

COGNATES OF PERSONAL CONTROL AND
MALADAPTIVE PATTERNS OF EATING

By

ELIZABETH MURPHY PETRIN

Bachelor of Arts
Albertus Magnus College
New Haven, Connecticut
1979

Master of Business Administration
Anna Maria College
Paxton, Massachusetts
1985

Master of Science
Oklahoma State University
Stillwater, Oklahoma
1991

Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
DOCTOR OF PHILOSOPHY
December, 1997

COPYRIGHT

By

Elizabeth Murphy Petrin

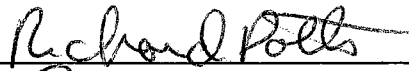
December, 1997

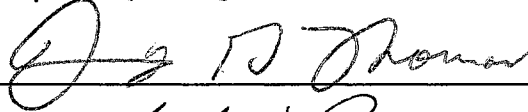
COGNATES OF PERSONAL CONTROL AND
MALADAPTIVE PATTERNS OF EATING

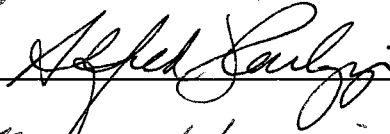
Thesis Approved:

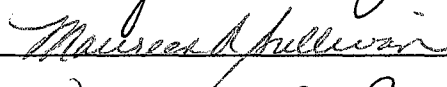


Thesis Advisor











Dean of the Graduate College

ACKNOWLEDGMENTS

No work, from a first book report, to a marketing proposal, or a dissertation can be produced without assistance. I owe a great deal to people too numerous to name who have offered me consultation, support, and kindness. I would like to take some space to single out the following people. I owe the greatest thanks to Dr. John Chaney, for his intelligence, wit, acceptance, and encouragement. I could not have taken my small idea and grown it into a coherent, developed dissertation without him.

I wish to thank Dr. David Thomas for his insistence upon my very best performance. To Drs. Richard Potts and Al Carlozzi, thanks for being a part of my committee.

I want to thank Dee Huggins and Dr. Bob Schlottmann for the support they offered me, while I developed this project. I also wish to thank my good friends, Jan Ruhloff and Vickie Jean, who have been a continuing source of humor, warmth, and sorority.

My family has served as a constant source of support and perspective. Mom, thanks for telling me that I could be whatever I wanted to be and then for standing by me through several career changes. Lin, my sister and my friend, I feel that 11 p.m. hot fudge sundaes played an invaluable role in the development of this project, thanks for sharing! Ron, words cannot adequately express my feelings so I'll just say "Thank you". Daniel,

Michael, and Christopher, thank you for keeping me balanced and focused on life's most important joys -- you. It is to Ron, Daniel, Michael, and Christopher that I dedicate this work.

TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION.....	1
II. STATEMENT OF THE PROBLEM.....	3
Distal Antecedents: Genetic and Family Factors.....	3
Proximal Antecedents: Sociocultural Factors, Individual Traits, Depression, Dieting History, And Stress.....	5
Consequences of Disturbed Eating Behavior.....	10
III. COGNATES OF PERSONAL CONTROL: ATTRIBUTIONAL STYLE, SELF-EFFICACY, AND PERCEIVED CONTROL.....	13
Attributional Style.....	13
Self-efficacy.....	14
Perceived Control.....	15
Self-efficacy, Attributions, and Eating Behavior.....	17
IV. THE PRESENT STUDY.....	24
V. METHODS.....	30
Participants and Procedure.....	30
Instruments.....	30
Analyses.....	34
VI. RESULTS.....	36
Preliminary Analyses.....	36
Primary Analyses.....	36
Summary.....	42
Additional Analyses.....	43

VII. DISCUSSION.....	44
Limitations.....	49
REFERENCES.....	51
APPENDICES.....	65
APPENDIX A--BACKGROUND INFORMATION QUESTIONNAIRE.....	65
APPENDIX B--PERCEIVED CONTROL OF WEIGHT AND DIETING.....	68
APPENDIX C--INVENTORY TO DIAGNOSE DEPRESSION.....	72
APPENDIX D--EATING DISORDER INVENTORY.....	75
APPENDIX E--ATTRIBUTIONAL STYLE QUESTIONNAIRE.....	81
APPENDIX F--WEIGHT-EFFICACY LIFESTYLE QUESTIONNAIRE.....	86
APPENDIX G--INSTITUTIONAL REVIEW BOARD APPROVAL.....	89

LIST OF TABLES

Table		Page
I.	Zero-Order and Partial Correlations Among Study Variables.....	91
II.	Summary of Hierarchical Multiple Regression Analyses Examining The Interaction of The Three Dimensions of Attributional Style With Eating Self-Efficacy on Maladaptive Eating.....	92
III.	Summary of Hierarchical Multiple Regression Analyses Examining The Interaction of The Three Dimensions of Attributional Style With Perceived Control on Maladaptive Eating.....	94

LIST OF FIGURES

Figure		Page
1.	Model of a Mediator Relationship Among the Study Variables.....	96
2.	Model of a Moderator Relationship Among the Study Variables.....	97

CHAPTER 1

Introduction

Caucasian females in Western societies have become obsessed with obtaining the ideal weight and slender body shape. Garner, Garfinkel, Schwartz, and Thompson (1980) reviewed height and weight data for both Miss America contestants and Playboy centerfolds for the years from 1959 to 1978 and found a 10% decrease over the twenty year span in the average weight for height of these women. A cursory glance at an array of popular magazines reveals that this trend toward thinness continues. Most females will not, for various reasons, be able to achieve this ideal, but that will not stop them from trying. It is estimated that 40 percent of American women will be engaged in dieting over the next year (Brownell & Rodin, 1994). Research indicates however that these attempts will be, in the main, unsuccessful. Interestingly, despite our society's pursuit of the thin, feminine ideal, women actually have grown heavier in the recent past (Brownell & Wadden, 1992).

Brownell and Rodin (1994) indicate two assumptions that underlie the pursuit of the thin ideal feminine form. The first assumption is the belief that attaining physical attractiveness will lead to both social and psychological benefits. The second assumption is that the body is under personal control; it can be shaped to meet expectations. Of course, the corollary to this belief is that the inability to attain the desired figure indicates a lack of control and a personal failure.

Acceptance of these assumptions will affect the behavior of most American women. These women will engage in a continuum of maladaptive eating behaviors ranging

from repeated dieting with occasional binging or purging to engaging in these behaviors to such a degree that they are diagnosed with an eating disorder. While only a small percentage of these women will be diagnosed with eating disorders, most will engage in eating behaviors, such as chronic dieting, that are unhealthy. Chronic dieting, or restraint, has been shown to lead to disinhibition and to maladaptive eating behavior in samples of women without eating disorders (Hsu, 1990; Polivy & Herman, 1985).

Acceptance of these assumptions will also lead to alterations in mood. Research has shown that failure to achieve the desired body shape can lead to lower self-esteem and dysphoric mood (Hsu, 1990; Noles, Cash, & Winstead, 1985).

Finally, accepting these assumptions can lead to distorted cognitions about personal control of eating. These cognitions can, in turn, lead to a cycle of further maladaptive eating behavior and further alterations in mood. This cycle can have lasting negative effects of the self-esteem of women.

A limited amount of research has examined the role that two cognates of personal control, attributional style and self-efficacy for eating, play in maladaptive eating (Bennett, 1986; Bernier & Avard, 1986; Bradley, Poser, & Johnson, 1980; Foster & Jeffrey, 1986; Glynn & Ruderman, 1986; Goodrick, Reynaud, Pace, & Foreyt, 1992; Jeffrey, French, & Schmid, 1990; Mitchell & Stuart, 1984; Ogden & Wardle, 1990; Stotland, Zuroff, & Roy, 1991; Stotland & Zuroff, 1991; Weinberg, Hughes, Critelli, England, & Jackson, 1984). However, there has been no exploration of possible interrelationships of these cognates as they affect maladaptive eating. This dissertation will explore the possible

However, there has been no exploration of possible interrelationships of these cognates as they affect maladaptive eating. This dissertation will explore the possible mediator/moderator relationships between attributional style and eating self-efficacy as they affect maladaptive eating. It will also examine the possibility of similar mediator/moderator relationships between attributional style and perceived control of eating as these two cognates relate to maladaptive eating. The discussion will begin by elaborating on the proximal and distal antecedents to maladaptive eating behavior that merit consideration in the research design. Then the three cognates of attributional style, eating self-efficacy, and perceived control will be clearly defined. The existing literature on these cognates will then be examined. Finally a study is discussed that examined the interrelationships among attributional style, perceived control, and self-efficacy and their relationship to maladaptive eating behavior.

CHAPTER 2

Statement Of The Problem

Vitousek and Orimoto (1993) have developed a cognitive-behavioral model for anorexia nervosa in which both distal and proximal antecedents lead to symptomatic behavior, which feeds into a self-reinforcing pattern. This model can be generalized to include maladaptive eating behavior because the literature shows that similar cognitive factors come into play in both diagnosable disordered eating and maladaptive eating patterns. A thorough consideration of this model is merited because its antecedents should be considered in any study of maladaptive eating.

Distal Antecedents: Genetic and Family Factors

Two distal antecedents leading to disturbance in eating are cited by Vitousek and Orimoto (1993). The first is genetic vulnerability. Twin studies of anorexics indicate a 50% concordance rate for monozygotic twins, whereas the rate for dizygotic twins is a much lower 7% (Hsu, 1990, provides a detailed review of all of these studies). There have been no twin studies published on bulimics, but available research does indicate an increased tendency toward bulimia among first degree relatives of bulimics (Hsu, 1990; APA, 1994). Both twin and adoption studies have shown a genetic contribution to the development of obesity, but recent literature has suggested that genetic factors may account for as little as 10% of variance in actual body weight among adults and children (Allison & Heshka, 1993; Epstein & Cluss, 1986; Linscheid, Tarnowski, & Richmond, 1988). There have been no known systematic adoption studies done for anorexics or bulimics. Thus, the empirical literature on genetic factors has not yet fully explored the

potential influence that heredity may have on the development of eating disorders.

The research literature has provided ample evidence of the role that the family environment can play in the predisposition of females to the development of eating disorders and obesity. Researchers have described the types of families and family interactions that might foster the development of obesity and eating disorders in their adolescent children (Hecker, Martin, & Martin, 1986; Hsu, 1990; Kinston, Miller, Loader, & Wolff, 1990).

A great deal of systematic research has been done on the etiology and treatment of childhood obesity. Children of two obese parents have been shown to have an 80% greater chance than their peers of becoming obese themselves (Lincheid et al., 1988). Epstein and his colleagues have found that treatment of this problem is far more effective if both parents are actively involved and have changed their eating and physical activity patterns along with their child (Epstein & Wing, 1987; Epstein, Wing, Koeske, & Valoski, 1986; Epstein et al., 1989; Epstein, McCurley, Wing, & Valoski, 1990).

Summary. Genetic and family factors do appear to play a role in the predisposition of an individual to develop maladaptive eating patterns, but their influence is limited. Other antecedents, much more proximal, such as the disturbance of cognitions about personal control of weight and behavior, appear to exert a greater influence over the development of maladaptive eating (Hsu, 1990; Vitousek & Orimoto, 1993).

Proximal Antecedents: Sociocultural Factors, Individual Traits, Depression, and Stress

Sociocultural Factors.

In their cognitive-behavioral model, Vitousek and Orimoto (1993) have cited sociocultural factors as being important proximal causes in the development of maladaptive eating. Concern with weight and dieting has certainly been shown to begin early in American society and to increase with age. By as early as eight years of age, children are already expressing desires to be thinner and many have already attempted to lose weight (Maloney, McGuire, Daniels, & Specker, 1989).

As white females move into adolescence, they have reported growing fears of becoming obese; engaged in more chronic dieting; and employed more maladaptive weight control techniques (e.g., self-induced vomiting and laxative ingestion) (Casper & Offer, 1990; Moses, Banilivy, & Lifshitz, 1989; Story et al., 1991). Distortion in estimates of ideal body weight have been shown to be widespread, and even underweight adolescent females have reported that they are heavier than they should ideally be (Moses et al., 1989). By the time Caucasian females reach college age, they appear to be deeply concerned with obtaining and maintaining a thin body and are likely to use a variety of risky methods to reach their ideal (Hesse-Biber, 1989).

Chronic dieting in an effort to achieve the desired thin body shape has become so widespread that researchers have come to view it as the norm (Polivy & Herman, 1987). This same drive for thinness has been noted cross-culturally in samples from other Westernized countries (Dolan & Ford, 1991; Paxton et al., 1991). The drive for a thin body appears to relate to socioeconomic status as well as to the assimilation of Western

cultural norms. A strong inverse relationship has been noted between obesity and socioeconomic status for women (Sobal & Stunkard, 1989). This relationship appears to also hold true for black females from higher socioeconomic groups (Anderson & Hay, 1991).

Other researchers, however, have noted differences between black and white females in their concern with weight and dieting (Casper & Offer, 1991; Gray, Ford, & Kelly 1987). Disordered attitudes about eating and dieting behaviors in black women seem to be more related to actual weight problems than they are for white women (Abrams, Allen, & Gray, 1993).

Neither adolescent nor adult males demonstrate the same concern with dieting. Both black and white males report fewer concerns about weight and becoming obese (Casper & Offer, 1991; Story et al., 1991). When males have experienced problems with weight, they report using much more adaptive methods, such as increased exercise, to change the shape of their bodies (Story et al., 1991).

Summary. Sociocultural factors have proven to be important proximal antecedents for maladaptive eating behaviors. White females appear to believe that they can use personal control to shape their bodies into their desired thin shape. They become dissatisfied with the shapes of their bodies and begin dieting before puberty--engaging in increasingly risky methods to control their weight. They may well have been reinforced with attention and feelings of pride for their efforts by a society in which chronic dieting has become the norm.

Individual Traits. Vitousek and Orimoto (1993) have also cited individual traits

such as low self-esteem, maturity fears, and perfectionism as antecedent factors that might lead to maladaptive eating behavior. There are two additional factors that should be added to this list: history of dieting efforts and satisfaction with current body shape (Hsu, 1990).

The relationship between low self-esteem and increased dissatisfaction with physical appearance has been noted in the literature (Garner, 1991; Mable, Balance & Galgan, 1986; Mintz & Betz, 1986; Thompson, 1990; Fabian & Thompson, 1990; Thompson & Thompson, 1986). This relationship appears to be especially salient for the white adolescent female, who is most at risk for dissatisfaction with her appearance and may seek to enhance her self-esteem by exercising control over her weight (Altabe & Thompson, 1993; Rozin & Fallon, 1988).

The fear of reaching the physically mature state of adulthood and the desire for perfection have also been suggested as predisposing factors in the literature on eating disorders (Garner, 1991; Hsu, 1990). Crisp (1980) has found that fear of maturity can lead to attempts to avoid it by keeping body fat at a point below which puberty can occur. Slade (1982) has also suggested that the belief that one's performance is always expected to be of the highest standards can lead easily to either anorexia or bulimia as one seeks to achieve the desired state of thinness.

Hsu (1990) has stated that dieting itself may lead to eating disorders and disturbances. Herman and Polivy (1984) have proposed a boundary model for the regulation of eating that helps to explain how dieting changes the boundaries that normally signal the onset and offset of eating. Chronic dieting will lead one to ignore the physiological signs that signal the need to eat and will stop one before reaching the point

of satiety. In effect the organism learns to respond to cognitively imposed limits rather than physiological signs-- leading one to either set closer and closer boundaries or to ignore satiety cues and engage in disinhibited eating or bingeing (Herman & Polivy, 1984). The research that Polivy and Herman have done supports the idea of disinhibition of eating under a variety of threats to self-control such as ego threats, low self-esteem, and anxiety (Herman & Polivy, 1975; Polivy, Heatherton, & Herman, 1988; Polivy & Herman, 1985; See Ruderman, 1986 for a complete literature review). Thus, dieting itself may to be an antecedent factor in the development of maladaptive eating.

Summary. The individual traits of self-esteem, dissatisfaction with body shape, fears of reaching physical maturation, and history of dieting have been demonstrated to be pivotal factors in the development of maladaptive eating behavior. Caucasian females who have a low sense of self-esteem and are dissatisfied with the shape of their bodies, or those who express fears of physical maturation, will engage in restriction of caloric intake. Repeated dieting can exacerbate maladaptive eating behavior by altering the boundaries of satiety, thus setting up a cycle for further maladaptive eating.

Depression. Vitousek and Orimoto (1993) have noted depression as a consequence of engaging in eating disordered behavior. Depression however can also be a contributing antecedent in maladaptive eating (Hsu, 1990). It has been found to be an important predictor of binge eating behavior in bulimics and binge eaters (Greenberg, 1986; Greenberg & Harvey, 1987). Obese subjects who binge are more likely to display significantly increased depressive symptomatology than obese subjects who do not binge (Marcus, Smith, Santelli, & Kaye, 1992). Bulimics have also been reported to experience

more dysphoric moods than nonbulimics (Johnson & Larson, 1982; Schlesier-Carter, Hamilton, O'Neil, Lydiard, & Malcolm, 1989). For both anorexics and bulimics cognitive schemata related to negative body attitudes have been demonstrated to be the most important predictor of severity of depression (Laessle, Kittl, Fichter, & Pirke, 1988).

Summary. The level of depression has also been established to be an important proximal contributor to maladaptive eating behavior. It appears to serve both as an antecedent to and a consequence of patterns of maladaptive eating.

Stress. According to Vitousek & Orimoto (1993) daily stresses can serve as the immediate precipitants of maladaptive eating behavior. These stresses can be as minor as a negative comment about appearance. However, even minor stresses are enough to begin a wide range of maladaptive eating behaviors and to promote the distorted notion that psychological distress will be mitigated by control of weight (Garner, 1991; Hsu, 1990; Vitousek & Orimoto, 1993).

Summary. Proximal factors such as stress, depression, and individual traits may lead to maladaptive eating behavior. Because of their relationship to maladaptive eating, these factors should be considered in any study of such behavior.

Consequences of Maladaptive Eating Behavior

Maladaptive eating behaviors and cognitions lead to both positive and negative consequences. Reinforcement may be obtained both by the admiration of others and by the increased feelings of control that may be achieved (Vitousek & Orimoto, 1993).

Negative physical consequences have also been demonstrated to result from maladaptive eating behaviors and cognitions. Persistent restriction of caloric intake may lead to

anorexia, which affect 0.5 to 1.0% of the population (APA, 1994). Among the medical sequelae of this disorder are amenorrhea, emaciation, hypotension, cardiovascular problems, and anemia (APA, 1994). Persistent bingeing and purging of food has been known to lead to the diagnosis of bulimia, which affects 1 to 3% of the female population (APA, 1994). Physical sequelae for this disorder include extreme erosion of dental enamel, cardiomyopathy, electrolyte disturbances, and cardiac arrhythmias (APA, 1994). Obesity, which affects 24% of American women, (Brownell & Wadden, 1992) can lead to hypertension, diabetes, and to an increased mortality rate (Stunkard, 1984).

Summary. A cognitive-behavioral model developed by Vitousek and Orimoto (1993) was discussed in order to elucidate the antecedents, the behaviors, cognitions, and consequences of maladaptive eating. Noteworthy in this discussion were the findings that eating disturbances arise out of the assumptions that the body is under personal control and that it can be shaped to meet the expectations of society. Thus white adolescent females, particularly those of higher socioeconomic standing, have been shown to engage in a variety of maladaptive behaviors to attain the goal of a thin body. White females found to be particularly at risk for the development of eating disturbances are: those experiencing low self-esteem and negative affect because these lead to intensified body dissatisfaction; those who fear maturation or who have a high drive for perfection; and those who are chronic dieters.

The proximal and distal factors are important because they should be considered in any study of maladaptive eating behavior. The next section of this dissertation will elaborate on the three cognates of personal control that were explored: attributional style;

self-efficacy, and perceived control. Each of these concepts will be defined and then the general research supporting each will be briefly discussed.

CHAPTER 3

Cognates of Personal Control: Attributional Style, Self-Efficacy, and Perceived Control

The constructs of attributional style, self-efficacy, and perceived control arise from White's (1959) theory of effectance motivation which posits that people desire to interact with the world effectively. As Peterson and Stunkard (1992) point out, although these constructs are all cognitive in nature and each deals with how well an individual functions, there are distinct differences among the three. The discussion that follows is designed to delineate these differences.

Attributional Style

Peterson and Stunkard (1992) indicate that attributional or explanatory style arose from the reformulated learned helplessness model of depression. Attributional style is the consistent manner in which people make causal explanations for life events (Abramson, Seligman, & Teasdale, 1978). People make attributions for the cause on three dimensions: internal-external, stable-unstable, and global-specific. (Hereafter these dimensions each of which, occur in a continuum will be referred to as internal, stable, and global.) People's attributional styles fall along a continuum ranging from optimistic to pessimistic (Seligman, 1992). Research has shown that people's explanatory styles can increase their chances of experiencing helplessness, lowered self-esteem, and depression (Peterson & Stunkard, 1992).

Empirical research has supported the notion that attributional style can predict outcomes in a number of domains and over time (Seligman, 1992). Negative attributional style has been found to predict the occurrence of depression in children, adolescents, and

adults (Nolen-Hoeksema, Girgus, & Seligman, 1986; & Peterson, Schwartz, & Seligman, 1981; Seligman et al., 1984;). It has also been employed to predict academic achievement in elementary and college students (Nolen-Hoeksema, Girgus, & Seligman, 1986; Peterson, Colvin, & Lin, 1992). Finally, explanatory style has also been used to predict risk for physical illness (Peterson, 1988; Peterson, Seligman, & Vaillant, 1988). Although attributional style has been shown to be a valuable construct affecting one's sense of personal control, none of the dimensions, as measured by the current available assessment instruments, tap directly into the sense of perceived control.

Self-Efficacy

In Bandura's social learning theory, great importance is placed upon the role of vicarious learning and positive reinforcement in the modification of behavior (Peterson & Stunkard, 1992). Modeling is the behavioral mechanism that is employed to enhance an observer's personal control, or sense of self-efficacy for a specific situation (Bandura, 1977, 1978, 1986). Within the broader frame of self-efficacy, there are two distinct types of expectations (Bandura, 1978). Efficacy expectations are those concerning the person's perceived ability to perform a behavior. Outcome expectations are the beliefs the person holds about the positive outcomes of performing a behavior (Bandura, 1978). Both types of expectations must be enhanced for an overall increase in self-efficacy to occur and behavioral change to take place (Bandura, 1978).

There have been many domain-specific empirical investigations of self-efficacy. The enhancement of self-efficacy through modeling has been shown to reduce snake phobias; as a predictor of behavior in an assertiveness training program; and to decrease

vulnerability in settings where physical risk is involved (Bandura, Adams, Hardy, & Howells, 1980; Ozer & Bandura, 1990). In the clinical domain, decreased self-efficacy has been demonstrated to relate to increased depression (Davis-Berman, 1988; Kavanaugh, 1992). In the area of health behavior, self-efficacy has been used to predict relapse in smoking cessation; has been found to be related to health behavior change; and has been used to enhance coping in those patients with chronic disease (Condiotte & Lichtenstein, 1981; DiClemente, 1981; Strecher, DeVellis, Becker, & Rosenstock, 1986; Holman & Lorig, 1992).

Kirsch (1982, 1985) has been an outspoken critic of Bandura's construct of self-efficacy. He has criticized Bandura's snake phobia studies because of the failure to account for the role that personal incentive plays in behavioral change. He has also criticized Bandura's use of questionnaires that assess willingness to approach feared stimuli rather than measuring ability to engage in such behaviors (Kirsch, 1985).

Perceived Control

Weisz and colleagues have developed a model of perceived control that differs from the other two discussed (Rothbaum, Weisz, & Snyder, 1982). They see two processes involved in perceived control. In the first process, the person perceives that he or she has control over the environment and can change it -- this is known as primary control. If the person does not perceive that he or she has primary control, he or she may then change to fit the environment and this is known as secondary control. Perception of secondary control may lead to those behaviors that other personal control theorists would note as indications of the perception of uncontrollability. For example, the person

exercising this type of control may withdraw from the situation and may attribute his or her failure to chance, limited ability, or to others more powerful than himself or herself. Weisz and his colleagues (1982) argue that four types of secondary control may be gained in this fashion: predictive control, illusory control, vicarious control, and interpretive control. These four forms allow the person to make sense out of seemingly noncontingent events (Rothbaum et al., 1982). Weisz et al. (1982) state that the people most likely to seek secondary control are those experiencing recurrent failure or chronic disability; and those with low self-esteem. Band and Weisz (1988) found that children employ some combination of primary and secondary control in their coping behavior and that few children will entirely relinquish personal control.

Weisz and his colleagues have studied the developmental progression of perceived control and have identified two major dimensions: contingency and competence. They found that the judgement of contingency for events with uncontrollable outcomes decreases with age and that ability to distinguish skill-based outcomes from those based upon chance increases with age (Weisz, 1980; Weisz, Yeates, Robertson, & Beckham, 1982). However, in an analysis of the developmental literature related to locus of control Weisz's and Stipek's (1982) findings were equivocal. They attributed the lack of significant findings to the failure of the literature to distinguish between the two dimensions of perceived control which have demonstrated different developmental patterns. Ignoring these two dimensions may also have led to equivocal findings in adult studies of health behavior (cf. Schank & Lawrence, 1993).

Weisz and his colleagues have continued to examine the role of competence and

contingency in children. They have found these two dimensions of perceived control to be related to problem solving during therapy (Weisz, 1986). In studies of depressed children and adolescents, they have established that low levels of perceived competence and perceived contingency are related to higher depression scores (Weisz, Weiss, Wasserman, & Rintoul, 1987; Weisz, Sweeney, Proffitt, & Carr, 1993).

Summary. The three cognitive personal control constructs of attributional style, self-efficacy, and perceived control are quite different (Peterson & Stunkard, 1992). Attributional style consists of the habitual ways one uses to explain events and constitutes a generalized way of interacting with the environment. Self-efficacy is more domain-specific and involves expectations made for both behavior and outcomes. Perceived control is a general concept that has specific ramifications. It consists of two dimensions: perceived competence and perceived contingency that operate through primary and secondary processes.

The empirical literature on the relationship of these three constructs to eating behavior is relatively sparse. The following review of the available literature suggests a direction for both the present, as well as future, empirical investigations.

Self-efficacy, Attributions, and Eating Behavior

First, it should be noted that no published studies were found analyzing the connections between perceived control and disturbances of eating. Therefore, the following review will explore the published empirical literature on attributions and weight control and on self-efficacy and dieting.

A few general remarks can be made about the literature in this area. Most studies

of both attribution and self-efficacy have been conducted using participants in weight control programs, thus limiting the generalization of their findings to other populations. These studies varied in the type of weight control methods employed, in the average ages and percentage overweight of the subjects, and in the measures of the personal control cognates they utilized. Of course, these variations led to mixed results. It should also be noted that no published studies were found that replicated the method and results of earlier works.

Attributions and Weight Control. Only three empirical studies were found exploring the role of attributions in weight control (Goodrick, Reynaud, Pace & Foreyt, 1992; Jeffrey, French, & Schmid, 1990; Ogden & Wardle, 1990). All three studies employed subjects enrolled in weight loss programs. These programs included a six-week self-designed diet, four different diets relating to hypertension prevention, and a very low calorie diet. Gender was mixed in only one study (Jeffrey et al., 1990). Only one study employed the Attributional Style Questionnaire (Ogden & Wardle, 1990); the other two studies relied on nonstandardized methods. The duration of these programs ranged from 6 weeks to 3 years (Jeffrey et al., 1990; Ogden & Wardle, 1990). Despite the variations in methods, some similarities do emerge in the findings.

Ogden and Wardle (1990) attempted to use attributional style to predict diet breaking behavior and found that internal attributions for negative events did indeed predict dietary lapses. Jeffrey et al. (1990), who conducted a longitudinal study of 4 different hypertension prevention diets, noted that participants who failed to adhere to weight-loss diets were much more likely than those participants who succeeded to make

internal attributions for their noncompliance. Goodrick and his colleagues (1992) also found subjects who perceived themselves as failures made more internal attributions for their lack of success and attributed very little of the achieved outcome to the treatment program.

Summary. It appears that those who engage in dieting and make internal attributions for negative outcome (ie., eating nondietetic food or failure to lose weight) may be at risk for diet breaking behavior. However, what is missing in these studies is the determination of perceived control over aversive outcomes. Perceptions of control over negative diet outcomes may indeed play a pivotal role in influencing the success of future weight loss attempts.

Eating Self-efficacy and Weight Control. Eating self-efficacy can be defined as the perception that one can control one's eating in various social and emotional situations. Studies in this domain of self-efficacy also use a variety of assessment measures and treatment packages. All but one study (Stotland, Zuroff, & Roy, 1991) employed subjects who were involved in weight loss programs. Studies of self-efficacy and weight control can best be divided into those using standardized measures of self-efficacy and those using nonstandardized inventories.

Five studies used nonstandardized measures of self-efficacy to predict such things as gender differences in eating patterns, attrition from a weight loss program, and the use of a conditioned response (Bennett, 1986; Bernier & Avard, 1986; Bradley, Poser, & Johnson, 1980; Foster & Jeffrey, 1986; Mitchell & Stuart, 1984). In these studies, one used mixed gender (Foster & Jeffrey, 1986), whereas the other three studies used only

females as subjects. Various forms of treatment with differing durations were employed. The findings from these studies show both similarities and differences.

Foster and Jeffrey (1986) examined gender differences in self-efficacy and eating restraint with the following findings: there was no gender difference in weight loss but females maintained the loss better; men ate more in social situations, while at pretreatment women ate more in response to mood; and there were no differences at post treatment in expressed ability to control eating. Bradley et al. (1980) stated that only their subjects' outcome expectations were correlated with the actual amount of weight they lost.

Mitchell and Stuart (1984) assessed the relationship between self-efficacy and attrition among females involved in the Weight Watchers program and found that drop-outs lost less weight and reported less confidence each week in reaching their goal weight. Bennett (1986) explored the relationship between initial efficacy, outcome expectations, the amount of weight lost, and attrition in two weight loss groups. Bennett found that there was only weak evidence for the ability of expectations to predict either weight loss or attrition. Similarly, Bernier and Avard (1986) studied the effect of self-efficacy on weight loss enhancement and attrition. They concluded that there was no significant relationship between weight loss during treatment or at the six-month follow-up to changes in self-efficacy. Thus, the findings on attrition and weight loss are mixed in this group of studies, probably because of the differences in samples and questions employed to assess the components of self-efficacy.

A small number of studies have assessed the role of self-efficacy in eating behavior mainly using instruments that were developed specifically for this purpose (Glynn &

Ruderman, 1986; Stotland & Zuroff, 1991; Stotland, Zuroff, & Roy, 1991; Weinberg et al., 1984). Three of the four studies used a weight loss population and one employed a student sample. Two of these studies used mixed gender samples (e.g., Glynn & Ruderman, 1986; Weinberg et al., 1984), and there was a wide range of ages across the various samples. Again, this body of literature is characterized by the use of a variety of measures and samples, and by equivocal findings.

Weinberg and colleagues (1984) compared a group of weight loss subjects that were high in preexisting self-efficacy with another group whose self-efficacy was raised through experimental manipulation. They found that those with higher levels of preexisting self-efficacy lost more weight, whereas the experimental manipulation group experienced a gradual increase in self-efficacy but did not experience the same degree of weight loss.

Glynn and Ruderman (1986) developed a two factor scale of eating self-efficacy and administered it to a group of 32 weight loss program participants. They reported that although self-efficacy increased over the course of treatment, it was not related to weight loss among the participants. Stotland and Zuroff (1991) employed a series of three questionnaires tapping into different aspects of self-efficacy on a treatment program sample and reported that weight loss did not relate to either situation- or behavior-based measures of self-efficacy-but was related to a goal-based scale that addressed specific weight loss objectives.

In a study using a student sample, Stotland et al. (1991) looked at the relationship of situation-based eating self-efficacy and dietary restraint. They found that low self-efficacy was related to disinhibition of eating after a high calorie preload. The findings in

this study indicate that low-self-efficacy results in a perceived loss of control over eating in those who diet regularly.

Summary. The review of the empirical literature on self-efficacy and dieting points out several weaknesses. First, all but one of the studies mentioned above utilized obese persons as the target population. These studies also examined only two cognates of personal control, attributional style and self-efficacy. Also, these studies examined the constructs separately and used a variety of measures to assess these cognitive processes. Finally, only one of these studies (Stotland & Zuroff, 1991) measured depression.

Petrin and Chaney (1993) used a more general population to explore the relationships among eating behavior, self-efficacy, attributional style, and depression. In an initial exploratory study, 31 male and 38 female college students completed the Attributional Style Questionnaire (ASQ; Peterson et al., 1982), the Inventory to Diagnose Depression (IDD; Zimmerman et al., 1986), the Eating Disorder Inventory--2 (EDI; Garner, 1991), and the Eating Self-Efficacy Scale (ESES; Glynn & Ruderman, 1986). Significant differences were found between depressed and nondepressed subjects on seven of the eight subscales of the EDI, indicating that depression is associated with increased disturbances in eating beliefs and behaviors. Higher levels of depression severity were also significantly related to more global attributions for eating related negative events. However, depression did not significantly affect eating self-efficacy.

Petrin and Chaney (1994) repeated this study with 32 males and 68 females. The only change was the manner in which eating self-efficacy was measured (i.e., Weight Efficacy Lifestyle Questionnaire; Clark et al., 1991). In this study, two separate stepwise

multiple regressions tested for gender effects in the relationship of depression, eating self-efficacy, and maladaptive eating. The results of this study indicated that although depression was significantly associated with eating disturbance in both genders, eating self-efficacy was a salient variable only for females.

Summary

The empirical literature has linked attributional style and eating self-efficacy separately with eating disturbance. Depression and gender appear to exert an important influence upon both of these constructs of personal control as they relate to eating disturbance. These variables should be taken into account in any future study of the constructs of personal control.

The two process model of perceived control has received little empirical attention in the eating disorder literature and the interrelationship of all three cognitive constructs has yet to be explored. The next section of this paper proposes a study that will examine these issues.

CHAPTER 4

The Present Study

To date, research in the area of personal control and eating disturbance has concentrated on the effects that two of the cognates, eating self-efficacy, and attributional style, exert on eating disturbance. Self-efficacy has been found to have a relationship to maladaptive eating as has attributional style (Ogden & Wardle, 1990; Petrin & Chaney, 1993, 1994). However, no attention has been devoted exploring the relationship between perceived control of eating and maladaptive eating behavior. More significantly, no attention has been devoted to determining if a relationship exists among the cognates of personal control (i.e., attributional style, eating self-efficacy, and perceived control). The present study sought to explore the potential relationships among these three cognates as each related to maladaptive eating behavior. Because attributional styles has been conceptualized as being stable across situations, the dimensions of attributional style were chosen as potential mediator/moderator variables of the other two cognates (Seligman, 1992). Also because internality, stability, and globality have been shown to have different effects on the level of eating disturbance, they were examined separately (Brown & Siegel, 1988; Petrin & Chaney, 1994).

Several potential relationships may exist among the cognates of personal control with regards to maladaptive eating behavior. For example, attributional style, self-efficacy for eating, and perceived control of eating might exist independently of each other. Each cognate would then contribute separately to maladaptive eating behavior. The dimensions of attributional style, eating self-efficacy, and perceived control might also have two other

types of relationships.

First, these variables might have a mediational relationship. Baron and Kenny (1986) have said that a mediator accounts for the relationship between a predictor variable and a criterion variable. Thus, the three dimensions of negative attributional style might account for association between eating self-efficacy or perceived control of eating and the sum score on the EDI. This relationship would require that the predictor variable and the criterion variable not have a significant association outside of that which would be mediated by the internal, stable, and global dimensions of attributional style (See Figure 1).

Baron and Kenny (1986) have clearly delineated four conditions that must be met for a mediator variable to account for the relationship between a predictor and a criterion variable.

1. The predictor variable must be related to the outcome variable. In this case, eating self-efficacy and/or perceived control of eating would have to be related to eating disturbance.

2. The predictor must be related to the potential mediator variable. Eating self-efficacy and/or perceived control of eating would have to be related to the three dimensions of attributional style.

3. The mediator variable must be related to the criterion variable after controlling for the predictor variable. Internality, stability, and globality would have to be related to eating disturbance after controlling for the effects of eating self-efficacy and perceived control of eating.

4. The effect of the predictor variable on the outcome variable must not be significant once the effect of the mediator variable is removed. The effect of eating self-efficacy and/or perceived control of eating on eating disturbance would not be significant once the effects of internality, stability, and globality were removed.

Second, it is possible that one cognate serves a moderator between one or both of the other cognates and maladaptive eating behavior. Baron and Kenny (1986) have defined a moderator as a variable that affects the strength and the direction of a relationship between a predictor variable and a criterion variable. It is possible that attributional style would moderate the relationship between eating self-efficacy and maladaptive eating behavior. Thus the strength or direction of the association between the predictor, eating self-efficacy, and the criterion, the EDI sum score would be changed by the internal, stable, and global dimensions of negative attributional style (See Figure 2.).

Baron and Kenny (1986) have suggested three conditions pertinent to the test of moderation:

1. For a moderational hypothesis to be supported, the interaction term between the moderator and the predictor must be significantly related to the outcome variable. The present study looked at the interaction of the three dimensions of attributional style with eating self-efficacy and with the perceived control of eating. For a moderator relationship to exist, each of the interaction terms would need to have been significantly associated with eating disturbance, after controlling for the main effects of these variables.

2. To provide a clearly interpretable interaction term, it is desirable that the moderator variable not be correlated with either the predictor or with the outcome

variable. Although the interpretation of the interaction is facilitated when the moderator is unrelated to the outcome, this is rarely observed and does not invalidate the existence of a moderator relationship. In the present study, it was anticipated that attributional style would be associated with eating disturbance.

3. It is also suggested that moderator variables and predictor variables function at the same level in their role as causal variables, i.e., both function as independent variables. In the present study, the three dimensions of attributional style, eating self-efficacy, and perceived control of eating were expected to function as independent variables.

To accurately determine the relationships among the cognates of personal control, it was necessary to control for other variables potentially influencing maladaptive eating behavior and cognitions. Research has indicated that both males and females within the college population are very concerned about issues of body shape and weight. However because each gender expresses different concerns about these issues, the decision was made to limit this investigation to females (Altabe & Thompson, 1993; Casper & Offer, 1991; Rozin & Fallon, 1988; Story et al., 1991).

The present study also noted the race, socioeconomic status, level of depression, and recent dieting history of the participants, because most of these variables have been found to be pertinent to the development of eating disturbances (Casper & Offer, 1991; Greenberg, 1986; Hsu, 1990; Polivy & Herman, 1987; Sobal & Stunkard, 1989; Vitousek & Orimoto, 1993). The decision was made to include each of these variables in the initial regression analyses. In this way, their contribution to the variance in maladaptive eating behaviors could be clearly defined.

Several studies have explored the relationship of attributional style to self-efficacy and perceived control as regards chronic illness (Chaney, Uretsky, et al., 1996; Chaney, Mullins, et al., 1996; Schiaffino & Revenson, 1992). However, because no such literature is available in the area of eating disturbances, the present study was exploratory in nature. The following questions regarding mediator/moderator relationships were examined.

Mediator Relationships:

1. Do internal, stable, and global attributions for negative events mediate relationship between eating self-efficacy and eating disturbance as measured by the EDI after controlling for the effects of depressive symptomatology, race, socioeconomic status, and recent history of dieting?

2. Do internal, stable, and global attributions for negative events mediate relationship between perceived control of eating and eating disturbance as measured by the EDI after controlling for the effects of depressive symptomatology, race, socioeconomic status, and recent history of dieting?

Moderator Relationships:

3. Do internal, stable, and global attributions for negative events moderate relationship between eating self-efficacy and eating disturbance as measured by the EDI after controlling for the effects of depressive symptomatology, race, socioeconomic status, and recent history of dieting?

4. Do internal, stable, and global attributions for negative events moderate relationship between perceived control of eating and eating disturbance as measured by

the EDI after controlling for the effects of depressive symptomatology, race, socioeconomic status, and recent history of dieting?

In summary, the present study examined the role that the three dimensions of attributional style played in the association that eating self-efficacy and perceived control of eating with maladaptive eating behaviors.

CHAPTER 5

Methods

Participants and Procedure

Data were collected from 96 females enrolled in Introductory Psychology classes at university in the southwest. No attempt was made to exclude participants on the basis of their current weight status or dieting history. The minimum age required for participation was 18 years. Participants ranged in age from 18 to 30 years, ($M=18.86$, $SD=3.96$).

Participants attended a scheduled group session during one of two data collection periods--in November, 1994 or April, 1995. Each participant was given a prenumbered packet and was allowed to work at her own pace. The experimenter and her assistants were available at each session to answer any questions that arose. One extra credit point was given to each participant as she turned in the completed packet of information.

Instruments

Five inventories were included in the packet that each participant was asked to complete. Packets were arranged in an invariant order.

Background Information. The following information was obtained on this sheet: height and weight, age, year of studies, race, and parents' level of education. Besides providing basic demographic information about the population, this sheet was used to compute the percentage that the subject was over- or underweight. The sheet also contained questions pertaining to weight and dieting history. Data obtained from the

background information sheet was used to estimate the socioeconomic status of the participants. (see Appendix A).

In this study 79.2 percent of the subjects were Caucasian. Asian-Americans constituted an additional 11.5 percent, and African-Americans, Native-Americans, and Hispanics comprised 9.3 percent of the participants. Participants were predominantly (85.4%) enrolled as freshmen and sophomores. Participants were primarily from middle class socioeconomic backgrounds (71%).

Perceived Control. The Perceived Control of Weight and Dieting Questionnaire (PCWD) was developed for this study. It was designed to tap into Weisz's two factors of perceived control--competence and contingency. This instrument consists of ten statements related to perceived control of eating, weight, and self-esteem. Five of the statements are general in nature and the other five reflect the individual's estimate of her perceived control in these areas. Subjects were asked to choose one of four phrases that best reflected the truthfulness of the statement for her. The internal consistency for the PCWD in this study was .70. (see Appendix B).

Depression. The Inventory to Diagnose Depression (IDD; Zimmerman & Coryell, Coryell, & Wilson, 1986). is a 22-item instrument that was employed to assess the severity of depressive symptomatology. Each of the items of the IDD is a group of five statements, arranged in order of increasing severity, that assesses a single depressive symptom. The IDD is similar to other self-report measures of depression (e.g. Beck, et al., 1961). A severity index of depressive symptomatology was obtained by summing the items.

The IDD has been shown to be a reliable and valid measure of depression (Zimmerman & Coryell, 1987; Zimmerman & Coryell, 1988; Zimmerman et al., 1986). It has been demonstrated to have good diagnostic concordance with semi-structured interviews (Zimmerman et al, 1986). Only 18 of the original 22 items were used for this study. The four items eliminated were those that do not directly relate to DSM-IV criteria for a major depressive episode (APA, 1994) (see Appendix C). The internal consistency for this measure was .84.

Eating Disturbance. The Eating Disorder Inventory--2 (EDI; Garner, 1991) was used to measure the level of eating disturbance experienced by the subjects. This instrument consists of statements which subjects endorse by choosing one of six answers ranging from "Always" to "Never". The first 64 items from the EDI were used in this study because they compose the original EDI on which all of the psychometric research has been performed (Garner, 1991). These items comprise eight subscales including: Drive for Thinness, Bulimia, Body Dissatisfaction, Ineffectiveness, Maturity Fears, Interpersonal Distrust, Interoceptive Awareness, and Perfectionism. Each of these subscales taps into a construct thought to underlie eating disordered behavior. For the purposes of this study, a total sum score was employed as the measure of disturbance of eating behavior and eating-related cognitions.

The EDI has been employed in research with eating disordered patients, as well as with samples of normal adolescents. It has been found to be psychometrically sound. It has been demonstrated to have high internal consistency and good test-retest reliability (Garner, 1991; Norring, 1989; Raciti & Norcross, 1987; and Vanderheyden, Fekken, &

Boland, 1989). In this study the EDI also displayed internal consistency of .94.

The EDI has also been shown to have adequate content and construct validity (Garner, 1991) (see Appendix D).

Attributional Style. The Attributional Style Questionnaire has been found to have inadequate internal consistency and has been criticized for lack of face validity due to its use of hypothetical situations (Cutrona, Russell, & Jones, 1984; and Hammen & de Mayo, 1982; Peterson, et al., 1982). In the present study, the ASQ demonstrated an internal consistency of .75. It remains the only instrument on which sufficient psychometric data regarding attributional style has been gathered.

For the ASQ, subjects were required to respond to 12 hypothetical situations--6 negative events and 6 positive events. For each of these events, they were then asked to cite one major cause and to rate the event in terms of internality, globality, and stability. Only negative events were summed for this study because they have been found to have stronger correlations with depression than do positive events (Norman & Antaki, 1988; Seligman, Abramson, Semmel, & von Baeyer, 1979) (see Appendix E).

Self-Efficacy. Participants was required to complete the Weight-Efficacy Lifestyle Questionnaire (WEL; Clark, Abrams, Niaura, Eaton, & Rossi, 1991). The WEL is a 20-item inventory that requires subjects to rate their confidence in their ability to resist eating. A ten point scale ranging from 0 (Not Confident) to 9 (Very Confident) is used. The WEL measures eating self-efficacy across five situational factors: Negative Emotion, Availability, Social Pressure, Physical Discomfort, and Positive Activities. (see Appendix F).

The WEL is a relatively new instrument that was originally designed to measure the eating self-efficacy of obese patients. Although the WEL appears to have good convergent validity with other measures of eating self-efficacy, little information on its other psychometric properties is available (Clark et al., 1991). However in this study, the WEL demonstrated an internal consistency of .94.

Analyses

Because data were obtained on two separate collection dates, a multivariate analysis of variance was conducted first. The two collection groups were compared on the key variables of depression, maladaptive eating, eating self-efficacy, perceived control of eating, and the internal, stable, and global dimensions of attributional style for negative events.

Data from the EDI, WEL, IDD, and the three continuous dimensions of the Attributional Style Questionnaire (Internal Negative or IN, Stable Negative or SN, and Global Negative or GN) were centered to decrease the possibility of multicollinearity (Hays, 1988). Zero-order correlations were then calculated for all of the variables under consideration. Hierarchical regression were employed to explore each research question. Separate equations were developed for each of the dimensions of attributional style for negative events and both eating self-efficacy and perceived control of eating. There were a total of six equations developed.

In the first step of each hierarchical regression equation, the covariates of dieting history, race, age, socioeconomic status, and depressive symptomatology were entered.

In the second step, a dimension of attributional style and either eating self-efficacy and perceived control of eating were entered to explore the possibility of mediator relationships. In the third step, the interaction between a dimension of attributional style and either eating self-efficacy or perceived control of eating was entered to examine the possibility of moderator relationships among the variables.

CHAPTER 6

Results

Preliminary Analyses

A One-Way Multivariate Analysis of Variance (MANOVA) was run to determine the presence of significant differences between subjects across the two data collection periods on the key variables including the dimensions of attributional style for negative events (IN, SN, and GN); the sum scores for the Eating Disorder Inventory (EDISUM); the Weight Efficacy Lifestyle Questionnaire (WELSUM); the Inventory to Diagnose Depression (IDDSUM); and the Perceived Control of Weight and Dieting (PCWD). Results indicated no significant differences between the two groups across the key variables, $F(4, 91) = .48, p = .75$. Data from participants at both collection periods were combined for all subsequent analyses.

Primary Analyses

Research Question 1. Do internal, stable, and global attributions for negative events mediate the relationship between eating self-efficacy and eating disturbance as measured by the EDI after controlling for the effects of depressive symptomatology, race, socioeconomic status and recent history of dieting?

According to Baron and Kenny (1986), the first criterion for a mediator relationship requires that the predictor variable (WELSUM) be related to the outcome variable (EDISUM). An examination of the partial correlation of WELSUM and EDISUM revealed a significant inverse relationship, after controlling for demographic variables, dieting history, and level of depressive symptomatology ($r = -.25, p = .017$).

The second criterion for a mediator relationship states that the potential mediator (IN, SN, and GN) should be significantly correlated with the outcome variable (EDISUM). Partial correlations indicated that the internal negative ($r = .15$, $p = .15$) and stable negative ($r = .11$, $p = .31$) dimensions of attributional style were not significantly related to EDISUM. Only the relationship between the global negative dimension of explanatory style and EDISUM approached significance, ($r = .20$, $p = .054$) (See Table 1). Thus, the second criteria for a mediator relationship was not met.

The third criterion for a mediational relationship to exist requires that the predictor variable (WELSUM) to be related to the potential mediator variable (IN, SN, and GN). An examination of the zero-order correlations between these variables revealed a significant inverse relationship between eating self-efficacy and the global negative dimension of attributional style, ($r = -.19$, $p = .03$). However similar significant relationships did not exist between either the internal negative dimension ($r = .09$, $p = .18$) or stable negative dimension ($r = -.03$, $p = .37$) of attributional style and eating self-efficacy.

The fourth criterion for mediation states that the effect of the predictor variable (WELSUM) on the outcome variable (EDISUM) must not be significant once the effect of the mediator (IN, SN, and GN) is removed. A series of analyses were performed to answer this research question. Three separate hierarchical multiple regression equations were constructed for eating self-efficacy (WELSUM) and each dimension of attributional style (IN, SN, and GN). On the first step of each of these hierarchical regression equations, depressive symptomatology, race, socioeconomic status and recent history of dieting were entered simultaneously to control for their influence. Then the relative

contributions of eating self-efficacy and the dimensions of attributional style to the variance in EDISUM scores were examined (see Table 1). A review of the partial correlations of WELSUM with EDISUM controlling for each dimension of attributional style revealed that eating self-efficacy continued to demonstrate a significant inverse relationship with maladaptive eating, (IN, $r = -.29$, $p = .005$; SN, $r = -.25$, $p = .02$; GN, $r = -.23$, $p = .03$).

In summary, results indicated the three dimensions of attributional style did not mediate the relationship between eating self-efficacy and maladaptive eating behavior. Eating self-efficacy exerted independent main effects in maladaptive eating behavior and the dimensions of attributional style did not satisfy the second or fourth criteria for a mediator relationship.

Research Question 2. Do internal, stable, and global attributions for negative events mediate the relationship between perceived control of eating and eating disturbance as measured by the EDI after controlling for the effects of depressive symptomatology, race, socioeconomic status and recent history of dieting?

Parallel analyses were performed to test for the mediational relationship of perceived control and attributional style with maladaptive eating behavior.

The first criterion for a mediator relationship to exist requires that the predictor variable (PCWD) be related to the outcome variable (EDISUM). The partial correlation of PCWD with EDISUM revealed no significant relationship between them, after controlling for demographic variables, dieting history, and depressive symptomatology ($r = -.15$, $p = .16$) (see Table 1).

The second criterion for a mediator relationship requires that the potential mediator (IN, SN, and GN) be significantly related to the outcome variable (EDISUM). A review of the partial correlations of each dimension of attributional style with maladaptive eating failed to reveal any significant relationships, after controlling for the demographic variables, recent history of dieting, and level of depressive symptoms (IN, $p_r = .15$, $p = .15$; SN, $p_r = .11$, $p = .31$; GN, $p_r = .16$, $p = .054$) (see Table 1).

To satisfy the third criterion for mediation, the predictor variable (PCWD) must be related to the potential mediator variable (IN, SN, and GN). The zero-order correlations of perceived control of eating with each dimension of attributional style were examined. PCWD did not correlate significantly with IN ($r = -.05$, $p = .30$), SN ($r = .01$, $p = .47$) or GN ($r = -.09$, $p = .19$) dimensions of attributional style.

The fourth criterion for mediation states that the effect of the predictor variable (PCWD) on the outcome variable (EDISUM) must not be significant once the effect of the mediator (IN, SN, and GN) is removed. Three separate hierarchical multiple regression equations were constructed for perceived control of eating (PCWD) and each dimension of attributional style (IN, SN, and GN). On the first step of each of these hierarchical multiple regression equations, depressive symptomatology, race, socioeconomic status and recent were entered simultaneously to control for their influence. Then the relative contributions of perceived control of eating and the dimensions of attributional style to the variance in EDISUM scores were examined (see Table 1). A review of the partial correlations, in which the influence of each dimension of attributional style had been controlled, revealed that perceived control of eating was not

related to maladaptive eating after the effects of IN($\beta = -.14$, $p = .20$), SN ($\beta = -.15$, $p = .16$) and GN ($\beta = -.14$, $p = .20$) had been controlled.

In summary, results indicated the three dimensions of attributional style did not mediate the relationship between perceived control of eating and maladaptive eating behavior. Perceived control of eating was unrelated to maladaptive eating behavior and the dimensions of attributional style did not satisfy any of the criteria for a mediator relationship.

Research Question 3. Do internal, stable, and global attributions for negative events moderate the relationship between eating self-efficacy and eating disturbance as measured by the EDI after controlling for the effects of depressive symptomatology, race, socioeconomic status, and recent history of dieting?

To answer this research question, three hierarchical multiple regression analyses were performed. Each dimension of attributional style (IN, SN, and GN) was entered into a separate hierarchical multiple regression equation with eating self-efficacy (WELSUM). Maladaptive eating (EDISUM) was employed as the outcome variable in each equation. Demographic variables, recent history of dieting, and depressive symptomatology were entered simultaneously in the first step of each equation, thus controlling their potential influence. In the second step of each equation the influence of WELSUM and an attribution dimension (i.e., IN, SN, or GN) upon maladaptive eating (EDISUM) was examined. In the final step, the interaction of the WELSUM and a dimension of attributional style (i.e., IN, SN, or GN) was entered (see Table 2).

According to Baron and Kenny (1986), a moderator variable alters the causal

relationship between a predictor variable and an outcome variable. They suggest that the surest indicator of a moderator relationship is a significant contribution by the interaction term of the predictor (WELSUM) and the moderator (IN, SN, and GN) to an explanation of the variance in the outcome variable (EDISUM). Examination revealed that none of the attribution x eating self-efficacy interactions were significant predictors of EDI scores (see Table 2). The dimensions of attributional style do not moderate the relationship of eating self-efficacy and maladaptive eating behavior.

Research Question 4. Do internal, stable, and global attributions for negative events moderate the relationship between perceived control of eating and eating disturbance as measured by the EDI after controlling for the effects of depressive symptomatology, race, socioeconomic status, and recent history of dieting?

To explore this research question, analyses parallel to those employed in the last question were conducted. Three hierarchical multiple regression equations were developed in which perceived control of eating (PCWD) operated as the predictor, a single dimension of attributional style (IN, SN, or GN) served as the moderator, and maladaptive eating (EDISUM) functioned as the outcome variable in each equation. Pertinent demographic variables, dieting history, and depressive symptomatology were entered simultaneously on the first step of each hierarchical multiple regression equation, to remove their potential influence. The effects of PCWD scores and each dimension of attributional style (i.e., IN, SN, or GN) on EDISUM were examined in the second step of each equation. Finally, the interaction of PCWD and the attribution dimensions was entered on step three (see Table 3).

Results revealed that neither the IN X PCWD nor the GN X PCWD interactions contributed significantly to the explanation of EDI scores. The SN X PCWD interaction was statistically significant, but accounted for only 3% of the variance in EDISUM scores, $F(8, 87) = 4.62, p = .03$ (see Table 3). Thus, high levels stable attributions for negative events moderated the relationship between perceived control of eating and maladaptive eating behavior.

Baron and Kenny (1986) indicate that for a significant interaction to be interpretable the moderator (SN) should not be significantly related to either the predictor (PCWD) or the outcome variable (EDISUM). An examination of the zero-order correlation of SN with PCWD revealed a nonsignificant relationship ($r = .01, p = .47$). The partial correlation of SN with EDISUM also was not significant ($r = .11, p = .31$).

Baron and Kenny (1986) state that the moderator and the predictor variable operate on the same level. Examination of the partial correlations for stable negative (SN) attributional style and perceived control of eating (PCWD) revealed that neither variable had an independent main effect on maladaptive eating behavior (EDISUM), but their interaction did have a significant effect (see Table 1). Thus, the interaction of perceived control of eating and stable negative attributions met criteria for a moderator relationship.

Summary

Internal, stable, and global attributions for negative events did not mediate or moderate the relationship between eating self-efficacy and maladaptive eating. However eating self-efficacy did exert independent main effects on EDI scores, even after accounting for the influence of internal, stable, and global attributions.

Also, perceived control of eating did not contribute significantly to the explanation of variance in EDI scores. Thus the dimensions of attributional style did not mediate the relationship between perceived control of eating and maladaptive eating. However, when a highly stable attributional style interacts with situations in which little control over eating is perceived, higher levels of maladaptive eating resulted. Thus, higher levels of stability in attributions for negative events moderated the relationship between perceived control of eating and maladaptive eating behavior.

Additional Findings.

Further examination of the results also revealed an important, but accidental, finding. Each dimension of attributional style was significantly correlated with EDI at the zero-order level (IN, $r=.21$, $p=.05$; SN, $r=.18$, $p=.05$; and GN, $r=.34$, $p=.001$). Yet when the effect of depression was statistically controlled, there was no longer a significant relationship between the dimensions of attributional style and maladaptive eating (IN, $p_r=.15$, $p<.05$; SN, $p_r=.11$, $p<.05$; and GN, $p_r=.20$, $p<.05$). Although not the primary focus of the present study, results revealed that the relationship of stable and global dimensions of attributional style to maladaptive eating was mediated by depression.

Examination of the data showed a robust relationship between the stable and global dimensions of attributional style and the IDD (SN, $r=.22$, $p=.05$; GN, $r=.31$, $p=.001$). It also revealed a very strong relationship between the IDD and the EDI, $r=.66$; $p=.001$. It appears then, that the relationship between the dimensions of attributional style and maladaptive eating is indirect and is accounted for by attribution - depression and subsequent depression-maladaptive eating associations.

CHAPTER 7

Discussion

The present study of college age females was framed within the cognitive behavioral model of eating disturbance of Vitousek and Orimoto (1993). It scrutinized one of the proximal factors of maladaptive eating, personal control. Three cognates of personal control: attributional style, eating self-efficacy, and perceived control, were examined. The study explored the relationship of each variable to maladaptive eating behavior and investigated the connections among these cognates. Other proximal factors of the model including depression, dieting history, race, and socioeconomic status were measured and their variance statistically controlled.

Because the dimensions of attributional style represented a more pervasive construct, they were chosen as potential mediators or moderators of the other two cognates. Given the exploratory nature of the study, four research questions were explored and no directional hypotheses were offered.

The first research question explored the possibility of a mediator relationship among the dimensions of attributional style (IN, SN, and GN) and eating self-efficacy (WELSUM) in predicting maladaptive eating (EDISUM), after controlling for the covariates (i.e., depressive symptomatology, race, socioeconomic status, and recent history of dieting). The second research question posited a similar mediator relationship among the dimensions of attributional style and perceived control of eating (PCWD) in predicting maladaptive eating behavior after the potential demographic, affective, and historical confounds had been controlled. If a mediator relationship existed, then eating

self-efficacy or perceived control of eating would not be expected to have a significant association with maladaptive eating outside of the dimensions of attributional style. Thus the internal, stable, and global dimensions of attributional style would account for the association between eating self-efficacy or perceived control and maladaptive eating.

The third research question explored the possibility of a moderator relationship among the dimensions of attributional style and eating self-efficacy (WELSUM) in predicting maladaptive eating behavior (EDISUM), after controlling for the covariates; depressive symptomatology, race, socioeconomic status, and recent history of dieting. The fourth research question proposed a similar relationship among the dimensions of attributional style and perceived control of eating (PCWD) in predicting EDI scores. If a moderator relationship existed, then dimensions of attributional style would be expected to change the strength or the direction of the relationship between eating self-efficacy or perceived control of eating and EDI scores.

Two major findings emerged from the examination of these research questions. First, a robust main effect was observed for eating self-efficacy (WELSUM) on EDI scores. The relationship between these variables was an inverse one in which the more self-efficacy for eating reported the lower the sum score was on the EDI.

Second, the relationship of perceived control of eating and maladaptive eating was moderated by the stable dimension of attributional style for negative events (SN). Thus females who expect the cause of negative events to be present in the future will engage in a greater number of maladaptive behaviors when faced with eating situations over which they perceive little control.

From a theoretical perspective, these findings were consistent with each other. The cognate of self-efficacy has been broken down into two types of expectancies. Efficacy expectations have included the person's beliefs that he or she can behave in ways that assure a positive outcome. Outcome expectations have included the person's beliefs that he or she can reach a goal (Peterson & Stunkard, 1992). The main effect for eating self-efficacy indicated that women will engage in fewer maladaptive eating behaviors when they feel they have a greater sense of personal agency in controlling and achieving their desired body weight and shape.

Because the stable dimension of attributional style measures the likelihood that a person attributes negative events to causes that will remain stable over time, it has come to be seen as a measure of outcome expectancies (Peterson & Stunkard, 1992). Perceived control of eating, as measured by the PCWD, assessed the perception of ability to regulate eating in specific situations. In this case, perceived control was comparable to the efficacy expectation component of self-efficacy. The moderational relationship among these variables suggested that under conditions where low self-control of eating is perceived, a style of attributing negative events to unchanging causes will lead to higher levels of maladaptive eating behavior.

These results suggested that the cognates of personal control overlap. The expectancies of self-efficacy are similar to the combined influence of perceived control and the stable dimension of attributional style. Attributional style does seem to be the more general cognate, but both self-efficacy and perceived control of eating contribute to the model of personal control (Peterson & Stunkard, 1992; Seligman, 1992).

Both of these findings are consistent with literature on eating behavior. In weight loss programs outcome expectancies have been shown to correlate with total weight lost and dropping out (Bradley et al., 1980; Mitchell & Stuart, 1984; Weinberg et al., 1984). Lower self-efficacy also leads to higher levels of disinhibiting eating in a college age population (Stotland et al., 1991).

These results imply that outcome and efficacy expectancies are important proximal factors in maladaptive eating (Vitousek & Orimoto, 1993). To enhance adherence to healthy dietary and exercise regimens, both types of expectancies could be assessed using the Weight-Efficacy Lifestyle Questionnaire (Clark, Abrams, Niaura, Eaton, & Rossi, 1991) or other similar measures. Based on the results of an initial assessment, therapeutic interventions could then be designed to address cognitive distortions with regard to outcome expectancies about body shape and weight. Assessment of outcome expectancies could be repeated throughout treatment to monitor change and the need for further or varied interventions.

Assessment of efficacy expectations throughout weight management and exercise programs is also important. Research has established that many participants in such programs dropout because of low efficacy expectations (Bradley et al., 1980; Mitchell & Stuart, 1984; Weinberg et al., 1984). Therapeutic interventions, ranging from self-talk to support groups, might be designed to enhance control in eating situations perceived as problematic. Regular assessment would also promote changes in the participant's perception of her or his control over eating.

It is clear from the additional findings that depression is a significant proximal cause of eating disturbances (Vitousek & Orimoto, 1993). Level of depression should be assessed in all seeking treatment for weight control or eating disturbance. Interventions might be undertaken to lower the level of depression before and during treatment to enhance its general efficacy.

From a methodological standpoint, it is also apparent that the assessment of depressive symptomatology is vital in conducting research on eating disorders and compliance with health regimens. Studies have demonstrated that depression is strongly related to disturbances in both eating and body image (Greenberg, 1986; Greenberg & Harvey, 1987; Hsu, 1990; Petrin & Chaney, 1993). Future researchers will benefit from incorporating measures of depression into their experimental designs.

Limitations of the Current Study and Suggestions for Future Research

The present study was limited in several ways. First, it was exploratory in nature so replication of its findings will be required. Second, the very specific population employed in this study, college-age, middle class, predominantly white females limits the generalizability of the findings. Third the limited internal consistency of both the PCWD and the ASQ may have restricted the reliability of the findings with regard to these instruments and may offer some explanation of the limited variance explained by the SN X PCWD interaction. The Finally, the most serious limitation of this study was its dependence upon self-report inventories as the only means of assessing mood, personal control, and maladaptive eating.

The reliance on self-report inventories increases the possibility of shared variance due to single method measurement (Coyne & Gotlib, 1983). Self-report is also subject to exaggeration and social desirability (Kazdin, 1992). It is possible that participants perceived the purpose of the study or that they may have exaggerated their responses in a consistent direction, resulting in spurious associations among the measures. However, due to the number of nonsignificant associations, the data suggest that specific associations between the cognates of control and maladaptive eating behaviors were revealed and that these relationships were not due to response bias.

Future research should seek to replicate and extend the findings on the cognates of personal control as they relate to eating behavior. Extensions of this research might include a more detailed analysis of the EDI subscales, the dimensions of perceived control, or the five factors of the WEL. Other applications include female populations diagnosed with eating disorders, obesity, and to male populations at risk for eating disorders. Future research might also include more racially, ethnically, and socioeconomically diverse populations to determine the relationships of the cognates to maladaptive eating behavior in these groups.

Other suggestions for future research include a more focused examination of the mediator relationship of depression to the dimensions of attributional style and maladaptive eating. Efforts might also be directed toward enhancing the psychometric properties of the PCWD and the ASQ. Finally, further consideration might also be given to using varied assessment methods such as structured interviews as a means of obtaining concurrent information on depression, attributional style, perceived control, and self-

efficacy as they relate to eating behavior. These tools will allow for the replication or extension of the current findings.

REFERENCES

- Abrams, K.K., Allen, L.R., & Gray, J.J. (1993). Dissordered eating attitudes and behaviors, psychological adjustment, and ethnic identity: A comparison of black and white female college students. International Journal of Eating Disorders, 14, 49-57.
- Abramson, L.Y., Seligman, M.E.P., & Teasdale, J.D. (1978). Learned helplessness in humans: Critique and reformulation. Journal of Abnormal Psychology, 87, 49-74.
- Allison, D.B., & Heshka, S. (1993). Emotion and eating in obesity? A critical analysis. International Journal of Eating Disorders, 13, 289-295.
- Altabe, M., & Thompson, J.K. (1993). Body image changes during early adulthood. International Journal of Eating Disorders, 13, 323-328.
- American Psychiatric Association. (1994). Diagnostic and Statistical Manual of Mental Disorders (4th ed.). Washington, D.C.: Author.
- Anderson, A.E., & Hay, A. (1985). Racial and socioeconomic influences in anorexia nervosa and bulimia. International Journal of Eating Disorders, 4, 479-487.
- Band, E. B., & Weisz, J.R. (1988). How to feel better when it feels bad: Children's perspectives on coping with everyday stress. Developmental Psychology, 24, 247-253.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. Psychological Review, 84, 191-215.

- Bandura, A. (1978). The self-system in reciprocal determinism. American Psychologist, 33, 344-358.
- Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, N.J.: Prentice-Hall.
- Bandura, A., Adams, N.E., Hardy, A.B., & Howells, G.N. (1980). Tests of the generality of self-efficacy theory. Cognitive Therapy and Research, 4, 39-66.
- Baron, R.M., & Kenny, D.A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. Journal of Personality and Social Psychology, 51, 1173-1182.
- Beck, A.T., Ward, C.H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An inventory for measuring depression. Archives of General Psychiatry, 4, 61-71.
- Bennett, G.A. (1986). Expectations in the treatment of obesity. British Journal of Clinical Psychology, 25, 311-312.
- Bernier, M., & Avard, J. (1986). Self-efficacy, outcome, and attrition in a weight reduction program. Cognitive Therapy and Research, 10, 319-338.
- Bradley I., Poser, E.G., & Johnson, J.A. (1980). Outcome expectation ratings as predictors of success in weight reduction. Journal of Clinical Psychology, 36, 500-502.
- Brown, J.D., & Siegel, J. (1988). Attributions for negative life events and depression: the role of perceived control. Journal of Personality and Social Psychology, 54, 316-322.

- Brownell, K.D., & Rodin, J. (1994). The dieting maelstrom: Is it possible and advisable to lose weight? American Psychologist, 49, 781-791.
- Brownell K.D., & Wadden, T.A. (1992). Etiology and treatment of obesity: Understanding a serious, prevalent and refractory disorder. Journal of Consulting and Clinical Psychology, 60, 505-517.
- Casper, R.C., & Offer, D. (1990). Weight and dieting concerns in adolescents, fashion or symptom? Pediatrics, 86, 384-390.
- Chaney, J.M., Uretsky, D.L., Mullins, L.L., Doppler, M.J., Palmer, W.K., Wees, S.J., Klein, H.S., Doud, D.K., & Reiss, M. J. (1996). Differential effects of age and illness on pain-depression and disability-depression relationships in Rheumatoid Arthritis. International Journal of Rehabilitation and Health, 2, 101-112.
- Chaney, J.M., , Mullins, L.L., Uretsky, D.L., Doppler, M.J., Palmer, W.K., Wees, S.J., Klein, H.S., Doud, D.K., & Reiss, M. J. (1996). Attributional style in Rheumatoid Arthritis: The moderating role of perceived illness control. Rehabilitation Psychology, 41, 205-222.
- Clark, M.M., Abrams, D.B., Niaura, R.S., Eaton, C.A., & Rossi, J.S. (1991). Self-efficacy in weight management. Journal of Consulting and Clinical Psychology, 59, 739-744.
- Cohen, J., & Cohen, P. (1983). Applied multiple regression/correlational analysis for the behavioral sciences (2nd ed.) Hillsdale, NJ: Erlbaum.

- Condiotte, M.M., & Lichtenstein, E. (1981). Self-efficacy and relapse in smoking cessation programs. Journal of Consulting and Clinical Psychology, 49, 648-658.
- Coyne, J. C., & Gotlib, I. H. (1983). The role of cognition in depression: A critical appraisal. Psychological Bulletin, 94, 472-505.
- Crisp, A.H. (1980). Anorexia Nervosa. New York: Grune & Stratton.
- Cutrona, C.E., Russell, D., & Jones, R. D. (1984). Cross-situational consistency in causal attributions: Does attributional style exist? Journal of Personality and Social Psychology, 47, 1043-1058.
- Davis-Berman, J. (1988). Self-efficacy and depressive symptomatology in older adults: An exploratory study. International Journal of Aging and Human Development, 27, 35-43.
- DiClemente, C.C. (1981). Self-efficacy and smoking cessation maintenance: A preliminary report. Cognitive Therapy and Research, 5, 175-187.
- Dolan, B., & Ford, K. (1991) Binge eating and dietary restraint: A cross-cultural analysis. International Journal of Eating Disorders, 10, 345-357.
- Epstein L.H., & Cluss, P.A. (1986). Behavioral genetics of childhood obesity. Behavior Therapy, 17, 324-334.
- Epstein, L.H., McCurley, J., Wing, R.R., & Valoski, A.(1990). Five-year follow-up of family-based behavioral treatments for childhood obesity. Journal of Consulting and Clinical Psychology, 58, 661-664.

- Epstein, L.H., Valoski, A., Wing, R.R., Perkins, K.A., Fernstrom, M., Marks, B., & McCurley, J. (1989). Perception of eating and exercise in children as a function of child and parent weight status. Appetite, 12, 105-118.
- Epstein, L.H., & Wing, R.R. (1987). Behavioral treatment of childhood obesity. Psychological Bulletin, 101, 331-342.
- Epstein, L.H., Wing, R.R., Koeske, R. & Valoski, A. (1986). Effect of parent weight loss on weight loss in obese children. Journal of Consulting and Clinical Psychology, 54, 400-401.
- Fabian L.J., & Thompson J.K. (1989). Body-image and eating disturbance in young females. International Journal of Eating Disorders, 8, 63-74.
- Forster, J.L., & Jeffrey, R.W. (1986). Gender differences related to weight history, eating patterns, efficacy expectation, self-esteem, and weight loss among participants in a weight reduction program. Addictive Behaviors, 11, 141-147.
- Garner, D.M. (1991). Eating Disorder Inventory-2: Professional manual. Odessa, FL: Psychological Assessment Resources, Inc.
- Garner, D.M., Garfinkel, P.E., Schwartz, D.M., & Thompson, M.M. (1980). Cultural expectations of thinness in women. Psychological Reports, 47, 483-491.
- Glynn, S.M., & Ruderman A.J. (1986). The development and validation of an eating self-efficacy scale. Cognitive Therapy and Research, 10, 403-420.

- Goodrick, G.K., Raynaud, A.S., Pace, P., & Foreyt, J.P. (1992) Outcome attributions in a very low calorie diet program. International Journal of Eating Disorders, 12, 117-120.
- Gray, J. J., Ford, K., & Kelly, L.M. (1987). The prevalence of bulimia in a black college population. International Journal of Eating Disorders, 6, 733-740.
- Greenberg, B.R.(1986). Predictors of binge eating in bulimic and nonbulimic women. International Journal of Eating Disorders, 5, 269-284.
- Greenberg, B.R., & Harvey, P.D. (1987). Affective lability versus depression as determinants of binge eating. Addictive Behaviors, 12, 357-361.
- Hammen, C.L., & deMayo, R. (1982). Cognitive correlates of teacher stress and depressive symptoms: Implications for attributional models of depression. Journal of Abnormal Psychology, 91, 96-101.
- Hays, W. L. (1988). Statistics (4th ed.). New York: Holt, Rinehart, & Winston, Inc.
- Hecker, L., Martin, D., & Martin, M. (1986). Family factors in childhood obesity. American Journal of Family Therapy, 14, 247-253.
- Hesse-Biber, S.(1989). Eating patterns and disorders in a college-population: Are college women's eating problems a new phenomenon. Sex Roles, 20, 71-89.
- Herman, C.P., & Polivy, J.(1975). Anxiety, restraint, and eating behavior. Journal of Abnormal Psychology, 84, 666-672.
- Holman, H., & Lorig, K. (1992). Perceived self-efficacy in self-management of chronic disease. In R. Schwarzer (Ed.) Self-efficacy: Thought control of action (pp. 305-324). Washington, DC: Hemisphere Publishing Co.

- Hsu, L.K.G. (1990). Eating Disorders. New York: Guilford Press.
- Jeffrey, R.W., French, S.A., & Schmid, T.L. (1990). Attributions for dietary failures: Problems reported by participants in the hypertension prevention trial. Health Psychology, 9, 315-329.
- Johnson, C., & Larson, R. (1982). Bulimia: An analysis of moods and behavior. Psychosomatic Medicine, 44, 341-351.
- Kavanaugh, D.J. (1992). Self-efficacy and depression. In R. Schwarzer (Ed.), Self-efficacy: Thought control of action (pp. 177-194). Washington, D.C.: Hemisphere Publishing Corporation.
- Kazdin, A. E. (1992). Research design in clinical psychology (3rd ed.). Boston: Allyn and Bacon.
- Kinston, W., Miller, L., Loader, P., Wolff, O.H. (1990). Revealing sex differences in childhood obesity by using a family systems approach. Family Systems Medicine, 8, 371-386.
- Kirsch, I. (1982). Efficacy expectations or response predictions: The meaning of efficacy rating as a function of task characteristics. Journal of Personality and Social Psychology, 42, 132-136.
- Kirsch, I. (1985). Self-efficacy and expectancy: Old wine with new labels. Journal of Personality and Social Psychology, 49, 824-830.
- Lee, C. (1983). Self-efficacy and behaviour as predictors of subsequent behavior in an assertiveness training programme. Behaviour Research and Therapy, 21, 225-232.

- Laessle, R.G., Kittl, S., Fichter, M.M., & Pirke, K.M. (1988). Cognitive correlates of depression in patients with eating disorders. International Journal of Eating Disorders, 7, 681-686.
- Mable, H.M., Balance, W.D.G., & Galgan, R.J. (1986). Body-image distortion and dissatisfaction in university students. Perceptual and Motor Skills, 63, 907- 911.
- Maloney, M.J., McGuire, J., Daniels, S., & Specker, B. (1989). Dieting behavior and eating attitudes in children. Pediatrics, 84, 482-489.
- Marcus, M.D., Smith, D., Santelli, R., & Kaye, W. (1992). Characterizations of eating disordered behavior in obese binge eaters. International Journal of Eating Disorders, 12, 249-255.
- Mintz, L.B., & Betz, N.E. (1986). Sex differences in the nature, realism, and correlates of body image. Sex Roles, 15, 185-195.
- Mitchell, C., & Stuart, R. (1984). Effect of self-efficacy on drop out from obesity treatment. Journal of Consulting and Clinical Psychology, 52, 1100-1101.
- Moses, N., Banilivy, M.M., & Lifshitz, F. (1989). Fear of obesity among adolescent girls. Pediatrics, 83, 393-398.
- Nolen-Hoeksema, S., Girgus, J.S., & Seligman, M.E.P. (1986). Learned helplessness in children: A longitudinal study of depression, achievement, and explanatory style. Journal of Personality and Social Psychology, 51, 435-442.
- Noles, S.W., Cash, T.F., and Winstead, B.A. (1985). Body image, physical attractiveness, and depression. Journal of Consulting and Clinical Psychology, 53, 88-94.

- Norman, P.D., & Antaki, C. (1988). Real events attributional style questionnaire. Journal of Social and Clinical Psychology, 7, 97-100.
- Norring, C. (1989). Psychological diagnosis and prognosis in eating disorders: Ego functioning and the Eating Disorder Inventory. Acta Universitat Upsaliensis, Comprehensive Summaries of Uppsala Dissertations from the Faculty of Medicine, 207.
- Ogden, J., & Wardle, J. (1990). Control of eating and attributional style. British Journal of Clinical Psychology, 25, 445-446.
- Ozer, E.M., & Bandura, A. (1990). Mechanisms governing empowerment effects: A self-efficacy analysis. Journal of Personality and Social Psychology, 58, 472-486.
- Paxton, S.J., Wertheim, E.H., Gibbons, K., Szumukler, G.I., Hillier, L., & Petrovich, J.L. (1991). Body image satisfaction, dieting beliefs, and weight loss behaviors in adolescent girls and boys. Journal of Youth and Adolescence, 20, 361-379.
- Peterson, C. (1988). Explanatory style as a risk factor for illness. Cognitive Therapy and Research, 12, 117-130.
- Peterson, C., Colvin, D., & Lin, E.H. (1992). Explanatory style and helplessness. Social Behavior and Personality, 20, 1-14.
- Peterson, C., Semmel, A., von Baeyer, C., Abramson, L.Y., Metalsky, G.I., & Seligman, M.E.P. (1982). The attributional style questionnaire. Behaviour Therapy and Research, 6, 287-300.
- Peterson, C., Schwartz, S.M., Seligman, M.E.P. (1981). Self-blame and depressive symptoms. Journal of Personality and Social Psychology, 41, 253-259.

- Peterson, C., & Seligman, M.E.P. (1987). Explanatory style and illness. Journal of Personality, 55, 237-265.
- Peterson, C., & Stunkard, A.J. (1992). Cognates of personal control: Locus of control, self-efficacy, and explanatory style. Applied and Preventative Psychology, 1, 111-117.
- Petrin, E.M., & Chaney, J.M. (1993). The relationship of negative attributional style to measures of depression, eating disorders, and eating self-efficacy. Poster presented at the meeting of the Oklahoma Psychological Association, Edmond, OK.
- Petrin, E.M., & Chaney, J.M. (1994). Maladaptive eating behaviors and beliefs: Gender, self-efficacy, and depression. Poster presentation at a meeting of the Southwestern Psychological Society, San Antonio, TX.
- 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. (1985). Dieting and bingeing: A causal analysis. American Psychologist, 40, 193-201.
- Polivy, J., & Herman, C.P. (1987). Diagnosis and treatment of normal eating. Journal of Consulting and Clinical Psychology, 55, 635-644.
- Raciti, M.C., & Norcross, J.C. (1987). The EAT and the EDI: Screening, interrelationships, and psychometrics. International Journal of Eating Disorders, 6, 579-586.

- Rothbaum, F., Weisz, J.R., & Snyder, S.S. (1982). Changing the world and changing the self: A two process model of perceived control. Journal of Personality and Social Psychology, 42, 5-37.
- Rozin, P., & Fallon, A. (1988). Body image, attitudes to weight, and misperception of figure preference of the opposite sex: A comparison of men and women in two generations. Journal of Abnormal Psychology, 97, 342-345.
- Ruderman, A.J. (1986). Dietary restraint: A theoretical and empirical review. Psychological Bulletin, 99, 247-262.
- Schank, M.J., & Lawrence, D.M. (1993). Young adult women: Lifestyle and health locus of control. Journal of Advanced Nursing, 18, 1235-1241.
- Schiaffino, K.M. & Revenson, T.A. (1992). The role of perceived self-efficacy, perceived control, and causal attributions in adaptation to rheumatoid arthritis: Distinguishing mediator from moderator effects. Personality and Social Psychology Bulletin, 18, 709-718.
- Schlesier-Carter, B., Hamilton, S.A., O'Neil, P.M., Lydiard, B., & Malcolm, R. (1989). Depression and bulimia: The link between depression and bulimic cognitions. Journal of Abnormal Psychology, 98, 322-325.
- Seligman, M.E.P. (1992). Power and powerlessness: Comments on "Cognates of personal control". Applied and Preventative Psychology, 1, 119-120.
- Seligman, M.E.P., Kaslow, N.J., Alloy, L.B., Peterson, C., Tannenbaum, R.L., & Abramson, L.Y. (1984). Attributional style and depressive symptoms among children. Journal of Abnormal Psychology, 93, 235-238.

Slade, P.D. (1982). Towards a functional analysis of anorexia nervosa and bulimia.

British Journal of Clinical Psychology, 21, 167-179.

Sobal, J. & Stunkard, A.J. (1989). Socioeconomic status and obesity: A review of the

literature. Psychological Bulletin, 105, 260-275.

Stotland, S., & Zuroff, D.C. (1991). Relations between multiple measures of dieting self-

efficacy and weight change in a behavioral weight control program. Behavior

Therapy, 22, 47-59.

Stotland, S., Zuroff, D.C., & Roy, M. (1991). Situational dieting self-efficacy and short-

term regulation of eating. Appetite, 17, 81-90.

Strecher, V.J., DeVellis, B.M., Becker, M.H., & Rosenstock, I.M. (1986). The role of

self-efficacy in achieving health behavior change. Health Education Quarterly, 13,

73-91.

Stunkard, A.J. (1984). The current status of treatment for obesity in adults. In A.J.

Stunkard & E. Stellar (Eds.), Eating and its disorders (pp.157-173).

New York: Raven Press.

Thompson, J.K. (1990). Body image disturbance: Assessment and Treatment.

New York: Pergamon Press.

Thompson, J.K., & Thompson, C.M. (1986). Body-size distortion and self-esteem

in asymptomatic normal weight males and females. International Journal of

Eating Disorders, 5, 1061-1068.

- Vanderheyden, D.A., Fekken, G.C., & Boland, F.J. (1988). Critical variables associated with bingeing and bulimia in a university population: A factor analytic study. International Journal of Eating Disorders, 7, 321-329.
- Vitousek, K.B. & Orimoto, L., (1993). In K.S. Dobson & P. Kendall (Eds.), Personality, psychopathology, and psychotherapy (pp. 191-243). San Diego, CA: Academic Press.
- Weinberg, R.S., Hughes, H.R., Critelli, J.W., England, R., & Jackson, A. (1984). Effects of preexisting and manipulated self-efficacy on weight loss in a self-control program. Journal of Research in Personality, 18, 352-358.
- Weisz, J.R. (1980). Developmental change in perceived control: Recognizing noncontingency in the laboratory and perceiving it in the world. Developmental Psychology, 16, 385-390.
- Weisz, J.R. (1986). Contingency and control beliefs as predictors of psychotherapy outcomes among children and adolescents. Journal of Consulting and Clinical Psychology, 54, 789-795.
- Weisz, J.R. & Stipek, D.J. (1982). Competence, contingency, and the development of perceived control. Human Development, 25, 250-281.
- Weisz, J.R., Sweeney, L., Proffitt, V., & Carr, T. (1993). Control-related beliefs and self-reported depressive symptoms in late childhood. Journal of Abnormal Psychology, 102, 411-418.

- Weisz, J.R., Weiss, B., Wasserman, A.A., & Rintoul, B. (1987). Control related beliefs and depression among clinic-referred children and adolescents. Journal of Abnormal Psychology, 96, 58-63.
- Weisz, J.R., Yeates, K.O., Roberson, D., & Beckham, J.C. (1982). Perceived contingency of skill and chance events: a developmental analysis. Developmental Psychology, 18, 898-905.
- White, R.W. (1959). Motivation reconsidered: The concept of competence. Psychological Review, 66, 297-333.
- Zimmerman, M., & Coryell, W. (1987). The inventory to diagnose depression (IDD): A self-report scale to diagnose Major Depressive Disorder. Journal of Consulting and Clinical Psychology, 55, 55-59.
- Zimmerman, M., & Coryell, W. (1988). The validity of a self-report questionnaire for diagnosing Major Depressive Disorder. Archives of General Psychiatry, 45, 738-740.
- Zimmerman, M., Coryell, W., Corenthal, C., & Wilson, S. (1986). A self-report to diagnose Major Depressive Disorder. Archives of General Psychiatry, 43, 1076-1080.

Appendix A

Background Information

SUBJECT# _____

SUBJECT NAME: _____

TELEPHONE: _____ AGE: ___ SEX: M(1) F(2)

HEIGHT (in feet & inches): _____ WEIGHT (in pounds): _____

RACE: Black (1) White (2) Hispanic (3) Native American (4) Other: _____

YEAR OF STUDIES: Fresh. (1) Soph. (2) Jun. (3) Sen. (4) Grad. (5) Spec. (6)

MARITAL STATUS: Never Married (1) Married (2) Divorced (3) Cohabiting (4)
Widowed (5) Other (6): _____

PARENTS' HIGHEST LEVEL OF EDUCATION: Father: _____ Mother: _____

Have you ever been teased about your weight? Yes No

If you have been teased, how frequently did the teasing occur?

1. Once in a while
2. Sometimes
3. Often
4. Very Frequently

Do you feel that you are overweight? Yes No

If you answered "Yes", by how many pounds do you feel you are overweight?

- | | |
|--------------------|---------------------|
| 1. less than 5lb. | 2. 5 lb. |
| 3. more than 5 lb. | 4. more than 10 lb. |

Do you feel that you are underweight? Yes No

If you answered "Yes", by how many pounds are you underweight?

- | | |
|--------------------|---------------------|
| 1. less than 5 lb | 2. 5 lb. |
| 3. more than 5 lb. | 4. more than 10 lb. |

In the past, have you ever tried to diet? Yes No

If you have dieted, how long ago did you do so?

- | | |
|----------------------|-----------------------|
| 1. less than 1 month | 2. less than 6 months |
| 3. less than 1 year | 4. more than 1 year |

In the past 6 months how often have you tried to diet?

- | | |
|---------------|-----------------------|
| 1. never | 2. 1 to 4 times |
| 3. 5-10 times | 4. more than 10 times |

When you have dieted, how much weight have you lost?

- | | |
|--------------------|---------------------|
| 1. less than 5 lb | 2. 5 lb. |
| 3. more than 5 lb. | 4. more than 10 lb. |

How much of this weight loss did you keep off for 6 months?

- | | |
|--------------------|---------------------|
| 1. less than 5 lb. | 2. 5 lb. |
| 3. more than 5 lb. | 4. more than 10 lb. |

If you have not dieted, are you satisfied with your current weight? Yes No

How have you maintained your weight?

1. Mostly through diet
2. Mostly through exercise
3. Through a combination of diet and exercise
4. My weight takes care of itself

How will you maintain your weight in the future?

1. Mostly through diet
2. Mostly through exercise
3. Through a combination of diet and exercise
4. My weight will continue to take care of itself

Appendix B

Subject # _____

BELIEFS ABOUT WEIGHT AND DIETING INVENTORY

For the following statements, circle the number that best reflects how true you think each is.

1. A person can control what she/he eats.

1. True in all situations
2. True in most situations
3. True in some situations
4. Not true in any situation

2. I can control what I eat.

1. True in all situations
2. True in most situations
3. True in some situations
4. Not true in any situation

3. A person can maintain her/his desired weight.

1. Always true
2. Mostly true
3. Sometimes true
4. Never true

4. I can maintain my desired weight.

1. Always true
2. Mostly true
3. Sometimes true
4. Never true

5. A person's weight is dependent on the foods she/he eats.

1. Always true
2. Mostly true
3. Sometimes true
4. Never true

6. My weight is dependent upon the foods I eat.

1. Always true
2. Mostly true
3. Sometimes true
4. Never true

7. A person's weight is dependent upon the amount of exercise she/he does.

1. Always true
2. Mostly true
3. Sometimes true
4. Never true

8. My weight is dependent upon the amount of exercise I do.

- 1. Always true**
- 2. Mostly true**
- 3. Sometimes true**
- 4. Never true**

9. A person's self-esteem is directly related to her/his weight.

- 1. True in all cases**
- 2. True in most cases**
- 3. True in some cases**
- 4. Not true at all**

10. My self-esteem is directly related to my weight.

- 1. Always true**
- 2. Mostly true**
- 3. Sometimes true**
- 4. Never true**

Appendix C

Subject # _____

MOOD AND FEELINGS QUESTIONNAIRE

1. On this questionnaire are groups of 5 statements.

2. Read each group of statements carefully. Then pick out the one statement in each group that best describes the way you have been feeling the PAST TWO WEEKS. Circle the number next to the statement you picked.

1. 0 I do not feel sad or depressed.
 1 I occasionally feel sad or down.
 2 I feel sad most of the time, but I can snap out of it.
 3 I feel sad all of the time, and I can't snap out of it.
 4 I am so sad or unhappy that I can't stand it.
2. 0 My energy level is normal.
 1 My energy level is occasionally a little lower than normal.
 2 I get tired easily or have less energy than usual.
 3 I get tired from doing almost anything.
 4 I feel tired or exhausted almost all of the time
3. 0 I have not been feeling more restless and fidgety than usual.
 1 I feel a little more restless or fidgety than usual.
 2 I have been very fidgety and I have some difficulty sitting still in a chair.
 3 I have been extremely fidgety, and I have been pacing a little bit almost every day.
 4 I have been pacing more than an hour a day, and I can't sit still.
4. 0 I have not been talking or moving more slowly than usual.
 1 I am talking a little slower than usual.
 2 I am speaking slower than usual, and it takes me longer to respond to questions, but I can still carry on a normal conversation.
 3 Normal conversations are difficult because it is so hard to start talking.
 4 I feel extremely slowed down physically, like I am stuck in mud.
5. 0 I have not lost interest in my usual activities.
 1 I am a little less interested in 1 or 2 of my usual activities.
 2 I am less interested in several of my usual activities.
 3 I have lost most of my interest in almost all of my activities.
 4 I get no pleasure from any of the activities which I usually enjoy.
6. 0 I get as much pleasure out of my usual activities as usual.
 1 I get a little less pleasure from 1 to 2 of my usual activities
 2 I get less pleasure from several of my usual activities.
 3 I get almost no pleasure from most of the activities which I usually enjoy.
 4 I get no pleasure from any of the activities which I usually enjoy.
7. 0 I have not been feeling guilty.
 1 I occasionally feel a little guilty.
 2 I often feel guilty.
 3 I feel guilty most of the time.
 4 I feel extremely guilty most of the time.

8. 0 I do not feel like a failure.
 1 My opinion of myself is occasionally a little low.
 2 I feel I am inferior to most people
 3 I feel like a failure.
 4 I feel I am a totally worthless person.
9. 0 I haven't had any thoughts of death or suicide.
 1 I occasionally think life is not worth living.
 2 I frequently think of dying in passive ways (such as going to sleep and not waking up), or that I'd be better off dead.
 3 I have frequent thoughts of killing myself, but I would not carry them out.
 4 I would kill myself if I had the chance.
10. 0 I can concentrate as well as usual.
 1 My ability to concentrate is slightly worse than usual.
 2 My attention span is not as good as usual and I am having difficulty collecting my thoughts, but this hasn't caused any problems.
 3 My ability to read or hold a conversation is not as good as it usually is.
 4 I cannot read, watch TV, or have a conversation without great difficulty.
11. 0 I make decisions as well as I usually do.
 1 Decision making is slightly more difficult than usual.
 2 It is harder and takes longer to make decisions, but I do make them.
 3 I am unable to make some decisions.
 4 I can't make any decisions at all.
12. 0 My appetite is not less than normal.
 1 My appetite is slightly worse than usual.
 2 My appetite is clearly not as good as usual, but I still eat.
 3 My appetite is much worse now.
 4 I have no appetite at all, and I have to force myself to eat even a little.
13. 0 I haven't lost any weight.
 1 I've lost less than 5 pounds.
 2 I've lost between 5 and 10 pounds.
 3 I've lost between 11 and 25 pounds
 4 I've lost more than 25 pounds
14. 0 My appetite is not greater than normal.
 1 My appetite is slightly greater than normal.
 2 My appetite is clearly greater than usual.
 3 My appetite is much greater than usual.
 4 I feel hungry all of the time.
15. 0 I haven't gained any weight.
 1 I've gained less than 5 pounds.
 2 I've gained between 5 and 10 pounds.
 3 I've gained between 11 and 25 pounds.
 4 I've gained more than 25 pounds.

16. 0 I am not sleeping less than normal.
1 I occasionally have slight difficulty sleeping.
2 I clearly don't sleep as well as usual.
3 I sleep about half my normal amount of time.
4 I sleep less than 2 hours per night.
17. 0 I am not sleeping more than normal.
1 I occasionally sleep more than normal.
2 I frequently sleep at least 1 hour more than usual.
3 I frequently sleep at least 2 hours more than usual.
4 I frequently sleep at least 3 hours more than usual.
18. 0 I do not feel discouraged about the future.
1 I occasionally feel a little discouraged about the future.
2 I often feel discouraged about the future.
3 I feel very discouraged about the future most of the time.
4 I feel that the future is hopeless and that things will never improve.

Appendix D

Subject # _____

EATING BEHAVIORS QUESTIONNAIRE

Directions: This is a survey that looks at your attitudes, feelings, and behaviors concerning eating. Please place an X above the word that best describes your answer. Please make answer all 64 questions.

1. I think about sweets and carbohydrates without feeling nervous.

Always Usually Often Sometimes Rarely Never

2. I think my stomach is too big.

Always Usually Often Sometimes Rarely Never

3. I wish I could return to the security of childhood.

Always Usually Often Sometimes Rarely Never

4. I eat when I am upset.

Always Usually Often Sometimes Rarely Never

5. I stuff myself with food.

Always Usually Often Sometimes Rarely Never

6. I wish I could be younger.

Always Usually Often Sometimes Rarely Never

7. I think about dieting.

Always Usually Often Sometimes Rarely Never

8. I get frightened when my feelings are too strong.

Always Usually Often Sometimes Rarely Never

9. I think my thighs are too large.

Always Usually Often Sometimes Rarely Never

10. I feel ineffective as a person.

Always Usually Often Sometimes Rarely Never

11. I feel extremely guilty after overeating.

Always Usually Often Sometimes Rarely Never

12. I think my stomach is just the right size.

Always Usually Often Sometimes Rarely Never

13. Only outstanding performance is good enough in my family.

Always Usually Often Sometimes Rarely Never

14. The happiest time in life is when you are a child.

Always Usually Often Sometimes Rarely Never

15. I am open about my feelings.

Always Usually Often Sometimes Rarely Never

16. I am terrified of gaining weight.

Always Usually Often Sometimes Rarely Never

17. I trust others.

Always Usually Often Sometimes Rarely Never

18. I feel alone in the world.

Always Usually Often Sometimes Rarely Never

19. I feel satisfied with the shape of my body.

Always Usually Often Sometimes Rarely Never

20. I feel generally in control of things in my life.

Always Usually Often Sometimes Rarely Never

21. I get confused about what emotion I am feeling.

Always Usually Often Sometimes Rarely Never

22. I would rather be an adult than a child.

Always Usually Often Sometimes Rarely Never

23. I can communicate with others easily.

Always Usually Often Sometimes Rarely Never

24. I wish I were someone else.

Always Usually Often Sometimes Rarely Never

25. I exaggerate or magnify the importance of weight.

Always Usually Often Sometimes Rarely Never

26. I can clearly identify what emotion I am feeling.

Always Usually Often Sometimes Rarely Never

27. I feel inadequate.

Always Usually Often Sometimes Rarely Never

28. I have gone on eating binges where I felt that I could not stop.

Always Usually Often Sometimes Rarely Never

29. As a child, I tried very hard to avoid disappointing my parents and teachers.

Always Usually Often Sometimes Rarely Never

30. I have close relationships.

Always Usually Often Sometimes Rarely Never

31. I like the shape of my buttocks.

Always Usually Often Sometimes Rarely Never

32. I am preoccupied with the desire to be thinner.

Always Usually Often Sometimes Rarely Never

33. I don't know what's going on inside me.

Always Usually Often Sometimes Rarely Never

34. I have trouble expressing my emotions to others.

Always Usually Often Sometimes Rarely Never

35. The demands of adulthood are too great.

Always Usually Often Sometimes Rarely Never

36. I hate being less than best at things.

Always Usually Often Sometimes Rarely Never

37. I feel secure about myself.

Always Usually Often Sometimes Rarely Never

38. I think about bingeing (overeating).

Always Usually Often Sometimes Rarely Never

39. I feel happy that I am not a child anymore.

Always Usually Often Sometimes Rarely Never

40. I get confused as to whether or not I am hungry.

Always Usually Often Sometimes Rarely Never

41. I have a low opinion of myself.

Always Usually Often Sometimes Rarely Never

42. I feel that I can achieve my standards.

Always Usually Often Sometimes Rarely Never

43. My parents have expected excellence of me.

Always Usually Often Sometimes Rarely Never

44. I worry that my feelings will get out of control.

Always Usually Often Sometimes Rarely Never

45. I think my hips are too big.

Always Usually Often Sometimes Rarely Never

46. I eat moderately in front of others and stuff myself when they're gone.

Always Usually Often Sometimes Rarely Never

47. I feel bloated after eating a normal meal.

Always Usually Often Sometimes Rarely Never

48. I feel that people are happiest when they are children.

Always Usually Often Sometimes Rarely Never

49. If I gain a pound, I worry that I will keep gaining.

Always Usually Often Sometimes Rarely Never

50. I feel that I am a worthwhile person.

Always Usually Often Sometimes Rarely Never

51. When I am upset, I don't know if I am sad, frightened, or angry.

Always Usually Often Sometimes Rarely Never

52. I feel that I must do things perfectly or not do them at all.

Always Usually Often Sometimes Rarely Never

53. I have thought of trying to vomit in order to lose weight.

Always Usually Often Sometimes Rarely Never

54. I need to keep people at a certain distance (feel uncomfortable if someone tries to get too close).

Always Usually Often Sometimes Rarely Never

55. I think that my thighs are just the right size.

Always Usually Often Sometimes Rarely Never

56. I feel empty inside (emotionally).

Always Usually Often Sometimes Rarely Never

57. I can talk about my personal thoughts or feelings.

Always Usually Often Sometimes Rarely Never

58. The best years of your life are when you become an adult.

Always Usually Often Sometimes Rarely Never

59. I think my buttocks are too large.

Always Usually Often Sometimes Rarely Never

60. I have feelings I can't quite identify.

Always Usually Often Sometimes Rarely Never

61. I eat or drink in secrecy.

Always Usually Often Sometimes Rarely Never

62. I think my hips are just the right size.

Always Usually Often Sometimes Rarely Never

63. I have extremely high goals.

Always Usually Often Sometimes Rarely Never

64. When I am upset, I worry that I will start eating.

Always Usually Often Sometimes Rarely Never

Appendix E

Subject # _____

EXPLANATORY STYLE QUESTIONNAIRE

- 1) Read each situation and vividly imagine it happening to you.
- 2) Decide what you believe would be the one major cause of the situation if it happened to you.
- 3) Write this cause in the blank provided.
- 4) Answer three questions about the cause by circling one number per question. Do not circle the words.
- 5) Go on to the next situation.

SITUATIONS

YOU HAVE BEEN LOOKING FOR A JOB UNSUCCESSFULLY FOR SOME TIME.

1) Write down one major cause: _____

2) Is the cause of your unsuccessful job search due to something about you or something about other people or circumstances?

Totally due to other people or circumstances 1 2 3 4 5 6 7 Totally due to me

3) In the future when you look for a job, will this cause again be present?

Will never again be present 1 2 3 4 5 6 7 Will always be present

4) Is the cause something that just influences looking for a job, or does it also influence other areas of your life?

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situations in my life

A FRIEND COMES TO YOU WITH A PROBLEM AND YOU DON'T TRY TO HELP HIM/HER..

5) Write down one major cause: _____

6) Is the cause of your not helping your friend due to something about you or something about other people or circumstances?

Totally due to other people or circumstances 1 2 3 4 5 6 7 Totally due to me

7) In the future when a friend comes to you with a problem, will this cause again be present?

Will never again be present 1 2 3 4 5 6 7 Will always be present

8) Is the cause something that just affects what happens when a friend comes to you with a problem, or does it also influence other areas of your life?

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situations in my life

YOU GIVE AN IMPORTANT TALK IN FRONT OF A GROUP AND THE AUDIENCE REACTS NEGATIVELY.

9) Write down one major cause: _____

10) Is the cause of the audience's negative reaction due to something about you or something about other people or circumstances?

Totally due to other people or circumstances 1 2 3 4 5 6 7 Totally due to me

11) In the future when you give talks, will this cause again be present?

Will never again be present 1 2 3 4 5 6 7 Will always be present

12) Is the cause something that just influences giving talks, or does it also influence other areas of your life?

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situations in my life

YOU MEET A FRIEND WHO ACTS HOSTILELY TOWARDS YOU.

13) Write down one major cause: _____

14) Is the cause of your friend acting hostile due to something about you or something about other people or circumstances?

Totally due to other people or circumstances 1 2 3 4 5 6 7 Totally due to me

15) In the future when interacting with friends, will this cause again be present?

Will never again be present 1 2 3 4 5 6 7 Will always be present

16) Is the cause something that just influences giving talks, or does it also influence other areas of your life?

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situations in my life

YOU CAN'T GET ALL THE WORK DONE THAT OTHERS EXPECT OF YOU.

17) Write down one major cause: _____

18) Is the cause of your not getting the work done due to something about you or something about other people or circumstances?

Totally due to other people or circumstances 1 2 3 4 5 6 7 Totally due to me

19) In the future when doing the work that others expect, will this cause again be present?

Will never again be present 1 2 3 4 5 6 7 Will always be present

20) Is the cause something that just affects doing work that others expect of you, or does it also influence other areas of your life?

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situations in my life

YOU GO OUT ON A DATE AND IT GOES VERY BADLY.

21) Write down one major cause: _____

22) Is the cause of the date going badly due to something about you or something about other people or circumstances?

Totally due to other people or circumstances 1 2 3 4 5 6 7 Totally due to me

23) In the future when you are dating, will this cause again be present?

Will never again be present 1 2 3 4 5 6 7 Will always be present

24) Is the cause something that just influences dating, or does it also influence other areas of your life?

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situations in my life

YOU DIET BUT ARE UNABLE TO LOSE WEIGHT.

25) Write down one major cause: _____

26) Is the cause of your inability to lose weight due to something about you or something about other people or circumstances?

Totally due to other people or circumstances 1 2 3 4 5 6 7 Totally due to me

27) In the future when you diet, will this cause again be present?

Will never again be present 1 2 3 4 5 6 7 Will always be present

28) Is the cause something that just affects dieting, or does it also influence other areas of your life?

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situations in my life

Appendix F

FEELINGS ABOUT EATING INVENTORY

Subject # _____

Directions: For the following items rate your level of confidence about being able to successfully resist the desire to eat. Circle the number that best applies.

1. I can resist eating when I am anxious (nervous).

0 1 2 3 4 5 6 7 8 9
Not Confident Very Confident

2. I can control my eating on the weekends.

0 1 2 3 4 5 6 7 8 9
Not Confident Very Confident

3. I can resist eating even when I have to say "no" to others.

0 1 2 3 4 5 6 7 8 9
Not Confident Very Confident

4. I can resist eating when I feel physically run down.

0 1 2 3 4 5 6 7 8 9
Not Confident Very Confident

5. I can resist eating when I am watching T.V.

0 1 2 3 4 5 6 7 8 9
Not Confident Very Confident

6. I can resist eating when I am depressed (or down).

0 1 2 3 4 5 6 7 8 9
Not Confident Very Confident

7. I can resist eating when there are many different kinds of food available.

0 1 2 3 4 5 6 7 8 9
Not Confident Very Confident

8. I can resist eating even when I feel it's impolite to refuse a second helping.

0 1 2 3 4 5 6 7 8 9
Not Confident Very Confident

9. I can resist eating even when I have a headache.

0 1 2 3 4 5 6 7 8 9
Not Confident Very Confident

10. I can resist eating when I am reading.

0 1 2 3 4 5 6 7 8 9
Not Confident Very Confident

11. I can resist eating when I am angry (or irritable).

0 1 2 3 4 5 6 7 8 9
Not Confident Very Confident

12. I can resist eating when I am at a party.

0 1 2 3 4 5 6 7 8 9
Not Confident Very Confident

13. I can resist eating even when others are pressuring me to eat.

0 1 2 3 4 5 6 7 8 9
Not Confident Very Confident

14. I can resist eating when I am in pain.

0 1 2 3 4 5 6 7 8 9
Not Confident Very Confident

15. I can resist eating just before going to bed.

0 1 2 3 4 5 6 7 8 9
Not Confident Very Confident

16. I can resist eating when I have experienced failure.

0 1 2 3 4 5 6 7 8 9
Not Confident Very Confident

17. I can resist eating even when high-calorie foods are available.

0 1 2 3 4 5 6 7 8 9
Not Confident Very Confident

18. I can resist eating even when I think others will be upset if I don't eat.

0 1 2 3 4 5 6 7 8 9
Not Confident Very Confident

19. I can resist eating when I feel uncomfortable.

0 1 2 3 4 5 6 7 8 9
Not Confident Very Confident

20. I can resist eating when I am happy.

0 1 2 3 4 5 6 7 8 9
Not Confident Very Confident

Clark, Abrams, Niaura, Eaton, & Rossi (1991)

Appendix G

**OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD
HUMAN SUBJECTS REVIEW**

Date: 11-02-94

IRB#: AS-93-013B

Proposal Title: THE EFFECT OF BODY IMAGE PERCEPTION ON EXPLANATORY STYLE, SELF-EFFICACY AND WEIGHT

Principal Investigator(s): John Chaney, Elizabeth M. Petrin

Reviewed and Processed as: Continuation

Approval Status Recommended by Reviewer(s): Approved with Provisions

APPROVAL STATUS SUBJECT TO REVIEW BY FULL INSTITUTIONAL REVIEW BOARD AT NEXT MEETING.

APPROVAL STATUS PERIOD VALID FOR ONE CALENDAR YEAR AFTER WHICH A CONTINUATION OR RENEWAL REQUEST IS REQUIRED TO BE SUBMITTED FOR BOARD APPROVAL. ANY MODIFICATIONS TO APPROVED PROJECT MUST ALSO BE SUBMITTED FOR APPROVAL.

Comments, Modifications/Conditions for Approval or Reasons for Deferral or Disapproval are as follows:

Provisions Requested:

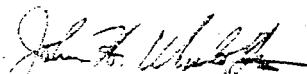
Some questions on the Mood and Feelings Questionnaire may be disturbing and/or sensitive for some subjects (esp. question #9, "I would kill myself if I had the chance"). Will subjects be made aware of psychological services available to them should they need assistance?

DO NOT PROCEED WITH THIS STUDY PRIOR TO RECEIVING FINAL APPROVAL.

Please submit your response to Jennifer Moore, IRB Executive Secretary, (005 LSE, x45700).

If you have any strong disagreements with the reviewer's recommendations, you may respond in writing to the executive secretary or request a meeting with the full IRB to discuss the recommendations.

Signature:



Chair of Institutional Review Board

Date: November 8, 1994

Table 1.

Zero-Order and Partial Correlations Among Study Variables

Variable	DH	SES	AGE	IDD	WEL	PCWD	IN	SN	GN	EDI
DH	--									--
SES	-.11	--								--
Age	.02	-.06	--							--
IDD	-.06	.04	.03	--						--
WEL	-.03	-.10	-.18*	-.28**	--					-.25*
PCWD	-.01	.21*	.16	-.14	-.05	--				-.15
IN	-.02	.06	.26**	.16	.09	-.05	--			.15
SN	-.19*	.12	.01	.22*	-.03	.01	.21*	--		.11
GN	-.06	-.07	.16	.31***	-.19*	-.09	.30**	.48**	--	.20
EDI	-.02	-.04	.02	.66***	-.37***	-.23*	.21*	.18*	.34***	--

Note: Zero-order correlations appear under the diagonal. The partial correlations, controlling for DH, Recent History of Dieting; SES; and Age are in the final column. IDD, Inventory to Diagnose Depression; WEL, Weight and Lifestyle Self-Efficacy Questionnaire; PCWD, Perceived Control of Weight and Dieting; EDI, Eating Disorders Inventory

* $p < .05$, ** $p < .01$, and *** $p < .001$.

Table 2.

Summary of Hierarchical Multiple Regression Analyses Examining the Interaction of the Three Dimensions of Attributional Style with Eating Self-Efficacy on Maladaptive Eating

Step	Variables	Beta	R for set	F for set
EQUATION 1				
1	Dieting History	-.01	.46	15.23**
	IDDSUM	.69		
	SES	-.04		
	Age	-.02		
	Race	.15		
2	WELSUM	-.20	.06	5.28**
	INTNEG	.12		
3	WELSUM X INTNEG	-.56	.00	1.01
EQUATION 2				
2	WELSUM	-.20	.04	3.51*
	STBNEG	.08		
3	WELSUM X STBNEG.	.06	.00	.01

Table 2. (Continued)

Step	Variables	Beta	R for set	F for set
EQUATION 3				
2	WELSUM	-.20	.05	4.53*
	GLONEG	.16		
3	WELSUM X GLONEG	-.52	.01	2.27

Note. Step 1 was the same in all three equations; it is shown for Equation 1 only.

IDDSUM=Sum of all items on the Inventory to Diagnose Depression;

WELSUM= Sum of all of the items on the Weight and Lifestyle Self-Efficacy

Questionnaire; INTNEG=Internal attributions for negative events; STBNEG=

Stable attributions for negative events; GLONEG=Global attributions for negative

events. * $p < .05$, ** $p < .001$

Table 3.

Summary of Hierarchical Multiple Regression Analyses Examining the Interaction
of the Three Dimensions of Attributional Style with Perceived Control on
Maladaptive Eating

Step	Variables	Beta	R for set	F for set
EQUATION 1				
1	Dieting History	-.01	.46	15.23**
	IDDSUM	.69		
	SES	-.04		
	Age	-.02		
	Race	.15		
2	PCWD	-.12	.02	1.86
	INTNEG	.12		
3	PCWD X INTNEG	.40	.02	2.92
EQUATION 2				
2	PCWD	-.12	.02	1.50
	STBNEG	.08		
3	PCWD X STBNEG.	.52	.03	4.62*

Table 3. (Continued)

Step	Variables	Beta	R for set	F for set
EQUATION 3				
2	PCWD	-.12	.03	2.77
	GLONEG	.16		
3	PCWD X GLONEG	.37	.01	1.65

Note. Step 1 was the same in all three equations; it is shown for Equation 1 only.

IDDSUM=Sum of the items on the Inventory to Diagnose Depression; PCWD=

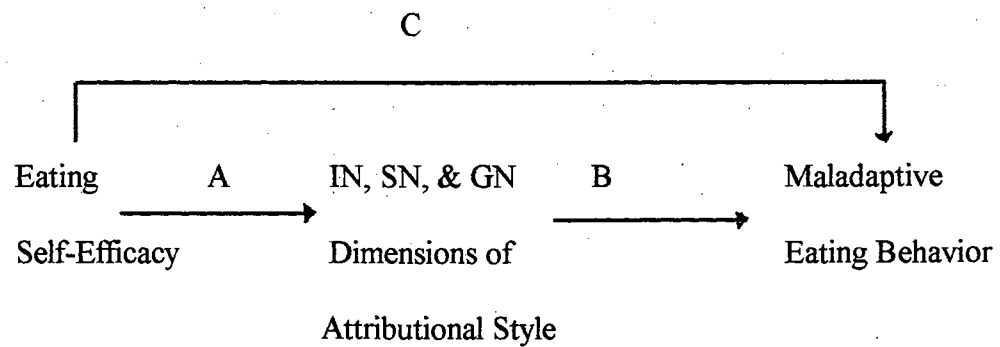
Sum of all of the items on the Perceived Control of Weight and Dieting Inventory;

INTNEG=Internal attributions for negative events; STBNEG= Stable attributions

for negative events; GLONEG=Global attributions for negative events. * $p < .05$,

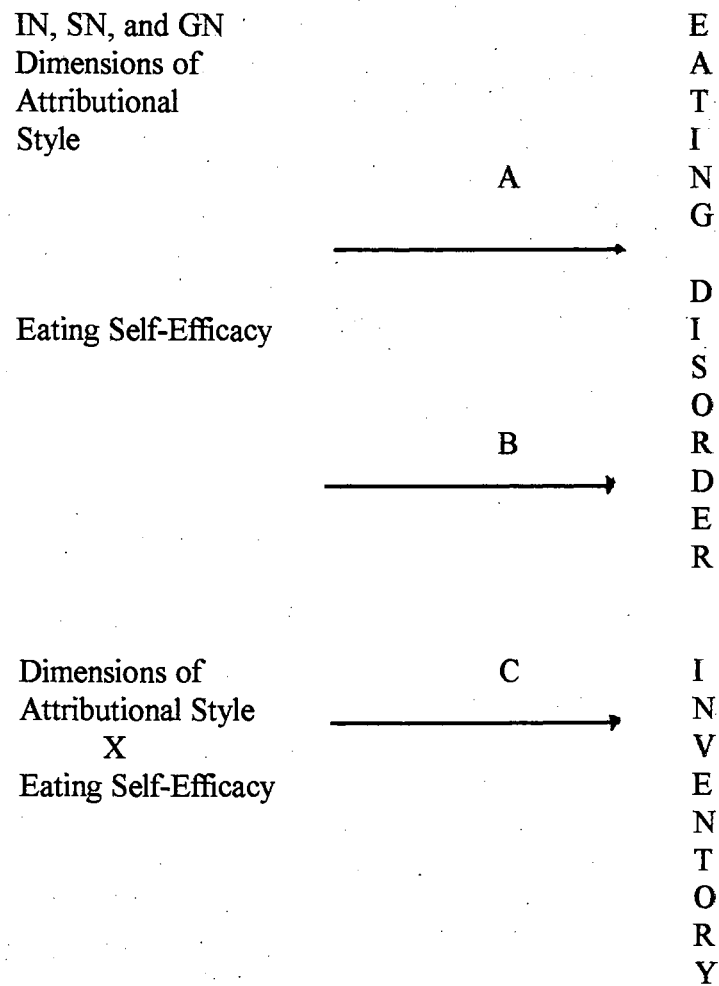
** $p < .001$

Figure 1.

A Model of a Mediator Relationship Among the Variables.

*Note. For a mediator relationship to exist the relationships designated by "A" and "B" must be significant. However the relationship designated by "C" should not be significant once the effect of the mediator is removed.

Figure 2.

Model of a Moderator Relationship Among the Study Variables.

*Note. For a moderator relationship to exist, the interaction term designated by "C" must be significant. The relationships designated by "A" and "B" do not necessarily need to be significant.

2
VITA

Elizabeth Murphy Petrin

Candidate for the Degree of

Doctor of Philosophy

Thesis: COGNATES OF PERSONAL CONTROL AND MALADAPTIVE PATTERNS
OF EATING

Major Field: Clinical Psychology

Biographical

Personal Data: Born in Stamford, Connecticut, on April 4, 1957.

Education: Graduated from Stamford High School, Stamford, Connecticut in June, 1975; received a Bachelor of Arts degree in History from Albertus Magnus College, New Haven, Connecticut in May, 1979; received an Master of Business Administration from Anna Maria College in Paxton, Massachusetts, May, 1985; received an Master of Science degree in Psychology from Oklahoma State University, Stillwater, Oklahoma, December, 1991; Completed a Predoctoral Internship in Clinical Psychology with the Oklahoma Health Consortium, Oklahoma City, Oklahoma, August, 1996 Completed the requirement for a Doctor of Philosophy Degree in Clinical Psychology in December, 1997

Educational Honors: Kappa Gamma Pi (1979) and Phi Kappa Phi (1997)

Professional Memberships: American Psychological Association