamon Press.

Thompson, J. K. (1995). Assessment of body image. In D. B. Allison (Ed.), Handbook of assessment methods for eating behaviors and weight-related problems: Measures, theory, and research (pp. 119-148). Thousand Oaks, CA: Sage Publications.

Thompson, J. K., & Altabe, M. N. (1991). Psychometric qualities of the Figure Rating Scale. International Journal of Eating Disorders, 10, 615-619.

Thompson, J. K., Berland, N. W., Linton, P. H., & Weinsier, R. (1986). Assessment of body distortion via a self-adjusting light beam in seven eating disorder groups. International Journal of Eating Disorders, 7, 113-120.

Thompson, J. K., & Dolce, J. J. (1989). The discrepancy between emotional vs. rational estimates of body size, actual size, and ideal body ratings. Journal of Clinical Psychology, 45, 473-478.

Thompson, J. K., & Heinberg, L. J. (1993). Preliminary test of two hypotheses of body image disturbance. International Journal of Eating Disorders, 14, 59-63.

Thompson, J. K., Penner, L., & Altabe, M. (1990). Procedures, problems, and progress in the assessment of body images. In T. F. Cash & T. Pruzinsky (Eds.), Body images: Development, deviance, and change (pp. 21-48). New York: Guilford Press.

Thompson, J. K., & Psaltis, K. (1988). Multiple aspects and correlates of body figure ratings: A replication and extension of Fallon and Rozin (1985). International Journal of Eating Disorders, 7, 813-817.

Thompson, J. K., & Spana, R. E. (1988). The adjustable light beam method for the assessment of size estimation accuracy: Description, psychometrics, and normative data. International Journal of Eating Disorders, 7, 521-526.

Thompson, J. K., & Spana, R. E. (1991). Visuospatial ability, accuracy of size estimation, and bulimic disturbance in a non-eating-disordered college sample: A neuropsychological analysis. Perceptual and Motor Skills, 73, 335-338.

Tiggemann, M. (1994). Gender differences in the interrelationships between weight dissatisfaction, restraint, and self-esteem. Sex Roles, 30, 319-330.

Tiggemann, M., & Rothblum, E. D. (1988). Gender differences in social consequences of perceived overweight in the United States and Australia. Sex Roles, 18, 75-86.

Tucker, L. A. (1982). Effect of a weight-training program on the self-concepts of college males. Perceptual and Motor Skills, 54, 1055-1061.

Ussery, L. W., & Prentice-Dunn, S. (1992). Personality predictors of bulimic behavior and attitudes in males. Journal of Clinical Psychology, 48, 723-729.

Wertheim, E. H., Paxton, S. J., Maude, D., Szmukler, G. I., Gibbons, K., & Hiller, L. (1992). Psychosocial predictors of weight loss behaviors and binge eating in adolescent girls and boys. International Journal of Eating Disorders, 12, 151-160.

Williams, G. J., Chamove, A. S., & Millar, H. R. (1990). Eating disorders, perceived control, assertiveness, and hostility. British Journal of Clinical Psychology, 29, 327-335.

Williamson, D. A., Davis, C. J., Goreczny, A. J., & Blouin, D. C. (1989). Body-image disturbances in bulimia nervosa: Influences of actual body size. Journal of Abnormal Psychology, 98, 97-99.

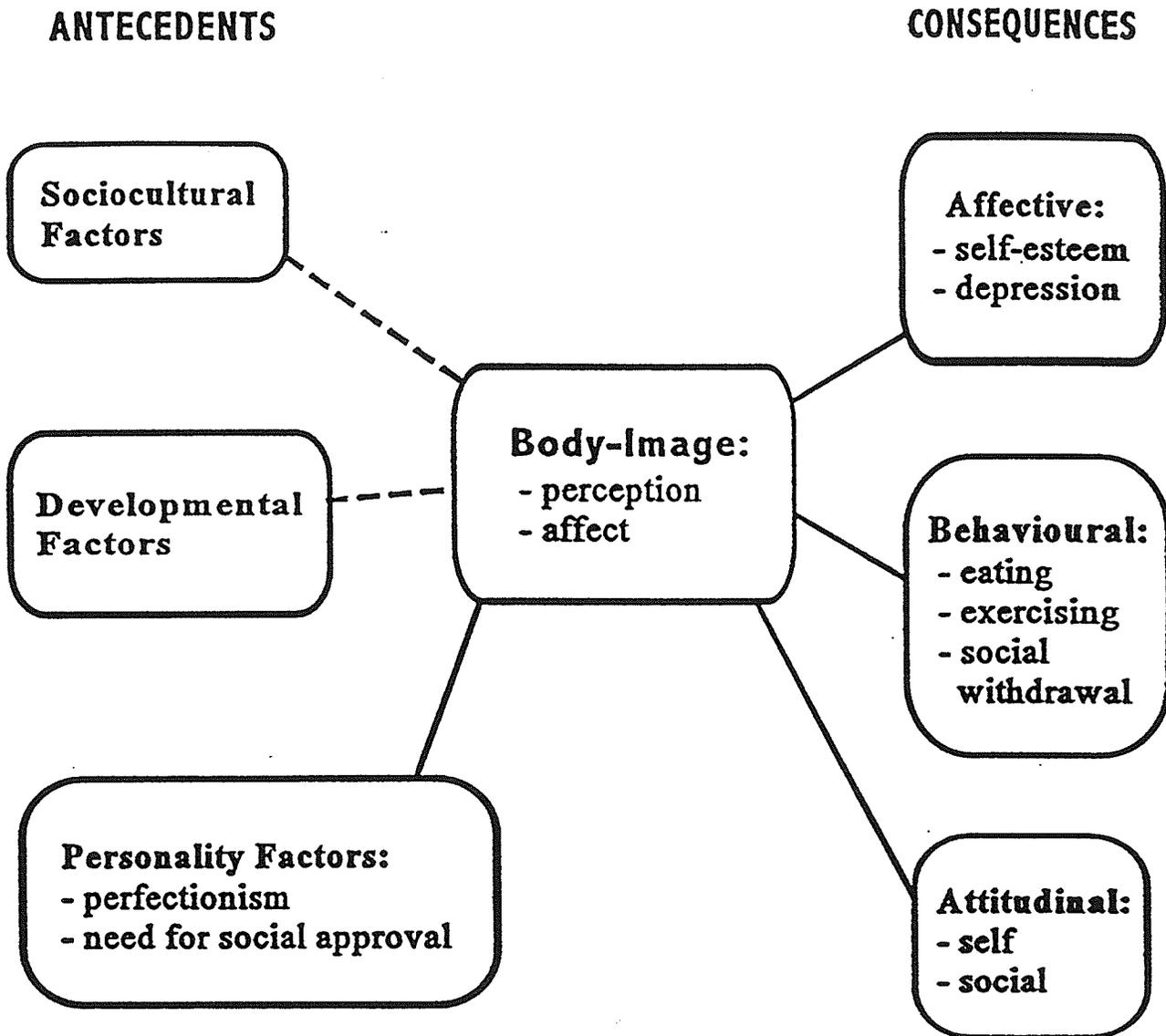
Williamson, D. A., Kelley, M. L., Davis, C. J., Ruggiero, L., & Blouin, D. C. (1985). Psychopathology of eating disorders: A controlled comparison of bulimic, obese, and normal subjects. Journal of Consulting and Clinical Psychology, 53, 161-166.

Wilson, G. T., & Pike, K. M. (1993). Eating disorders. In D. M. Barlow (Ed.), Clinical handbook of psychological disorders (2nd ed., pp. 278-317). New York: Guilford Press.

Wiseman, C. V., Gray, J. J., Mosimann, J. E., & Ahrens, A. H. (1992). Cultural expectations of thinness in women: An update. International Journal of Eating Disorders, 11, 85-89.

Appendix A

Body-image Conceptual Framework



Note. Solid lines represent relations included in present investigation. Broken lines represent relations not included in present investigation.

Appendix B

Body Figures Ratings Scale

Look first at the array of drawings of figures from the HEAD TO WAIST (top row).

Choose the number below the HEAD TO WAIST figure which best illustrates how you think you currently look. Choose the figure that best represents YOUR ACTUAL FIGURE, and blacken the corresponding bubble from -4 to +4. (Do not blacken the "0").

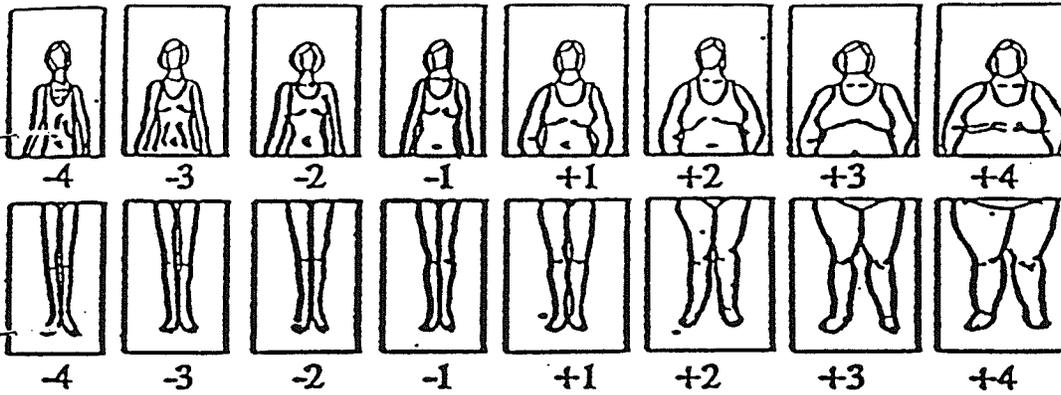
Choose the HEAD TO WAIST figure that best represents how you would like to look, YOUR IDEAL FIGURE, and blacken the corresponding bubble from -4 to +4 (Do not blacken the "0").

Now repeat the procedure working with the figure drawings from WAIST TO FEET (bottom row).

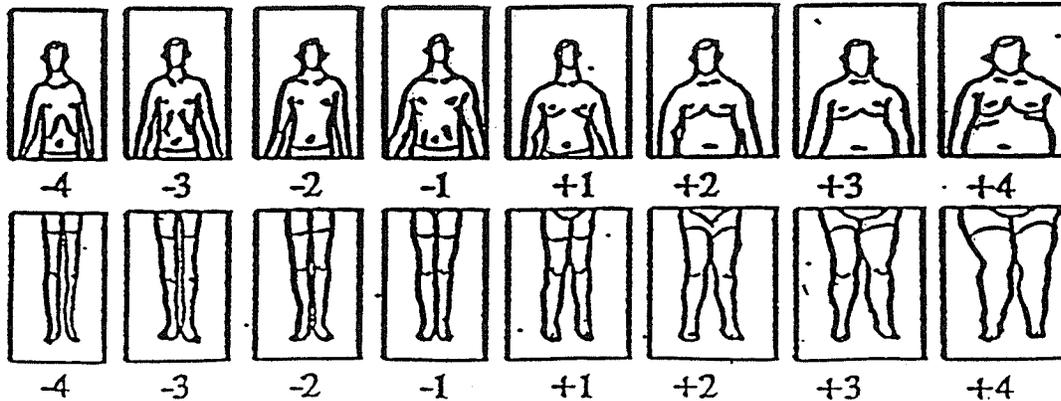
Choose the number below the WAIST TO FEET figure which best illustrates how you think you currently look. Choose the figure that best represents YOUR ACTUAL FIGURE, and blacken the corresponding bubble from -4 to +4. (Do not blacken the "0").

Choose the WAIST TO FEET figure that best represents how you would like to look, YOUR IDEAL FIGURE, and blacken the corresponding bubble from -4 to +4 (Do not blacken the "0").

FEMALE



MALE



## Appendix C

Body Image Perceptions Scale

The statements listed below describe the **perceptions you may have of yourself**. Complete each statement by indicating the option from the following scale that best describes how you feel by blackening the corresponding bubble on the computer-marked sheet.

- 3 = much too small
- 2 = somewhat too small
- 1 = a little too small
- 0 = just the right size
- +1 = a little too big
- +2 = somewhat too big
- +3 = much too big

**Note: Do not blacken -4 or +4 on the IBM answer sheet.**

1. I think my stomach is...
2. I think my face is...
3. I think my chest is...
4. I think my hips are...
5. I think my thighs are...
6. I think my arms are...
7. I think my rear end is...
8. In general, I think my figure/physique is...

## Appendix D

Experimenter Statement for Beginning of Session

1. Thanks for participating in this study.
2. This is a survey of students' attitudes on a number of social and personal issues. The session will last for one hour. All of your answers will be kept confidential, and the anonymity of your responses will be maintained. So please do not write your name on the question or answer sheets.
3. There are no right or wrong answers to any of these questions, just your own personal opinions. We have found that your initial gut response is usually the best, so try not to overanalyze the questions. Please answer the questions in the order presented to you, and do not go back to change any of your responses.
4. There are actually a number of scales included in the question booklet, so it is important for you to read the instructions carefully. All of your responses are to be recorded on the answer sheet, except where indicated for you to fill in information. Some scales use a range of responses from 1 to 4. Another uses a -4 to +4 scales, etc.
5. Please do these on your own without talking to each other or looking at anyone else's answers. It is important that you take this seriously. Thanks for your consideration in this matter.
6. If you have any questions when you are completing the questionnaire, please raise your hand and I will do my best to answer them. You will be asked to rip-off the last page so you will be handing in 3 things: a questionnaire booklet, IBM sheet, and demographic sheet. As well, at this time I want to mention that you may withdraw from this study at anytime without experimental penalty.
7. I will be passing around experimental sign-up sheets. We need your name, student number, and telephone number.

Appendix E

Marlowe-Crowne Social Desirability Scale (MCSD)

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Appendix E (continued)

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Appendix F

Marlowe-Crowne Social-Desirability Scale (MCSD) Scoring Instructions

Items which are keyed TRUE:

1,2,4,7,8,13,16,17,18,20,21,24,25,26,27,29,31,33

Items which are keyed FALSE:

3,5,6,9,10,11,12,14,15,19,22,23,28,30,32

Responses in the keyed direction are scored as 1 point. The total score is the sum of the points for responses in the keyed direction.

Appendix G

Multidimensional Perfectionism Scale (MPS): Self-Oriented and Socially-Prescribed Subscales

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Appendix H

Multidimensional Perfectionism Subscales Scoring Instructions

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Appendix I

State Self-Esteem Scale (SSES)

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Appendix J

State Self-Esteem Scale (SSES) Subscales and Scoring Instructions

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Appendix K

Centre for Epidemiologic Studies Depression Scale (CES-D)

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Appendix L

Centre for Epidemiologic Studies Depression Scale (CES-D) Scoring Instructions

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Appendix M  
Single Item Measure of Body-image Satisfaction\Dissatisfaction

Please indicate how you feel about the way your body looks.

- 3 = very dissatisfied
- 2 = moderately dissatisfied
- 1 = somewhat dissatisfied
- 0 = neutral
- +1 = somewhat satisfied
- +2 = moderately satisfied
- +3 = very satisfied

## Appendix N

Body Attitudes and Behaviour Scale (BABS)

**INSTRUCTIONS:** The following questions ask about your personal attitudes. Your responses will be strictly confidential, so **please be as frank as you can**. Complete each statement by indicating the option from the following scale that best describes how you feel by blackening the corresponding bubble on the computer-marked sheet.

- 3 = never
- 2 = seldom
- 1 = sometimes
- 0 = \* DO NOT MARK
- +1 = often
- +2 = usually
- +3 = always

**NOTE: Do not blacken -4, 0, or +4.**

1. I am self-conscious about my body shape and size.
2. I think that my physical appearance influences how others think of me.
3. I think I am attractive.
4. I am conscious of how much I eat.
5. My physical appearance is very important to me.
6. I am aware of changes in my weight.
7. I am critical of my body.
8. I avoid looking at myself in the mirror.
9. I worry about gaining or losing weight.
10. I am unhappy about the shape I am in.
11. I wonder if other people find me physically attractive.
12. I wonder if members of the opposite sex find me physically attractive.
13. I go on diets to try to reduce my weight.
14. I eat special foods, food additives, or drinks to try to increase my body size.
15. I eat special foods, food additives, or drinks to try to reduce my weight.
16. I exercise to try to reduce my weight.
17. I exercise or work out to try to increase my body size.
18. I use medication to try to reduce my weight.
19. I use performance enhancing medication to try to increase my body size.
20. I skip meals to try to control my weight.

Appendix N (continued)

21. I induce vomiting to control my weight.

22. How many days per week do you engage in physical exercise?

-3 = 1 day per week

-2 = 2 days

-1 = 3 days

0 = 4 days

+1 = 5 days

+2 = 6 days

+3 = 7 days

23. On average, how long do you exercise each day? (round to the closest 30 minute interval)

-3 = 30 minutes or less

-2 = 1 hour

-1 = 1 hour 30 minutes

0 = 2 hours

+1 = 2 hours 30 minutes

+2 = 3 hours

+3 = more than 3 hours per day.

## Appendix O

Body Attitudes and Behaviour Scale (BABS) Factor StructureSelf-Consciousness (SELFCON)

1. I am self-conscious about my body shape and size.
4. I am conscious of how much I eat.
5. My physical appearance is very important to me.
6. I am aware of changes in my weight.
7. I am critical of my body.
9. I worry about gaining or losing weight.

Social Consciousness (SOCCON)

2. I think that my physical appearance influences how others think of me.
11. I wonder if other people find me physically attractive.
12. I wonder if members of the opposite sex find me physically attractive.

Attractiveness (ATTRACT)

3. I think I am attractive.
8. I avoid looking at myself in the mirror. (R)
10. I am unhappy about the shape I am in. (R)

Gain (GAIN)

14. I eat special foods, food additives or drinks to try to increase my body size.
17. I exercise or workout to try to increase my body size.
19. I use performance enhancing medication to try to increase my body size.

Reduce (REDUCE)

13. I go on diets to try to reduce my weight.
15. I eat special foods, food additives, or drinks to try to reduce my weight.
16. I exercise to try to reduce my weight.
18. I use medication to try to reduce my weight.
20. I skip meals to try to control my weight.
21. I induce vomiting to try to control my weight.

Note. (R) indicates these items are reverse scored.

Appendix P

Questions Added to the Body Attitudes and Behaviours Scale (BABS)

1. I wear baggy or loose-fitting clothing in order to hide my body shape and size.
2. I like to wear the kind of clothing that shows my body shape and size.
3. When I am in public, I eat less than I normally would.
4. I turn down invitations to go out when I feel uncomfortable about my body.
5. I avoid swimming pools and the beach because I feel self-conscious about my body.
6. I avoid situations in which people might notice my body shape and size

Appendix Q

Demographics Questionnaire

Please complete the following questions by specifying where indicated or circling the appropriate choice, keeping in mind that all responses are completely confidential.

Age: \_\_\_\_\_

Sex: \_\_\_\_\_ female                      \_\_\_\_\_ male

Ethnic Group:

- \_\_\_\_\_ white
- \_\_\_\_\_ black
- \_\_\_\_\_ asian
- \_\_\_\_\_ east indian
- \_\_\_\_\_ west indian
- \_\_\_\_\_ north american indian
- \_\_\_\_\_ other

Marital Status:

- \_\_\_\_\_ single
- \_\_\_\_\_ cohabitating
- \_\_\_\_\_ married
- \_\_\_\_\_ separated or divorced, not remarried

Your height: \_\_\_\_\_ ft      \_\_\_\_\_ inches

Your weight: \_\_\_\_\_ lbs.

Your desired or ideal weight: \_\_\_\_\_ lbs.

During the past two years, how many times have you attempted to lose weight?

\_\_\_\_\_

During the past two years, how many times have you attempted to gain weight or body size?

\_\_\_\_\_

Are you presently dieting?                      YES                      NO

Are you presently attempting to gain weight or body size? YES                      NO

Appendix R

Survey Booklet Cover Sheet

Introduction

Welcome. Thank-you for taking the time to attend today. We appreciate the effort you have made, and your participation will greatly benefit our study.

*All information pertaining to you will remain anonymous and confidential.* For the purpose of analyzing the data, all subjects will be represented by a subject number, and so no one will know how each individual responded. We would appreciate your honesty in responding.

You are free to withdraw from this session at any time without loss of experimental credit. As well, if you prefer not to answer a question, you are free to omit it. After the study has been completed, we will describe it in greater detail and give you an opportunity to receive the results of the study.

Please do not write your name on any of these pages.

You will be asked to answer a number of question sets. Once a question set has been completed, please place it face down; there is no need to turn back to any of your previous responses. We also suggest that you not dwell too long on any one question, usually your "first reaction" is the best.

PLEASE PROCEED TO THE FIRST QUESTIONNAIRE.

## Appendix S

Subject Feedback

Thank you for participating in the study entitled "Body Image Perceptions". I will now provide you with some feedback regarding the nature of the study. Please do not share this information with your friends or family members, since I am still collecting data, and subjects might respond differently if they knew what this study was about. Thanks for your consideration on this matter.

In body image literature many investigators are trying to determine what influences our self perceptions. As well, previous investigators have developed self report instruments that provide objective information about your body image, and the behaviours associated with this self-concept. We are trying to develop a questionnaire that addresses perceptions as well as emotions, behaviours, and attitudes associated with body image.

This is all I am able to discuss at this time; however, I anticipate being finished analyzing the data within a couple of months and will be able to provide further feedback at that time. Anyone who is interested in obtaining further information about the results of the study can leave a message at the psychology general office for Susan Buchanan (474-9338) or Dr. Gerry Sande ( ). As well, I will be posting the results outside my office in the Duff Roblin Building, room P417 around the same time. Please feel free to stop by and look things over.

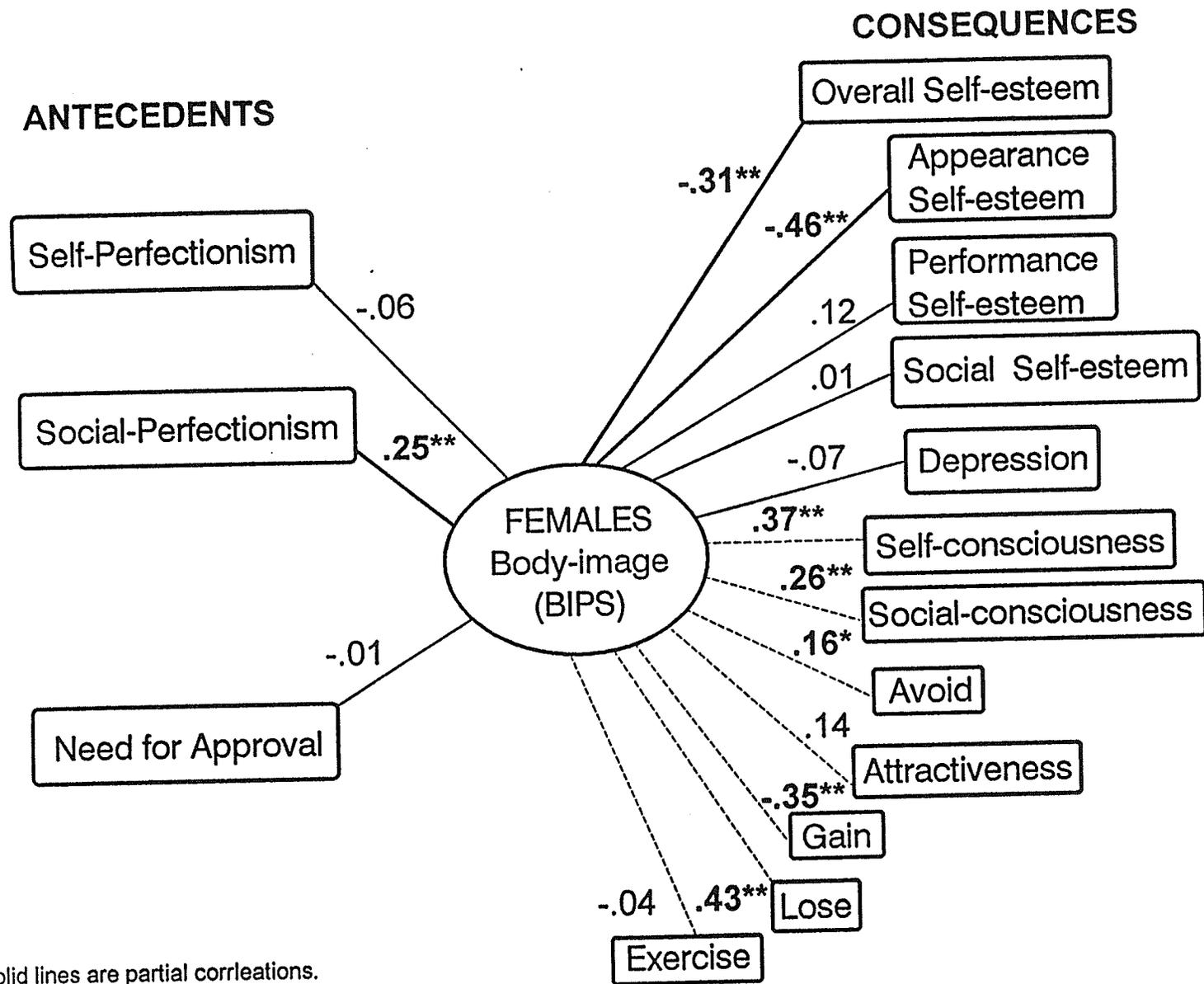
Since we have designed the results in such a way that anonymity and confidentiality of your responses is maintained, we are not able to provide feedback of your individual results. However, if some of the questions I have asked you today leave you feeling hurt or upset, if you would like to discuss your feelings, or would like help dealing with them, the following resources are available to you. These are the University of Manitoba Counselling Centre in University Centre (474-8592), the Psychological Service Centre in Fletcher Argue Building (474-9222), or Klinik Crisis line (269-6836). Please not hesitate to use these services.

Thank-you once again for participating in our study.

Dr. Gerry Sande & Susan Buchanan

Figure Caption

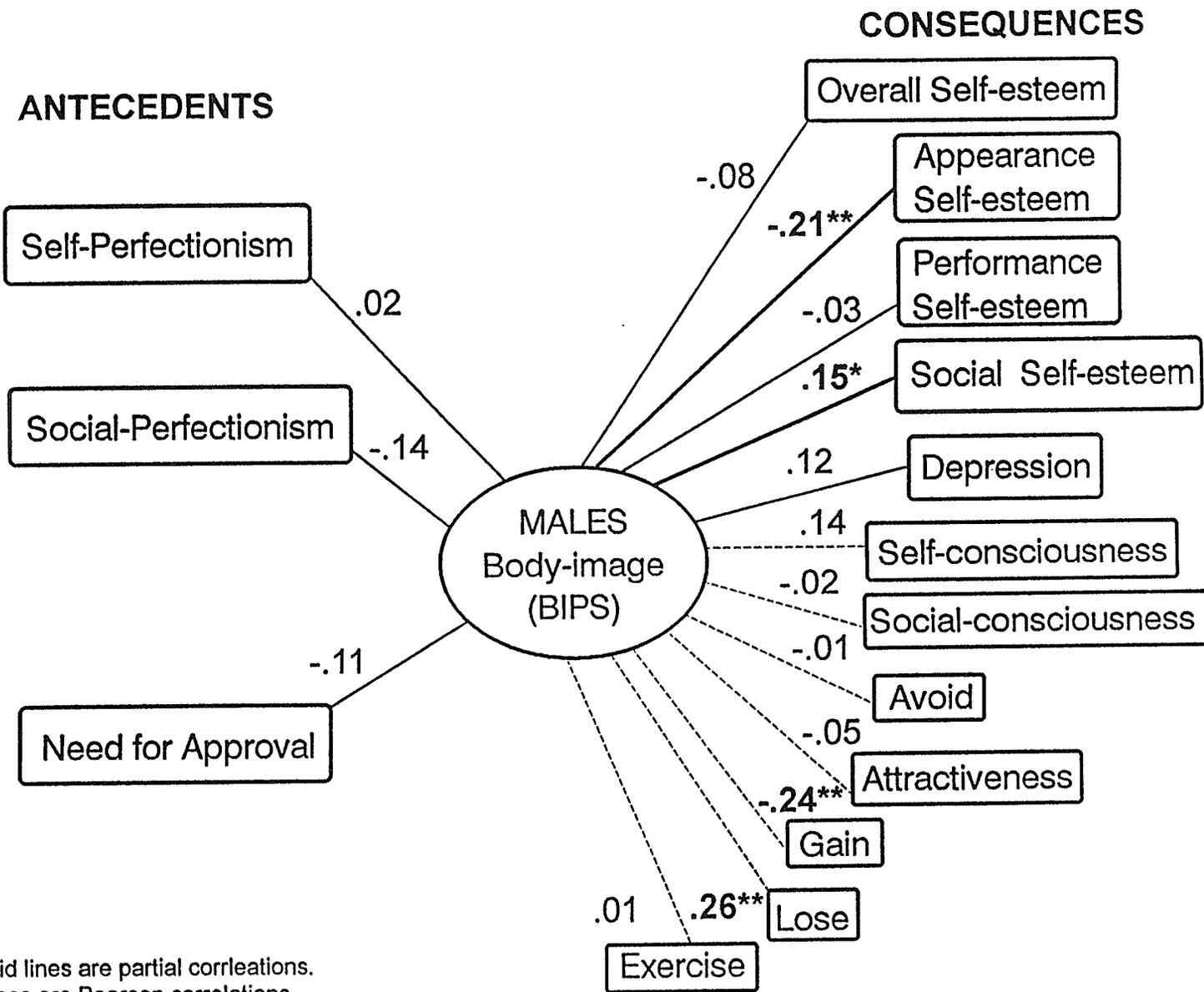
Figure 1. Correlations and partial correlations among variables for the BIPS with female subjects.



Note. Solid lines are partial correlations.  
 Broken lines are Pearson correlations.

Figure Caption

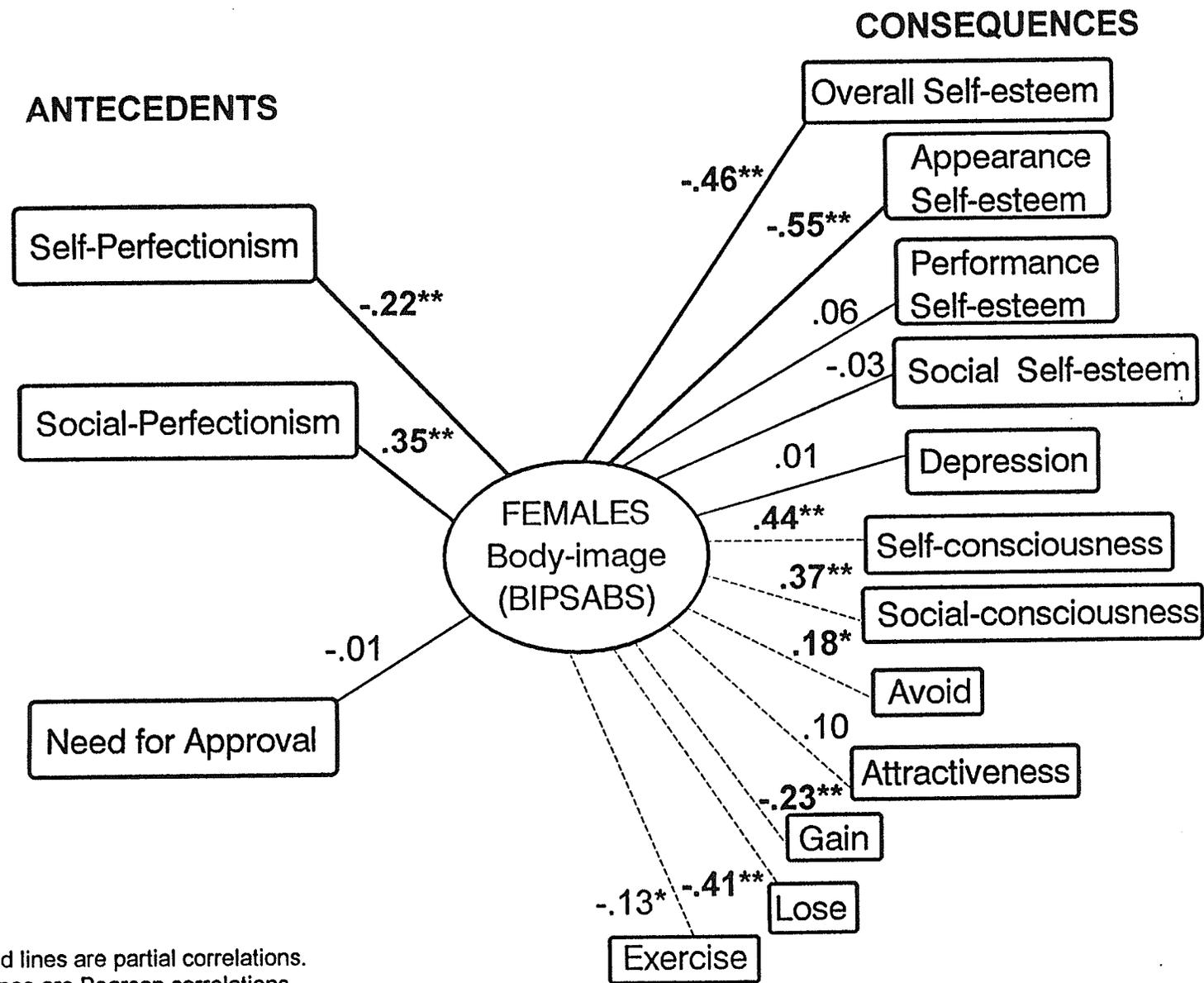
Figure 2. Correlations and partial correlations among variables for the BIPS with male subjects.



Note. Solid lines are partial correlations.  
Broken lines are Pearson correlations.

Figure Caption

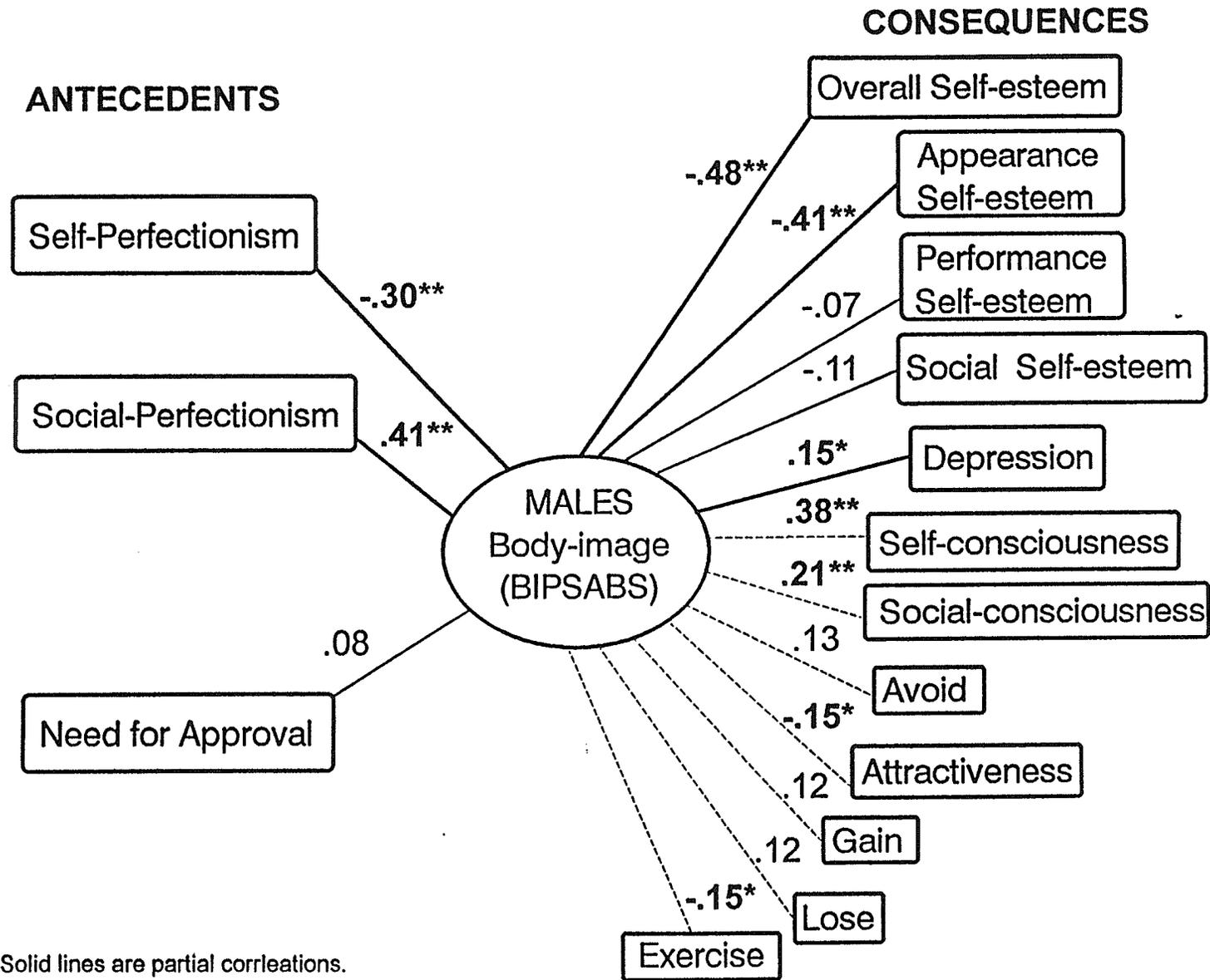
**Figure 3.** Correlations and partial correlations among variables for the BIPS absolute deviation from ideal with female subjects.



Note. Solid lines are partial correlations.  
Broken lines are Pearson correlations.

Figure Caption

Figure 4. Correlations and partial correlations among variables for the BIPS absolute deviation from ideal with male subjects.



Note. Solid lines are partial correlations.  
Broken lines are Pearson correlations.

Figure Caption

Figure 5. Percentage of Subjects in Each BIPS Category: A Comparison of Males and Females

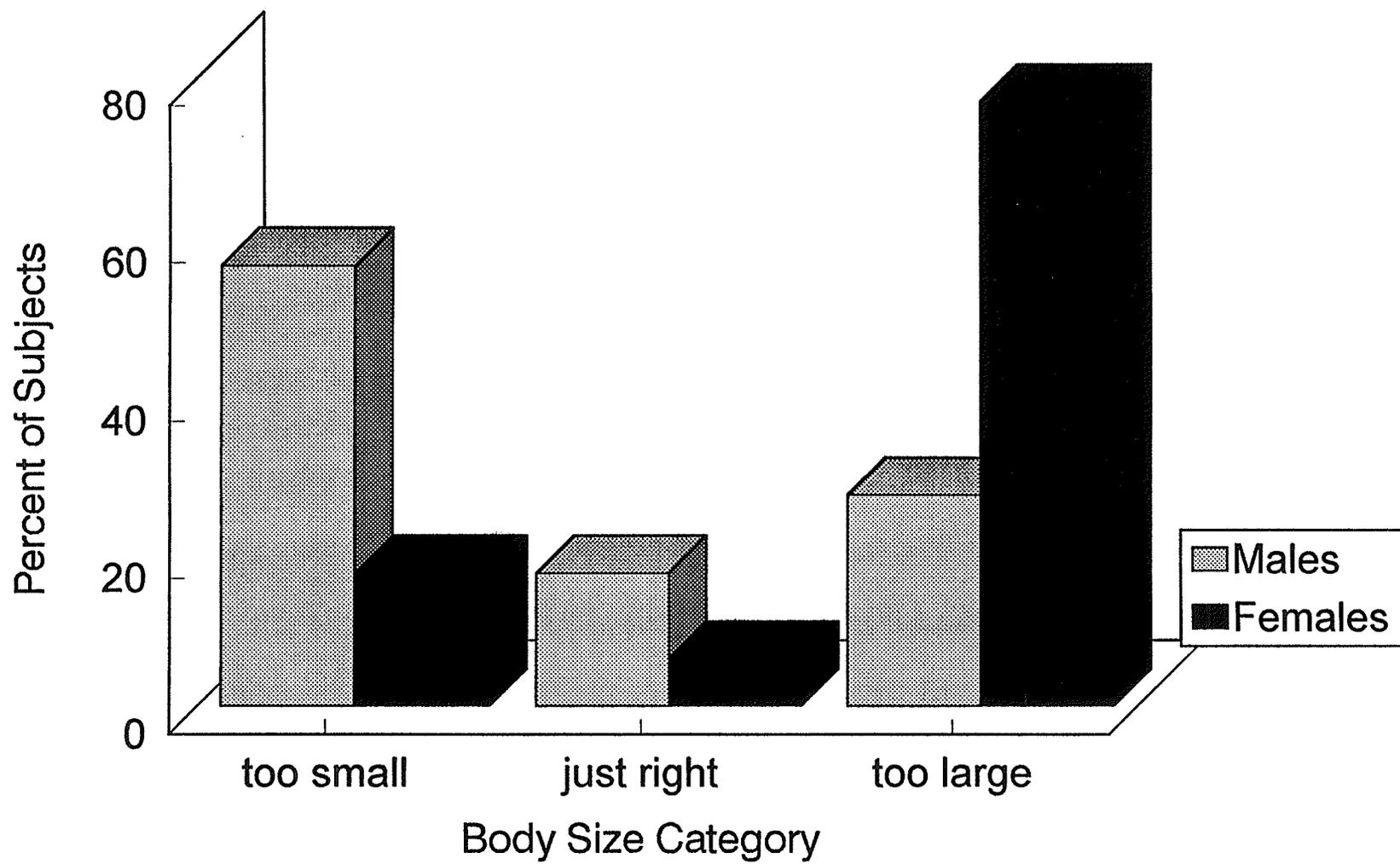


Figure Caption

Figure 6. Frequency of Scores for the BIPS: A Comparison of Males and Females

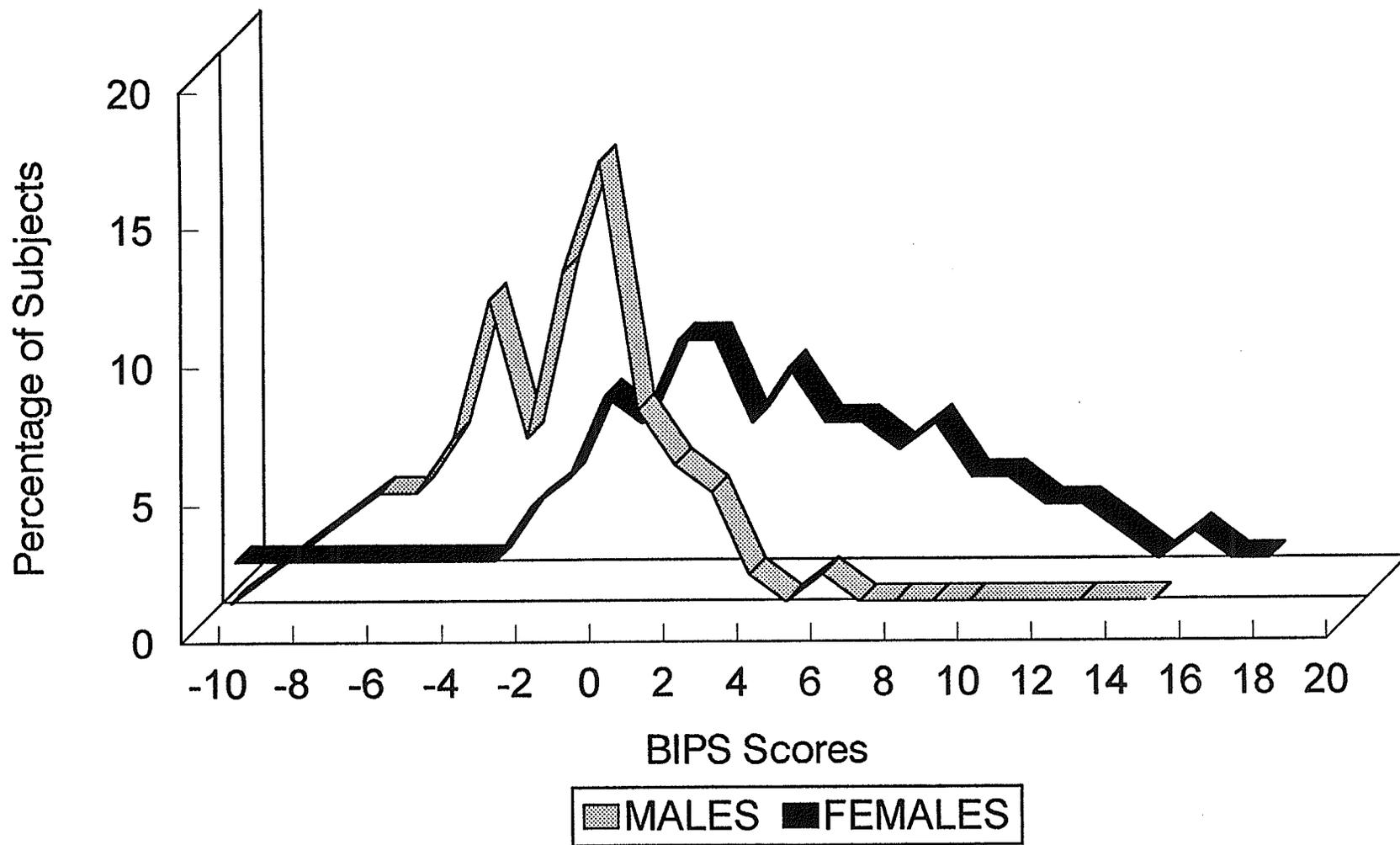


Figure Caption

Figure 7. Frequency of Scores for the BIPSABS: A Comparison of Males and Females

