28
81

Experimentally-Induced Success and Failure in Bulimic and Nonbulimic Women: Cognitive and Affective Responses

by

Cynthia Lu ReynaMcGlone

Dissertation submitted to the Faculty of the

Virginia Polytechnic Institute and State University

in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

in

Psychology

APPROVED:

Thomas H. Ollendick, Chair

Marlene Boskind-White

George A. Clum

Marshall D. Tessnear

Richard A. Winett

July, 1987

Blacksburg, Virginia

Experimentally-Induced Success and Failure in Bulimic and Nonbulimic Women: Cognitive and Affective Responses

by

Cynthia Lu ReynaMcGlone

Thomas H. Ollendick, Chair

Psychology

(ABSTRACT)

Two studies were conducted to investigate psychological features of bulimia. Both studies focused on cognitive variables; additionally, the second study included affective variables. In Study I, 569 students were screened with questionnaires. Based on correspondence of questionnaire items to DSM-III criteria, 20 bulimic women were selected, along with 20 matching, nonbulimic women as a control group. These 40 subjects were assigned randomly to either a success or failure condition, in which their "performance" on laboratory tasks was predetermined by very easy or impossible tasks, respectively. Standardized feedback statements, positive or critical, were issued during the experiments. Before, in the middle of, and after the experiment, subjects completed rating forms of expectancy and genereralized self-efficacy; also, they completed attribution ratings at the middle point and end of the experiment. Results indicated lower generalized self-efficacy and slightly higher persistence in bulimics.

In Study II, 1526 students were screened and, using similar but more stringent criteria, 26 bulimics were selected along with 26 controls. Study II incorporated similar procedures as Study I, but added the assessment of: self-efficacy to solve the tasks, performance satisfaction, self-statements, and measures of four affective dimensions: general depression, and situational anxiety, depression and hostility. Results indicated that bulimics had lower self-efficacy to solve the tasks, lower generalized self-efficacy, greater maladaptive self-statements, and higher levels of all affective variables. No differences were found

between bulimics and controls with respect to attributions, performance satisfaction, or expectancy.

These data are congruent with a cognitive social learning perspective of bulimia, and they suggest that lowered confidence in specific abilities and certain types of self-statements operate to maintain bulimic symptoms. Furthermore, this research confirmed earlier reports in the literature regarding affective components of bulimia, especially that they are more depressed and anxious. Also noted in this research was a tendency for bulimics to experience greater mood elevation after success, and greater difficulty in recovering from situationally-induced anxiety and depression after failure, compared to nonbulimics. Future research should attend to the interrelationships among various classes of cognitions and affective variables, with respect to bulimic symptomatology.

Acknowledgements

It has been a privilege to work with my major professor, Tom Ollendick, as well as with each of my committee members. My sincere gratitude is expressed to these individuals who have, through their research and clinical expertise as well as their encouragement, inspired me to work hard and to learn a great deal. Tom Ollendick is extended special thanks for his congeniality, conscientiousness, accessibility, skillful guidance, and, most of all, for helping me to recognize my own talents.

Undergraduate research assistants Ruth Arnegardt, Kritsti Bailey, and Tammy Sass and fellow graduate students Lowell Thomas and Stephanie Baker-Thomas deserve thanks for their contributions. Also, I would like to thank my supportive friends and family members, including:

Finally, I would like to extend my deepest appreciation to my brilliant computer programming consultant and wonderful husband,

DEDICATION

This dissertation is dedicated in memory of my loving and beloved mother.

Table of Contents

List of Illustrations

List of Tables

Introduction

"Bulimarexics begin to binge and purge mainly as a way of dealing with the stresses that arise from failures, anticipated or real, in their academic or social lives, in order to avoid sex, or to get back at others." -Rosenhan and Seligman, 1984, p. 527.

In recent years, increasing attention has been focused on the eating disorder bulimia . Popular as well as professional literature reflects this growing awareness and interest. Often identified as a subtype or variant of anorexia nervosa, bulimia also has been found to exist frequently in the absence of anorexia, and to occur even among obese individuals. However, the current explosion of interest in, and investigation of, bulimia remains accompanied paradoxically by a striking lack of clear knowledge about the disorder. The critical processes likely to be involved in the development and maintenance of bulimia and anorexia are not well understood.

The first purpose of this paper is to review and critically evaluate the available literature on bulimia. Empirical studies as well as theoretical models will be reviewed, with particular attention given to the need for research on cognitive variables. The second purpose of this paper is to describe two experimental studies of bulimia. Both studies focused on cognitive variables; additionally, the second study included affective variables.

Bulimia is characterized by an abnormal eating pattern involving binging and purging of food. Binging involves the rapid consumption of very large amounts of food, usually in a brief period of time and frequently in an inconspicuous setting. Purging may be accomplished by a variety of methods including self-induced vomiting, laxative or diuretic abuse, and severe dieting or fasting. Bulimic individuals tend to have self-deprecating thoughts as well as depressed mood after their binges (American Psychiatric Association, 1980). A substantial number of bulimics also appear to experience a more generalized clinical depression (see review by Schlesier-Stroop, 1984). The related disorder, anorexia nervosa, is a disorder characterized by a relentless pursuit of a thin body size, accompanied by a strong and fixed belief that one's body is too large (Garfinkel & Garner, 1982). Furthermore, anorexia entails a substantial loss of original or normal body weight in the absence of any known physical etiology (American Psychiatric Association, 1980, 1987).

Although DSM-III (and DSM-III-R) specifications for bulimia and anorexia are fairly clear, there are several problems pertaining to this classification system. One problem concerns the specifics of several definitional aspects, i.e., what constitutes a "large" amount of food or binge, how frequent must the dieting, vomiting, or other purging behaviors be, etc. A second problem is that of differential diagnosis between anorexia and bulimia.

The chief definitional distinction between the disorders appears to be body weight, and some investigators have suggested that the classification would be more meaningful if the two were collapsed (Holmgren, Humble, Norring, Roos, Rosmark, & Sohlberg, 1983). These investigators observed that many patients have weight histories which fluctuate repeatedly between anorexic and bulimic levels. Further, they suggested that the conflict between anorexic and bulimic tendencies represents an important common feature of the disorders. Although many individuals do display both disorders, the fact that some bulimic individuals have no history of anorexia (Fairburn, 1980) and some anorexics consistently fast rather than binge and purge (Casper, Eckert, Halmi, Davis, & Goldberg, 1980) leaves this issue unresolved. Thus, the relationship between bulimia and anorexia is not yet fully clear. The

DSM-III criteria for bulimia and anorexia are presented in Table 1 on page 4 and Table 2 on page 5.

Furthermore, there is the broader question of the relationship of bulimia and anorexia to affective disorders, particularly depressive states (Garfinkel & Garner, 1982). Although depression is a common feature, the degree to which disordered eating is mediated by depression and the manner in which it may be mediated have yet to be established by empirical research.

A plethora of physical and medical complications has been associated with bulimia (Mitchell, 1986; Spack, 1985). These include such minor maladies as swollen salivary glands, sore throat, chronic fatigue, hoarseness, and hand abrasions resulting from self-induced vomiting. Erosion of teeth, severe tooth enamel loss, and the development of cavities as a result of vomiting also have been documented (Gallo & Russell, 1982; Wolcott, Yager, & Gordeon, 1984). Irregularity in menstrual cycles has been noted by some (Fairburn & Cooper, 1982; Pyle, Mitchell, Eckert, Halverson, Neuman, & Goff, 1982) and severe headache induced by diet pills containing phenylpropanolamine has been found (Higgins, Oppenheimer, & Gershman, 1985). Serious medical complications also include electrolyte imbalances, such as reduced blood levels of potassium (hypokalemia) and chlorine (hypochloriemia) (Pyle et. al, 1982; Russell, 1979). Urinary infections, renal failure, and epileptic seizures also have been reported (Russell, 1979) as have cardiac arrythmias, gastric dilation (Mitchell, Pyle, & Miner, 1982; Pyle et al., 1981; Saul et al., 1982) and neuroendocrine abnormalities (Gwirtsman, Roy-Byrne, Yager, & Gerner, 1983; Lindy, Walsh, Roose, Gladis, & Glassman). Although the complications of normal-weight bulimics usually are considered benign relative to those of anorexics, bulimics of normal weight can experience medical consequences which are grave in some instances (Mitchell, 1986), even fatal (i.e., Edwards, 1985).

Current literature on bulimia is characterized by surveys, uncontrolled assessment studies, studies comparing anorexics with bulimia and anorexics without bulimia, treatment outcome

Table 1. DSM-III Criteria for Bulimia Nervosa

1. Recurrent episodes of binge eating (rapid consumption of a large amount of food in a discrete period of time, usually less than two hours).
2. At least three of the following:
   a. consumption of high-caloric, easily ingested food during a binge
   b. inconspicuous eating during a binge
   c. termination of such eating episodes by abdominal pain, sleep, social interruption, or self-induced vomiting
   d. repeated attempts to lose weight by severely restrictive diets, self-induced vomiting, or use of cathartics or diuretics
   e. frequent weight fluctuations greater than ten pounds due to alternating binges and fasts
3. Awareness that the eating pattern is abnormal and fear of not being able to stop eating voluntarily.
4. Depressed mood and self-deprecating thoughts following eating binges.
5. The bulimic episodes are not due to Anorexia Nervosa or any known physical disorder.

studies, controlled assessment studies, and theoretical accounts. The following review describes select studies using each of these approaches.

Empirical Studies

General Surveys

Survey studies of bulimia provide demographic and epidemiologic information such as age, prevalence and sex ratio estimates, and depending on the particular investigation, may yield information on the interrelationship of bulimic symptoms.

Table 2. DSM-III Criteria for Anorexia Nervosa

1. Intense fear of becoming obese, which does not diminish as weight loss progresses.
2. Disturbance of body image, e.g., claiming to "feel fat" even when emaciated.
3. Weight loss of at least 25% of original body weight or, if under 18 years of age, weight loss from original body weight plus projected weight gain expected from growth charts may be combined to make the 25%.
4. Refusal to maintain body weight over a minimal normal weight for age and height.
5. No known physical illness that would account for the weight loss.

Among college female samples alone, estimates of the prevalence of bulimia range from 2.1% (Mitchell & Pyle, 1981) to 79% (Hawkins & Clement, 1980). This discrepancy among reported estimates was addressed directly in a recent systematic survey study of the prevalence of bulimia (Hart & Ollendick, 1985). Utilizing the full DSM-III criteria, these investigators found that 5% of women in a university sample and 1% of women in a working sample could be reliably classified as bulimic. Furthermore, Hart and Ollendick indicated that the prevalence rates reported in the literature vary as a function of definitional criteria, with lenient criteria (i.e., only one or two bulimic symptoms) producing exaggerated estimates. Their findings underscore the importance of developing a consensus definition of bulimia or, at the very least, the importance of clearly explicating whatever criteria are used.

A few survey studies have been conducted with high school samples. Maceyko and Nagelberg (1985) found 7.1% of the females in their high school sample to meet DSM-III criteria for bulimia. Similarly, Johnson, Lewis, Love, Stuckey, and Lewis (1983) found that 8% of their female high school subjects (n = 1,292) met DSM-III specifications. However, when the additional criterion of a frequency of binging on a weekly or greater basis was added, this figure fell to 4.9%, similar to that reported for college students. The most recent systematic

prevalence study available found the prevalence of bulimia among three samples of college females to range from 2 to 3.8% (Thelen, Mann, Pruitt, & Smith, 1987).

While bulimia has been documented more often in females, a few survey studies have reported a small percentage of males who are bulimic according to questionnaire responses. Among survey studies including male subjects, Strangler and Printz (1980) reported that about 11% of those classified as bulimic were male, while Pyle, Mitchell, and Eckert (1983) found that about 20% of bulimic subjects were male. These ratios are somewhat higher than the usually reported 5-10% of males among anorexics (Bemis, 1978; Jones, Fox, Bobigan, & Hatton, 1980); however, bulimia probably has not been as thoroughly investigated as anorexia. Furthermore, none of the classified bulimics in Maceyko and Nagelberg's (1985) coeducational high school sample were male, and Powers and Fernandez (1984) reported that only 2% of the bulimics that had been to their clinic were male.

Halmi, Falk, and Schwartz (1981) attempted to determine the interrelationship of bulimic symptoms in their survey study. They found strong associations among bulimic symptoms as defined in DSM-III, as well as a direct, significant relationship among purging behaviors, i.e., self-induced vomiting and laxative use. However, these investigators emphasized that self-induced vomiting per se was not a necessary component of the syndrome, and that many bulimics rely on other methods of weight control, e.g., diet pills, diuretics, and exercise. Halmi et al. also found that bulimic symptoms were more likely to occur in individuals who were in the upper end of the normal weight range for their height or who had been overweight at some time. While this is congruent with some reports (e.g., Fairburn & Cooper, 1982; Herzog, 1982), it should be kept in mind that most of the respondents in Halmi et al.'s survey were of average or above average weight.

Some researchers have conducted surveys of bulimia as an initial step, and then proceeded to compare select subgroups on various psychometric indices thought to be associated with the disorder. These studies will be elaborated upon later. Investigations which include only

survey research are limited in that they rely on self-report measures which are typically obtained in one assessment session without further validation. While they provide important descriptive and demographic information, they usually do not yield information on associated clinical features, including important psychological characteristics which might differentiate bulimics from other individuals.

Uncontrolled Assessment Studies

Uncontrolled or one-sample studies have provided assessment data and description of various clinical features. For example, Pyle, Mitchell, and Eckert (1981) obtained interview and paper-and-pencil data on a variety of indices in one sample of 34 bulimic outpatients. Congruent with survey studies, Pyle et al. found that these individuals were young and female and, not surprisingly, that they were preoccupied with food and had exaggerated fears of becoming obese. Notably, many reported negative thoughts and feelings (i.e., unhappy, restless) prior to binge eating, and most reported feeling guilty and worried afterwards. Impulsive behaviors, such as stealing and alcohol and drug abuse were also found. Additionally, most of the bulimics in that sample reported depression, both in interviews and on the MMPI.

In a more focused assessment study (Love, 1984; Love, Ollendick, Johnson, & Schlesinger, 1985), specific antecedents and high-risk situations for bulimic behaviors were investigated. These researchers used a questionnaire to assess subjects' self-efficacy to resist the urge to binge in various situations. They also utilized self-monitoring data concerning antecedents of binging and purging over a one-week period. It was found that the bulimics were most likely to binge when experiencing unpleasant emotions such as frustration, tension, and anger, and when having negative thoughts and feelings about food or about themselves.

These results appear to be a more systematic confirmation of Pyle et al.'s findings that negative thoughts and feelings are associated with binging in bulimics. Further, they suggest that binging is a response to stressful or aversive stimuli (Love et al. 1985). Although normal women may increase their food intake when experiencing stress or depression, the differences between women who engage in mild indulgence and those who binge as part of the bulimic syndrome have not been explicated fully. However, other investigators have corroborated the association between mood states and symptoms of bulimia (Abraham & Joseph, 1987; Johson-Sabine, Wood, & Wakeling, 1984; Jonas & Gold, 1987; Schlundt, Johnson, & Jarrell, 1986).

While uncontrolled assessment studies provide more information than surveys and are useful for the description of bulimic symptoms and features, they fall short in that they do not allow meaningful comparison with normative groups. For example, it would be interesting and informative to know how the negative thoughts and feelings reported by these bulimics compared with those of normal women in similar situations.

Studies of Bulimic and Nonbulimic Anorexics

While relatively few studies have systematically compared bulimic and normal individuals on these cognitive and psychological variables, a number of investigations have included detailed comparisons of bulimic anorexics and nonbulimic anorexics (e.g., Beaumont, George, & Smart, 1976; Casper, Eckert, Halmi, Goldberg, & Davis, 1980; Garfinkel, Moldofsky, & Garner, 1980; Garner, Garfinkel, & O'Shaughnessy, 1985; Herzog, 1982; Holmgren, et al., 1983; Russell, 1979; Strober, Salkin, Burroughs, & Morrell, 1982). Janet (1919) distinguished "obsessional" and "hysterical" anorexics. His obsessional patients seemed to maintain their feelings of hunger while the hysterical patients apparently lost the sensations of hunger.

Janet's taxonomy was not further investigated until relatively recently. Dally (1969) found some support of Janet's classification system in his study comparing hysterical and obsessional anorexics. Dally confirmed Janet's finding that the hysterics apparently lost their hunger, and also found that the obsessional group displayed bulimic symptoms (including vomiting) and had labile moods. Stealing was also found in some of the obsessional patients, but in none of the hysterical patients. It appeared, then, that particular groups of symptoms, e.g., binge-eating, vomiting, labile moods, and impulsive behaviors such as stealing tended to cluster in given anorexic individuals.

Similarly, Beaumont et al. (1976) outlined a classification system which discriminated anorexics on the basis of method of weight control. "Dieters" were individuals who controlled their weight through severe, chronic dieting while "purge-vomiters" frequently used laxatives and vomiting. The findings of Beaumont and colleagues have been extended in other investigations comparing restricting/dieting and bulimic/purge-vomiting anorexics.

Among the identified differences are that bulimic anorexics are more likely to have had obese mothers and to have been premorbidly obese themselves (Garfinkel, Modolfsky, & Garner, 1980), and to more frequently retain regular menstrual cycles and fertility (Russell, 1979). They are more likely than would be expected to have a psychiatric family history, including maternal depression and paternal depression plus impulse disturbance (Strober et al., 1982). Bulimic anorexics are also less likely than restricters to be socially isolated (Garfinkel & Garner, 1982), and to be more extroverted (Casper et al., 1980) as well as more sexually active (Garfinkel & Garner, 1982; Russell, 1979).

Additionally, a variety of impulsive behaviors have been found in bulimic anorexics which are rare in restricting groups. These include stealing (Casper et al., 1980), use of alcohol and street drugs, self-injurious behavior and suicide attempts (Garfinkel & Garner, 1982; Garfinkel et al., 1980). One recent study has suggested that bulimic anorexics are more cognitively impulsive than restricting anorexics (Toner, Garfinkel, & Garner, 1987). Garfinkel and Garner

(1982) also found that bulimic anorexics more often report lability of mood, while Casper and his colleagues (1980) reported that bulimics experienced greater anxiety, guilt, depression, interpersonal sensitivity, and had more somatic complaints. Convergent evidence also suggests that the presence of bulimic symptoms is associated with chronicity and poor prognosis among anorexics (Casper et al., 1980; Garfinkel, Modolfsky, & Garner, 1977, 1980; Morgan & Russell, 1975; Russell, 1979). Bulimia has also been noted as a difficult complication which is associated with a reduced probability of successful weight reduction among obese individuals in treatment (Stunkard, 1976; Wilson, 1976).

While the above studies indicate some consistent descriptive distinctions between bulimic anorexics and restricting anorexics, the degree to which these findings generalize to bulimics who are not underweight is in need of confirmation. At least one study has found similarities between bulimic anorexics and bulimics who have never been severely underweight (Norman & Herzog, 1983). Moreover, to the extent that bulimia may be associated with chronic disturbance among nonemaciated individuals, it appears especially important to include this group in research investigating the parameters of the disorder. Also, it seems imperative to investigate how bulimics differ from individuals who have no abnormalities in their eating patterns.

Treatment Studies

A tremendous multiplicity of treatment methods for bulimia have been detailed, often with interesting, highly individualized case histories. Among these methods are dream interpretation and other psychoanalytic techniques (Wilson, 1983), pharmacological agents including antidepressants (Herzog, 1986; Margittai, Blouin, & Perez, 1987; Needleman & Waber, 1977; Sabine, Yonace, Farrington, Baratt, & Wakeling, 1983), opiate antagonists (Jonas & Gold, 1987) and anticonvulsants (Rau, Struve, & Green, 1979); family therapy (e.g., Minuchin,

Rosman, & Baker, 1978; Miller, 1984; Selvini-Palazzoli, 1978), group therapy (Brotman, Alonso, & Herzog, 1985), behavioral methods including exposure and response prevention (Giles, Young, & Young, 1985; Rosen & Leitenberg, 1982) and implosive therapy (Johnson, Corrigan, & Mayo, in press), supportive group programs (Enright, Butterfield, & Berkowitz, 1985), eclectic programs (Lacey, 1984), psychoeducational programs (Huon & Brown, 1985), nutrition education (Eubanks, 1984), and cognitive treatments (Fernandez, 1984).

While no monolithic treatment of choice has been identified for bulimia, some clinicians and researchers are moving towards various combinations of the different techniques in search of the most effective methods. For example, White and Boskind-White (1984; White, 1985) have combined experiential group therapy with behavioral techniques, while others (Fairburn, 1981; Loro, 1984) have described behavioral techniques in concert with cognitive restructuring. Although available controlled treatment outcome studies are far outnumbered by case histories and treatment descriptions, there are a few such recent investigations which indicate that combined cognitive-behavioral treatment is a promising approach (Freeman, Sinclair, Turnbull, & Annandale, 1985; Kirkely, Schneider, Agras, & Bachman, 1985; Ordman & Kirschenbaum, 1985; Wilson, 1986). However, convincing evidence of long-term maintenance has not been presented as yet. While demonstrated short-term or long-term efficacy of a particular treatment does not indicate that its corresponding theoretical model is necessarily correct, it does appear that the cognitive features of bulimia merit special investigation.

Experts in the treatment of bulimia and related disorders have noted repeatedly the multidimensional nature of these disturbances and the need for individualization in treatment and interdisciplinary models for conceptualization and intervention (i.e., Agras & Kirkley, 1986; Bruch, 1973; Garfinkel & Garner, 1982; Garner & Garfinkel, 1985; Swift, Andrews, & Barklage, 1986). This complex state of affairs presents a challenge for clinicians and researchers who attempt to conceptualize bulimia. This is further complicated by the small proportion of empirical assessment investigations. While treatment studies have a valuable role and

certainly are in significant practical demand, there is also an essential need for controlled assessment studies to contribute to the understanding of the disorder.

Controlled Assessment Studies

Studies which have systematically compared bulimic and normal control subjects have examined a variety of psychometric indices. This has typically been accomplished through paper-and-pencil inventories, but in some cases, additional experimental procedures and behavioral or psychophysiological measures have also been included. As alluded to earlier, some of these studies are comprised of initial surveys, subsequent identification of bulimic and nonbulimic groups, and finally, comparisons of these subgroups on the indices of interest.

Paper and Pencil Assessment Studies

Assessment studies comparing bulimic and nonbulimic individuals on inventory measures have repeatedly found that bulimics are more preoccupied with food, body image, and weight, and that they experience more anxiety and depression (see review by Schlesier-Stroop, 1984). One recent study of self-reported personality and behavioral variables (Katzman & Wolchik, 1984) included a group of women who reported binge eating, but not the full syndrome of bulimia, along with bulimic and normal groups. While few differences were found between binge eaters and normals, these investigators confirmed that bulimics exhibit greater depression and poorer body image than normals. Additionally, their results showed that the bulimics had higher expectations for themselves, more need for approval, and lower self-esteem than the normal group.

The latter findings are congruent with clinical descriptions indicating that bulimics harbor low self-esteem and opinions of themselves, sometimes in spite of significant objective

achievements (Baird & Sights, 1986; Bayer & Baker, 1983). Other assessment studies have provided related findings. For example, Maceyko and Nagleberg (1985) found that bulimics were more likely to doubt themselves and to experience internal conflicts as compared to nonbulimics, according to their responses on the California Psychological Inventory (Gough, 1975), and Dykens and Gerrard (1986) found bulimics to have lower self-esteem. Additionally, Ollendick and Hart (1985) found that bulimics scored significantly lower than nonbulimics on a measure of self-efficacy. Studies such as these have used different measures and somewhat different constructs; yet, terms such as self-esteem, self-expectations and self-efficacy seem to represent interrelated concepts, with thoughts and feelings about oneself comprising the common thread. Research which further explores these cognitive and affective variables in bulimics seems especially warranted.

Controlled assessment studies using paper-and-pencil inventories allow for meaningful comparisons of bulimic and nonbulimic individuals on self-reported symptoms and related physical correlates and psychological features. However, they are inherently constrained by their reliance on self-report, paper-and-pencil measurement. Dependence on self-report assessment has been said to be pervasive in the bulimia literature, perhaps partly owing to the frequently secretive nature of the symptoms (Kirkley et al., 1985). Nonetheless, it seems prudent to attempt to advance beyond paper-and-pencil assessment and to demonstrate actual behavioral or other response differences between bulimics and nonbulimics. Paper and pencil assessment could be more useful if responses on such measures were assessed systematically and in a standardized, controlled fashion. In addition to traditional paper-and-pencil assessment studies, controlled, experimental tests may also make valuable contributions to the literature.

Experimental Assessment Studies

Assessment studies which have compared bulimic and control subjects on measures other than inventories have been conducted recently. Cutts and Barrios (1984; Barrios & Cutts, 1985) have presented preliminary evidence indicating that bulimics exhibit more pronounced behavioral and physiological reactions to imagery depicting weight gain. Additionally, Ruff and Barrios (1986) have developed an assessment procedure whereby subjects estimate body image through projected light bands. They found that bulimics significantly differed from controls on this experimental body image measure. These results are congruent with descriptive findings and correlational studies which indicate that bulimics are afraid of becoming overweight and that they have distorted body images. However, studies with other body image measures have produced different results (Counts & Adams, 1985). The concept of body image has been defined and measured in a diversity of ways; the interested reader is referred to relevant reviews (Cash & Brown, in press; Gleghorn, Penner, Powers, & Schulman, 1987; Lacey & Birtchnell, 1986).

With regard to controlled experimental studies focusing on cognitive variables, at least two such investigations have been conducted thus far (Fremouw & Heyneman, 1983; Hart, 1985). Utilizing the learned helplessness experimental paradigm for humans, Hart investigated cognitive self-statements and task performance in bulimic, depressed, and normal women. Particular cognitive responses have been found among depressed persons, which, in turn, have led to an attributional reconceptualization of learned helplessness in depressed people (Abramson, Seligman, & Teasedale, 1978; Peterson & Seligman, 1984). It might be expected that bulimics display attributions similar to those of depressed individuals, given that: 1) many bulimics report depression (e.g., Pyle et al., 1981; Schlesier-Stroop, 1984), and that 2)many bulimics report struggling with feelings of lack of control, which might be similar to the "helplessness" often observed among depressives (Seligman, 1975). While Johnson (1985)

has suggested that these phenomena are similar, few if any empirical tests of this proposition have preceded Hart's study.

Hart (1985) hypothesized that, following learned helplessness training (exposure to insoluble tasks), bulimic and depressed individuals would exhibit helplessness effects, including greater ratings on the attribution of loss of control, lower ratings of self-efficacy, and lower performance satisfaction. Her findings indicated that, partly contrary to expectation, bulimic subjects rated their performance as significantly more out of their control than did depressed (nonbulimic) subjects. However, normal subjects did not differ significantly from the other two groups on this measure.

These results raise interesting questions about cognitive styles and bulimia, cognitive styles and depression, and the undefined relationship between bulimia and depression. Among Hart's other findings were that 1)bulimic subjects attributed significantly more importance to performing well on the tasks than normals (all subjects were given discrimination problem tasks after the initial training condition) and that 2)although all subjects successfully solved the discrimination problems, both normal and depressed subjects increased their ratings of performance satisfaction, whereas bulimic subjects showed a drop in their performance satisfaction over time. The higher importance which bulimics placed on their performance in that study appears to suggest that they may have greater achievement motivation (Weiner, 1983). At the same time, that these individuals displayed a loss of performance satisfaction over time is interesting. This latter finding was interpreted as tentatively indicating that bulimic women may devalue their success, or at least experience some kind of difficulty coping with success experiences (Hart, 1985).

In the absence of necessary empirical data related to these issues, it is possible to speculate any number of cognitive coping responses on the part of bulimic women. If bulimics tend to be high achievers or high in achievement striving and in need for approval, it might be expected that they seek out and are fairly accustomed to, and adept at coping with, success

experiences. Furthermore, if they respond similarly to achievement-oriented "adaptive responders" as described by Dweck and Wortman (1983), they would be expected to cope well with failure, to increase persistence, and to perceive the task at hand as a challenging problem to be figured out. Conversely, if they have cognitive styles characteristic of depressives and of what Dweck and Wortman term "maladaptive responders," one would expect negative cognitive evaluation of even "good" events such as success. Additionally, one would expect negative self- evaluations in response to failure, and reduced effort on the task at hand.

If the female bulimic is a high achiever and has high need for approval, another possibility is that she may encounter the dilemma of negative reactions from others, to the extent that these successes are interpreted as defiance of sex-role standards (Maccoby, 1963). Negative reactions may lead successful women to avoid success, according to Horner (1970, 1972). Investigation of bulimics' thoughts and feelings about success as well as about failure experiences might shed some light on these issues, particularly if studied in salient, achievement-type situations.

Fremouw and Heyneman (1983) investigated cognitive styles related to laboratory success and failure experiences in both bulimic and nonbulimic women who had volunteered for a weight reduction program. Specifically, they hypothesized that the cognitive styles of stringent goal-setting, excessive negative self-evaluation following failure, and dichotomous or "black and white" thinking would be more apparent among bulimic subjects. Tasks utilized included the Digit Symbol subtest of the WAIS, soluble anagrams, and insoluble anagrams.

Results indicated that bulimics actually set less stringent goals for their performance (Fremouw & Heyneman, 1983). Consistent with the hypotheses, results on the other measures indicated that the bulimics did evaluate themselves significantly more negatively after failure than nonbulimics, and that they were significantly more dichotomous in their general cognitive evaluative style. Following successful performance, self-evaluations were not significantly

different between the groups, although the difference was in the direction of greater negativism on the part of the bulimics. In that all of the women in Fremouw and Heyneman's study were obese individuals, 24.6% overweight on the average, future studies might extend this research to subjects in the average weight range.

In summary, recent research on the disorder bulimia has taken various forms. Studies have included surveys, uncontrolled assessment studies, studies of bulimia among anorexics, treatment studies, and controlled assessment studies comparing bulimics and nonbulimics. While the latter have been limited typically to paper-and-pencil measures, other modalities of responding are beginning to be investigated in experimental studies. It appears that this is the kind of study that is especially needed in order to increase understanding of bulimia and its associated cognitive features.

Theoretical Formulations

A diversity of conceptual models have been proposed to account for the symptoms and features of bulimia, reflecting virtually all possible theoretical persuasions. The following is intended to be a brief overview of some of the essential conceptual elements contained in major theoretical models, including psychoanalytic, sociocultural, family interactional, medical, cognitive-physiological, and social learning accounts. Each of these probably has a valuable contribution to make to the field, yet none of them can presently be considered to fully account for the syndrome.

Classical psychoanalytic explanations for eating disorders have focused on defects in psychic structure and underlying personality problems (Rubin, 1970). Disturbed eating patterns have been viewed as indirect repudiation of sexuality, particularly fantasies of oral impregnation

(e.g., Wilson, 1983). Vomiting itself has been considered a symbolic rejection of the mother and of the feminine role (Bruch, 1973). In a discussion of contemporary trends in the psychoanalytic treatment of bulimia and anorexia, Lerner (1986) focused on early maternal failures in empathy. Neither the classical nor the contemporary psychoanalytic models have received extensive empirical support, and they have not been considered useful explanatory tools by many investigators. In her recent discussion, Bruch (1985) has expressed dissatisfaction with traditional psychoanalytic theory as applied to eating disorders, and she has indicated a lack of clinical support for it as well.

Sociocultural theories have been the topic of much discussion on the development and maintenance of bulimia and anorexia (e.g., Boskind-Lodahl, 1976, 1977; Boskind-White & White, 1983; Boskind-White, 1985; Chernin, 1981; Garner, Garfinkel, Schwartz, & Thompson, 1980; Orbach, 1978). These theories point to the persistent emphasis in modern Western culture on slenderness in women. That the contemporary increase in the reporting of eating disorders coincides with a time period in which svelte female bodies are in vogue in the fashion industry gives these explanations tremendous intuitive appeal.

Garfinkel, Garner, Schwartz, and Thompson (1980) addressed the sociocultural model in their intriguing study of media images of slim women. They hypothesized the media consistently presents the lean body as the ideal form and, more importantly, that these images have become progressively thinner during the past generation. To test this idea, they examined the weight and body measurements of Miss America pageant contestants and women featured in **Playboy** magazine centerfolds from 1960 to 1978.

Results indicated that, indeed, both types of models have become substantially thinner during this time. Further, the authors noted that the expected weights for young women according to the Metropolitan Life Insurance tables has actually **increased** at approximately the same rate as the centerfolds' average weight has **decreased** (Garfinkel et al., 1980). Thus, while the contemporary actuarial trend is that the average woman is becoming heavier, the average

media image of the ideal female body is becoming thinner. This growing disparity between real and idealized women's body sizes is considered by these authors to place a tremendous pressure on women to diet in order to meet cultural standards.

Furthermore, Garner, Rockert, Olmsted, Johnson, and Coscina (1985) submit that the widespread habit of dieting among women places them at high risk for bulimia. Integrating the above study of media images and related literature with scientific studies on weight control, physiological regulation of "set point," and direct studies of the binge-purge cycle, Garner and his colleagues have presented cogent arguments for their integrative model. According to their model, sociocultural factors are assigned prime importance in the initiation of chronic dieting which, in turn, may produce physiological and psychological ramifications which foster and maintain the bulimic syndrome.

In their analysis of the number of diet articles in popular women's magazines, Agras and Kirkley (1986) also noted a marked increase form 1960 to 1983 in such articles. In concert with other data, their observations also suggested increased pressure on young women to achieve a thin body size through dieting.

While there certainly is a role for these sociocultural influences in the conceptualization of bulimia, one problem of the sociocultural model stems from the fact that only a relatively small number of women who are subjected to these influences actually exhibits an eating disorder. Large proportions of young women engage in dieting efforts, partly as a function of sociocultural influences; however, most of these women do not develop an eating disorder per se. Additional attention to the individual psychological, especially cognitive, variables of bulimics versus other women in the same culture seems warranted. Another problem lies in the explanation of eating disorders when they occur in males, who are subjected to somewhat different socialization influences.

Models based on patterns of family interaction, particularly that of Minuchin and his colleagues (1978), reflect a systems approach to the explanation of eating disorders. Emphasis is on processes by which family members, including the individual with the disorder, regulate and constrain each other's responses. Particular family transactions are viewed as significant in the etiology and maintenance of the disturbance. Theories of family interaction are thought to represent a promising approach (Miller, 1984).

Empirical tests of these theories as applied to bulimia are limited at the present time, however. Humphrey (1983) has presented a sequential analysis of family interaction data. She found that the parents of eating disordered women interacted with their daughters in a complex way, primarily with very restrictive and intrusive behaviors. These were combined with contradictory behaviors which suggested the friendly provision of autonomy. These interesting findings suggest that these families may be conflicted in the realm of control and autonomy.

More recently, Humphrey, Apple, and Kirschenbaum (1985) have compared 16 families with a bulimic anorexic daughter with 24 control families. It was found that although the families did not differ on problem-solving skills, the families of the bulimic anorexics were found to be more disturbed, with negative and contradictory elements in their communications. The data in these two initial studies suggest that family interactions may contribute importantly to bulimia in anorexics.

Medical and physiological models may be grouped together here for the sake of clarity; however, it should be noted that these theories deal with a diversity of separate factors. Rau and Green (1984) have proposed that neurophysiological mechanisms may account for bulimia. Noting that particular EEG dysrhythmias have been noted in some bulimics, they have speculated on a theoretical model implicating an underlying endocrine dysfunction, usually restricted to females, which may affect CNS functions of the subcortical hypothalamus.

Two separate pathways to bulimia are then viable, according to Rau and Green (1984). One is primarily brain-based, and holds that appetitive centers in the hypothalamus are particularly affected and are causative of bulimia, while psychogenic factors are secondary. Alternatively, an increase in generalized drive state, stemming from a neurological lesion(s), may predispose an individual to develop impulsive behaviors. Psychological factors would then be primarily responsible for whether or not the person develops impulsive pathology, and also what that disturbance would be. Specifically, the impulsivity might be manifested as bulimia, or as some other impulsive behavior such as alcohol or drug abuse. These models are interesting conceptualizations, albeit polemical and highly speculative.

Additional physiological factors which possibly play important roles in bulimia also include genetically transmitted variables, body frame, food allergies, number and size of fat cells, metabolism, and caloric and nutritional imbalances (Gormally, 1984; Root, 1983). Studies of biological variables have suggested that bulimia and/or anorexia may arise from a disorder in hypothalamic functioning (Beaumont & Abraham, 1981), that bulimia is a variant of endogenous affective disorder (i.e., Hudson, Laffer, & Pope, 1982) and, interestingly, that bulimia may arise as a function of an addiction to one's own internally released opioid peptides (Abraham & Joseph, 1987).

Polivy and her colleagues (1984) have presented a compelling theoretical model which incorporates physiological as well as cognitive factors. This cognitive-physiological account draws from a fairly extensive body of human and animal laboratory research and is variably called the restrained eating model, the counter-regulatory model and, more broadly, the Boundary Model of Consumption. It has been proposed to account for the occurrence of binge eating behavior among dieters, and is thought to have relevance for clinical eating disorders, including bulimia (Polivy, Herman, Olmsted, & Jazwinski, 1983).

According to the model, the restraint of dieting, emotional distress, and disinhibiting factors operate in concert to produce binging (Polivy, Herman, Jazwenski, & Olmstead, 1982; Polivy

& Herman, 1985; Ruderman, 1986). In a series of laboratory studies, Polivy and her colleagues have found that dieters or "restrained eaters" consistently exhibit an eating pattern which they term counter-regulation. In these experiments, restrained eaters who initially are given a small amount of food (preload) or no food at all, will choose to eat only small amounts of food, if any, during the rest of the laboratory observation. This of course is consistent with dieting and efforts to control weight. However, if the restrained eaters initially are given large preloads of high-calorie food, they subsequently will choose to eat copious amount of food (Herman & Mack, 1975; Herman, Polivy, & Silver, 1979; Polivy, 1976; Polivy, Herman, Hackett, & Kuleshnyk, 1983). Similar results also have been reported by other investigators (Ruderman & Wilson, 1979; Spencer & Fremouw, 1979; Woody, Costanzo, Leifer, & Conger, 1981).

These observations obviously are inconsistent with dieting, at least to the extent that dieting expresses the intention to control one's weight. Notably, this counter-regulation is seldom observed in nonrestrained or normal eaters. Nondieters show normal food intake regulation; that is, the more food they eat initially, the less they eat subsequently and vice versa. It appears that normal eaters respond primarily to the sensations of hunger and satiety, whereas distinct cognitive factors seem to take on a salient role for the restrained eater or dieter and, presumably, for the bulimic as well.

Polivy has asserted that cognitions are extremely important in the development of binge behavior, even more salient than the physiological factors which are operating (Polivy & Herman, 1985; Polivy et al., 1982). She has made several points in support of this contention. The first important cognitive factor is said to be dissatisfaction with body size, followed by the decision to restrain eating. Polivy and Herman (1985) point out that the act of dieting demands that cognitive controls override the physiological state of hunger.

Subsequently, thoughts related to food and weight are considered to dominate the cognitive activity of the dieter. Also, the dieter is considered prone to a dichotomous thinking style about food, e.g., categorizing various foods as either "bad/fattening" or "good/nonfattening,";

amounts of food as either "bad/dietbreaking" or "good/diet-maintaining," etc. Interestingly, the dichotomous thinking style has been noted in anorexics (Garner, Garfinkel, & Bemis, 1981) and in obese bulimics (Fremouw & Heyneman, 1983). Regulation of food intake by cognitive means (dieting) and these polarized cognitions about food are thought to produce alternate restrictive and binge eating. Presumably, initial amounts of disallowed food act as disinhibiting events for dieters, causing release of cognitive restraint and subsequent binge eating (Herman & Polivy, 1980; Polivy & Herman, 1985). In common terms, then, once the dieter has consumed a fattening milkshake, she may rationalize to herself, "I already blew my diet; I may as well indulge." Many other factors could serve as disinhibiting events, i.e., alcohol ingestion or emotional distress. Whatever the disinhibiting event is, the release of cognitive control is thought to be the resultant critical process which leads to overeating in the dieter.

Additional evidence of the primary role of cognitions in this indulgent eating comes from related research. Studies have demonstrated that **regardless of the true caloric value** of the preload food, restrained eaters tend to ingest more following a preload they **believed** to be high in calories, and less after a preload they believed to be low in calories (Polivy, 1976; Spencer & Fremouw, 1979; Woody, Costanzo, Leifer, & Conger, 1980). In contrast, nonrestrained individuals responded minimally or not at all to this cognitive manipulation.

Applying Polivy's model to the conceptualization of bulimia, then, one would expect that chronically dieting bulimics might be vulnerable to this counter-regulation. This appears to be a plausible hypothesis for the development of binging, although it does not seem to address the development of nondieting methods of purging, such as vomiting and laxative abuse. Additionally, other studies have not uniformly replicated the above findings (e.g., Abramson & Stinson, 1977). Furthermore, while restraint is a good predictor of intake patterns (e. g., Ruderman & Wilson, 1979), its relatoinship to bulimia is just beginning to be investigated. Katzman and Wolchik (1984) found that both bulimics and binge eaters scored higher on the Revised Restraint Scale (RRS) than did normal controls. Similarly, Ruderman

(1985b) found that restraint scores were correlated significantly with number of bulimic symptoms. It will be important to determine in future research how well restraint can predict bulimic symptoms such as binging, vomiting, and laxative abuse; in other words, symptoms aside from chronic dietary restraint itself.

It is also interesting to note that RRS items reflecting concern with dieting seem more closely related to the restraint concept than items assessing weight fluctuation (Ruderman, 1985a). Similarly, cognitive concerns about food, weight, and weight control eventually may be shown to predict symptoms of bulimia better than body weight. It will be important to determine whether the severity and the nature of bulimic restraint is distinguishable from usual dietary restraint. Many, if not most, restrained eaters do not fulfill minimal diagnostic criteria for bulimia.

Conceptualization of bulimia from a learning perspective may be a highly promising approach, particularly through the extension of a strict behavioral approach to a broader-based cognitive social learning approach. While learning models vary in the extent to which cognitive variables are considered important, binge and purge consequences such as "self-deprecating thoughts," "the abstinence violation effect," "feelings of guilt and shame" can hardly be considered overt behavioral events. It does appear desirable to include these cardinal features of bulimia in conceptual models.

One example of a learning model which includes cognitive variables is Loro and Orlean's (1982) functional analysis approach to binge eating in obese persons. Included in this analysis is the proposition that a variety of stimuli may serve as controlling antecedents of binging, such as stress, deprivation, and food-related cues (Loro, 1980, 1982; Orleans & Barnett, 1984). A binge is considered to be a maladaptive response to emotional distress and stressful environmental events. Further, binging presumably results in immediate positive consequences, both positively reinforcing (i.e., pleasant sensations, initial enjoyment of the binge) and negatively reinforcing (relief from hunger, boredom, stress, or negative emotions).

Binging is also considered to have delayed, aversive consequences, e.g., self-deprecating thoughts, depression, feelings of guilt and shame, and fear of weight gain. These serve as antecedents for purging behavior, including self-induced vomiting. Because purging of this sort removes the immediate, subjective fear of weight gain, it has immediate reinforcing qualities which increase the probability of purging, given a future binge. Delayed, punishing consequences of purging may also occur, including further self-condemnation, shame, feelings of helplessness and loss of control, and lowered self-efficacy (Orleans & Barnett, 1984). These are thought to be followed by cognitive mediation involving absolutist resolutions about restriction of food intake, thus encouraging the continuation of purging and binging in a vicious cycle (see Figure 1 on page 26).

The several cognitive variables in this model include all-or-nothing or dichotomous thinking, "cognitive mediation," and self-efficacy. Self-efficacy is a central construct in social learning theory. It is defined by Bandura (1982) as an individual's expectancy that he or she possesses the ability to perform the necessary behavior to obtain specific outcomes. Self-efficacy thus is distinguishable from outcome expectancy, which is the person's expectancy that a particular behavior will lead to a specific outcome. It is possible for a person to have a high rating on outcome expectancy, but not on self-efficacy, or the confidence that he or she could effect that outcome.

In the study by Love and colleagues described earlier (1985), subjects rated their self-efficacy in terms of obtaining the specific outcome of resisting the urge to binge eat. As noted earlier, the results of this preliminary study indicated that bulimics were most likely to binge when experiencing unpleasant emotions such as frustration, tension, and anger, and when having negative thoughts about food or about themselves. The authors noted that this suggests that the binge-purge cycle may provide the bulimic with an escape from aversive stimuli through the removal of uncomfortable feelings and the distraction from unpleasant thoughts. To the extent that this escape is reinforcing, this is consistent with the functional analysis, cognitive-behavioral approach of the social learning model.

Diagram of the Vicious Binge-Purge Cycle.

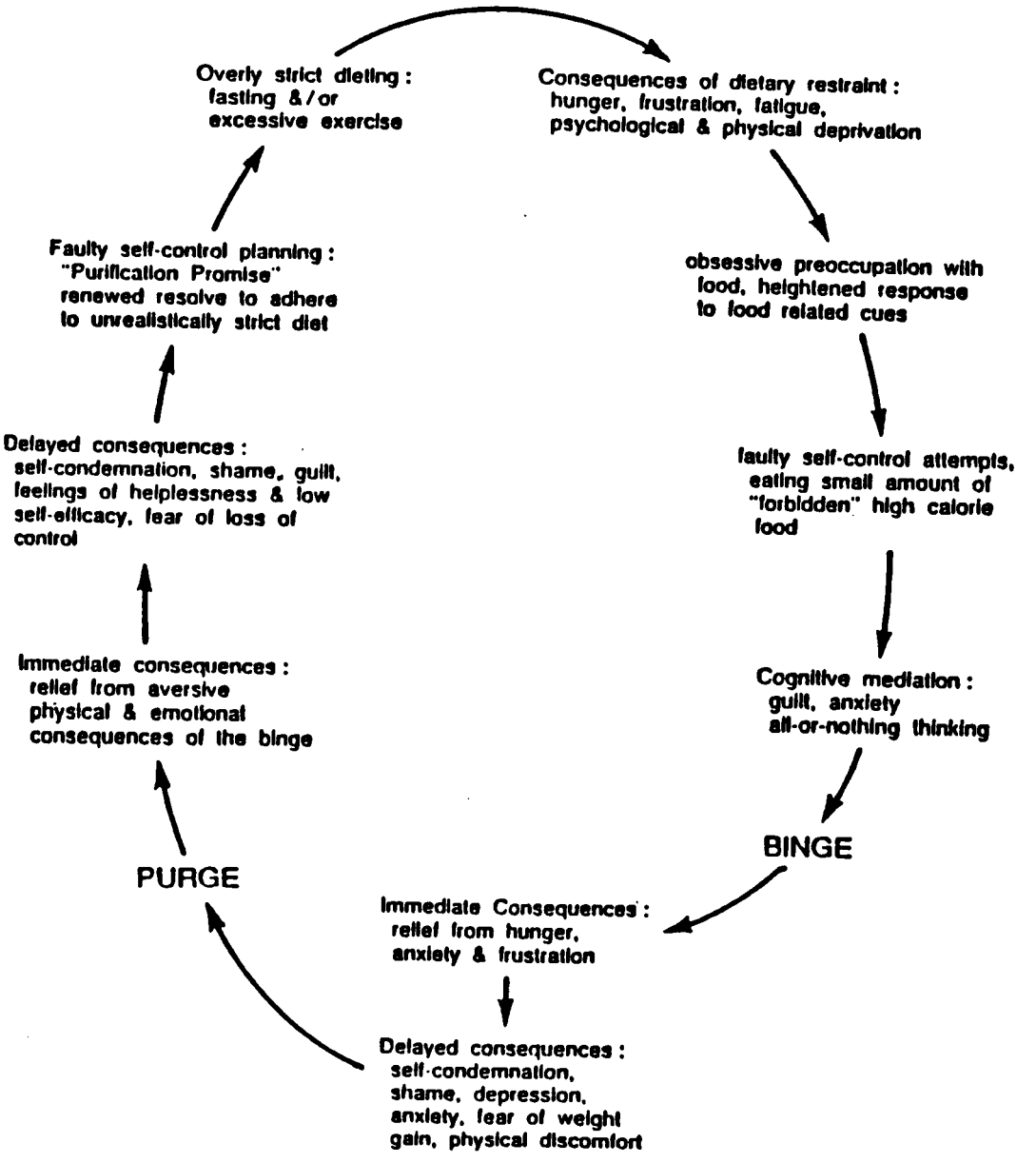


Figure 1. Diagram of the Vicious Binge-Purge Cycle

The functional analysis approach appears to be a potentially useful way to understand some of the symptoms of bulimia, particularly the maintenance of this pattern once it has developed. However, cognitive-behavioral theories may be less adequate in accounting for the original development of the syndrome (Fairburn, 1986). Elaboration of cognitive variables may be one important step in achieving a full understanding of bulimia and its developmental course.

Each of these theoretical models focuses on somewhat different aspects of bulimia and potentially may enrich the knowledge and understanding of the disorder. In order to guide efforts in systematic research, it is useful to adopt a reasonably integrated conceptual framework. This research adopts the broad-based cognitive social learning theoretical perspective.

Cognitions, Success and Failure, and Bulimia: Rationale for Study I

What exactly is a cognition, and how might cognitions operate in bulimics as opposed to other people? According to Shaw and Costanzo (1982), cognition "seems to be that which is known or knowledge acquired through personal experience" (p. 182). A related concept, cognitive structure, has been defined by Scott (1962, 1963) as those structures whose elements are comprised of ideas consciously held by the person or as the set of ideas maintained by a person and which are relatively available to conscious awareness.

A plethora of other definitions for cognition and cognitive structure have been proposed, the description and analysis of which are well beyond the scope of this paper. Suffice it to say for now that cognitions include various processes of thinking which may influence behavior.

Cognitions may be accessible or inaccessible, contents or processes, and similar to or dissimilar to overt speech (Hollon & Bemis, 1981). Along the lines of the accessibility dimension, Beck (1976) has discussed the concept of "underlying assumptions" or basic personal philosophies around which more specific beliefs and thoughts are organized. Perhaps the reason that psychologists have focused on self-statements as cognitions rather than "deeper" structures is the simplicity and greater operationalizability of the former. With continued empirical investigation and the development of improved, sophisticated methodologies, inaccessible cognitive processes will become more amenable to study.

Many psychologists have assumed that cognitive processes consist of covert self-statements which mirror overt verbal statements (Rimm & Masters, 1979, p. 383). Others have pointed out that there are important reasons to believe that there are fundamental and qualitative differences between overt speech and covert processes. Dweck and Wortman (1982) have noted that self-statements do not have to meet the requirements of clarity and communicability which overt verbalizations do. Along this line, private statements may be less well-formulated, less explicit, and less accessible to deliberate scrutiny (Langer, 1979). Thus, cognitive processes would seem to involve a much richer array of events than if they were simply covert duplicates of verbal expressions.

It is assumed for the sake of this research that cognitions are theoretically important, clinically relevant, characterized by a broad range of accessibility, and that the range of cognitive events and processes includes, but is not limited to, self-talk. It also is assumed that self-efficacy beliefs or expectancies, based heavily on performance accomplishements (but also on vicarious learning, verbal persuasion, and physiological arousal, see Bandura, 1977; 1980), are critical mediating mechanisms of behavior.

In addition fo Bandura's theory of self-efficacy, the concept of adaptive cognition is an integral part of the conceptual basis for this research. Dweck and Wortman (1982) have reviewed the three research areas of achievement motivation, test anxiety, and learned helplessness in

terms of cognitive, affective, and coping responses. They have pointed out that certain cognitions are associated consistently with adaptive behaviors in performance settings while other cognitions are associated with maladaptive behaviors. The cognitions and behaviors which appear to be adaptive in performance settings are displayed consistently by individuals categorized as achievement-oriented, low in test anxiety, and resourceful (as opposed to helpless). Conversely, the maladaptive strategies or deficits have been found repeatedly among individuals classified as high in fear of failure, high in test anxiety, and helpless.

The specific responses which appear to be maladaptive in performance settings include a focus on self rather than the task at hand, self-criticism, negative interpretation of self-information, self-blame, worry and concern about evaluation, negative attitude toward tasks, and low levels of performance expectations and aspirations. Furthermore, maladaptive responders do not increase their expectations for future performance even after they have experienced success (Diener & Dweck, 1978; Trapp & Kausler, 1958). Conversely, adaptive responders are characterized by opposite strategies, such as a focus on tasks, expectations of favorable performance, and the utilization of failure feedback as valuable, task-relevant information. These adaptive or mastery-oriented individuals allow themselves to become more engaged in difficult tasks and to focus on how the challenge is to be met (Dweck & Wortman, 1982).

On the other hand, because the maladaptive responder tends to believe that failure is a reflection of their ability but that success is not, they evaluate their competence in each new task. Hence, they are more likely to be concerned with issues of competence in these situations, to not utilize solution-oriented strategies, and to give up or exhibit any of the several maladaptive strategies noted above.

These observations are consistent with those noted about the role of success-failure experiences in the development of psychopathology in children(Gruen, Ottinger, & Ollendick, 1974; Ollendick, 1979; Ollendick, Balla, & Zigler, 1971). Children with histories of consistent

success experiences and, thus, high generalized expectancies of success, tend to persist at tasks, to endure the frustrating consequences of failure, and actually tend to become more motivated following experiences of failure. In contrast, children with histories of few success and, thus, low generalized expectancies of success, tend to persist less on tasks, to become agitated with the frustrating consequences of failure, and to become less motivated and resigned to failure in difficult situations. It appears, then, that in childhood as well as adulthood, individuals vary in the extent to which their cognitive and behavioral responses function adaptively in achievement situations. For children, those who have had few prior success experiences tend to function maladaptively. For adults, those who have been categorized as high in fear of failure, high in test anxiety, and helpless respond maladaptively. One wonders how bulimics would respond in difficult or impossible task situations. The noted tendency for bulimics to be high achievers and to have high self-expectations (Katzman & Wolchik, 1984) might suggest adaptive cognitive responding. In contrast, if their need for approval is excessive (Katzman & Wolchik, 1984; Mizes, 1987) and is coupled with a sense of helplessness or a sense of loss of control (Mizes, 1987; Weiss & Ebert, 1983), then maladaptive responses would be expected in response to stressful situations.

Performance attributions are a groups of cognitive variables which seem to correspond with adaptiveness in various situations. According to Weiner's model of achievement motivation (Weiner, 1974, 1982; Weiner, Frieze, Kukla, Reed, Rest, & Rosenbaum, 1971), attributions play a critical role in determining expectations, self-evaluation, and emotional responses. Attributions are thought to represent the causal explanations that an individual formulates in response to given events. While Weiner has pointed out that the attributions process (the process by which those causal beliefs are reached) remains largely unidentified, several psychological consequences of perceived causality are apparent.

Specifically, Weiner postulates that attributions are closely related to self-esteem and self-concept. The main dimensions of causality along which attributions are made are locus (internal or external), stability (stable or unstable), and perhaps controllability (having control

or not having control). These dimensions seem to be related to expectancy and interpersonal judgments. Although it has been suggested repeatedly that bulimics struggle with feelings of lack of control as well as with deficient self-esteem, little or no evidence exists linking bulimia to specific attributional styles. If bulimic women have marked tendencies toward the traditional, stereotypic female role (Rost, Neuhaus, & Florin, 1982), then a less adaptive pattern of cognitive responding might be expected. Androgynous women have been noted to make more adaptive attributions than traditionally feminine women (Welch & Huston, 1982). However, the frequent clinical observation that bulimics are high performers and achievers casts some doubt on speculations about them making maladaptive attributions.

Weiner's model suggests that attributions influence behavior and that different attributions are associated with distinct affective states (Weiner, 1982). If this is true, then attributions may need to be assessed in disorders which have a strong affective component, such as bulimia. An additional question raised by Weiner's model is the relationship among various classes of cognitions including attributions, expectancies, and self-evaluations of performance. Dweck and Wortman (1982) have pointed out that studies are needed which examine these cognitions over time in actual performance settings. Further investigation and elaboration of the distinctive cognitions of adaptive and maladaptive responders could be accomplished through comparison studies of normal and disturbed subjects, i.e., bulimic subjects.

Objectives and Hypotheses of Study I

The primary objective of Study I, which may be considered a pilot study, was to investigate whether cognitive differences exist between bulimic and nonbulimic women who are placed in an experimentally controlled achievement setting. The study examined both 1) **a priori** differences between the groups, as well as 2) possible differential responses to experimental

manipulations of induced success and induced failure. One intriguing question was whether or not bulimics would exhibit adaptive or maladaptive responses in achievement situations. While bulimics might be considered maladaptive responders compared to normals, the paradoxical observation exists that bulimics tend to be achievement-oriented, which would suggest more adaptive responding. A secondary objective was to investigate whether differences in task performance behavior (i.e., time spent on tasks) exist between bulimic subjects exposed to failure and nonbulimic subjects exposed to failure.

The hypotheses for Study I were of two types: 1) hypotheses regarding the effects of the success and failure manipulations, and 2) hypotheses regarding expected differences between bulimic and nonbulimic subjects. The first type, which represent checks on the success-failure manipulations, are listed below as hypotheses 1 through 3. The second type, which relate to the main research objective of elucidating bulimic-nonbulimic differences, are listed below as hypotheses 4 through 7.

1. After the success/failure manipulation, subjects exposed to failure were predicted to expect to perform significantly worse than subjects exposed to success.

2. After the success/failure manipulation, subjects exposed to success were expected to make different attributions than subjects exposed to failure. Specifically, success subjects, to a greater extent than failure subjects, were expected to attribute performance outcome to:

    a. internal factors
    b. stable factors
    c. global factors
    d. their own control.

3. Subjects exposed to the success manipulation were expected to report that it was important to perform well on the tasks to a greater degree than were subjects exposed to failure.

4. Bulimics were expected to report lower self-efficacy than nonbulimics prior to any experimental manipulations.

5. Bulimics were expected to report that it was important to perform well on the tasks to a greater degree than were nonbulimic subjects.

6. Bulimics were expected to make different attributions than nonbulimics. Specifically, the adaptive attributional patterns which were expected to differentiate success and failure groups overall (hypothesis 2) were expected to be less characteristic of bulimics as compared to nonbulimics.

7. Bulimics were expected to exhibit greater behavioral persistence, i.e., spend more time working on the insoluble tasks, in the failure condition as compared to nonbulimic subjects. However, no differences in behavioral persistence between bulimics and nonbulimics in the success condition were hypothesized.

The changes in the cognitive variables over time and with repeated induction of success and failure also were examined to determine whether bulimics and nonbulimics process these experiences differently. This represented a general set of strictly exploratory hypotheses focusing on virtually uninvestigated variables. The intention was to provide initial data upon which later hypotheses could be based.

Method of Study I

Subjects

Initial Screening

As part of a larger research program on eating disorders in college students, 569 students enrolled in Introductory Psychology at Virginia Polytechnic Institute and State University completed a packet of paper and pencil measures, including the Bulimia Test (BULIT) and self-report information on age, height, and weight. All subjects gave written informed consent prior to responding to the questionnaires (see Appendix A for the consent form). The screening sessions occurred over the course of approximately 3 months; 489 of the subjects were screened in large groups, while 80 were screened in small groups (20 or fewer subjects). Data from 11 individuals was discarded after the screenings due to improper coding of their opscans.

The BULIT was the principle measure used for selection of subjects for the experimental study. The BULIT is a 36-item, multiple-choice self-report questionnaire to which respondents indicate the presence and severity of various attitudes, feelings, and behaviors related to bulimia (see Appendix B). The BULIT has been demonstrated to be a valid predictor of clinic-referred status for bulimia in an initial development as well as a replication sample. Smith and Thelen (1984) reported overall validity coefficients (correlating Total BULIT scores with clinical diagnosis) of .80 for the initial sample and .82 for the sample in the replication study. Additionally, they found that BULIT scores corresponded to independent ratings by blind research technicians in a nonclinical sample. Test-retest reliability of total scores over a 2-month period was calculated for the nonclinical subjects and averaged .87.

Selection

Based on examination of subjects' responses to individual BULIT items, 40 female subjects were selected. These included 20 individuals who met full DSM-III criteria for bulimia and 20 who clearly did not. Control subjects were matched to the bulimics as closely as possible on age, height, and self-reported weight. Although correspondence was not exact on all variables, a reasonably close overall match was obtained (see Table 3 on page 36). Additionally, a subsample ($n = 26$) of the 40 subjects were weighed in the laboratory to check the accuracy of self-reported weight. The self-reported and actual weights are listed in Table 4 on page 38. With a few clear exceptions (see subject number C04), the self-report of weight was found to be highly accurate. The Pearson correlation coefficient between self-reported and actual weight was found to be .98 ($p < .0001$).

Table 3. Age, Height, and Weight of Study I Subjects

Bulimics				Controls			
S.#	Age	Height	Weight	S.#	Age	Height	Weight
B01	19	5′7″	125	C01	18	5′7″	125
B02	19	5′2″	175	C02	19	4′10″	130
B03	18	5′8.5″	140	C03	18	5′8″	137
B04	20	5′5″	170	C04	18	5′6″	190
B05	18	5′4″	123	C05	18	5′4″	123
B06	23	5′5″	145	C06	19	5′5″	141
B07	19	5′7″	118	C07	19	5′7.5″	115
B08	18	5′4″	130	C08	18	5′3.5″	130
B09	18	5′10″	150	C09	19	5′10″	150
B10	18	5′4″	130	C10	19	5′4″	130
B11	21	5′3″	127	C11	19	5′3″	125
B12	19	5′2″	115	C12	18	5′2″	111
B13	20	5′4″	134	C13	18	5′4″	138
B14	19	5′6″	112	C14	18	5′6″	110
B15	20	5′8″	160	C15	18	5′8″	160
B16	18	5′3″	105	C16	18	5′3″	103
B17	17	5′5″	121	C17	18	5′5″	120
B18	19	5′4″	127	C18	18	5′4″	124
B19	20	5′4.5″	135	C19	18	5′5″	137
B20	19	5′9″	143	C20	19	5′8″	137

Design

Subjects were assigned randomly to receive either a success or a failure experimental manipulation. The overall design for the study was a 2 x 2 design, with 2 levels of diagnosis

(bulimic and nonbulimic) and two levels of experimental manipulation (success and failure). Ten subjects comprised each of these four cells. Additionally, a third factor, time, was incorporated into analyses of select variables which were assessed repeatedly over the course of the experiment. Thus, some specific analyses were conducted with a 2 x 2 x 2 design (on variables which were assessed twice during the experimental session) and some specific analyses were conducted with a 2 x 2 x 3 design (on variables which were assessed three times during the experimental session).

Experimental Procedures

Experimenters

Two graduate students (one female, one male) and two female undergraduate students in psychology served as the experimenters. The principle investigator served as one of the experimenters and trained the other three students in all of the experimental and debriefing procedures. A standardized script was devised with detailed instructions for the complete success and failure manipulations. The experimenters were required to study the script and to practice all the procedures with bogus volunteer subjects before actually conducting any data collection. Additionally, several of the experimental sessions were audiotaped to determine whether the script was followed. The tapes indicated that the success and failure manipulations were carried out as instructed. Each experimenter conducted approximately the same number of failure manipulations as s/he conducted of success manipulations. Typically, an experimenter who conducted a success manipulation would conduct the next experimental session using the failure manipulation, and the next using the success manipulation and so on. All experimenters except for one (the principle investigator) were

Table 4. Self-Reported and Actual Weights of Subsample in Study I

Subject	Self-reported	Actual
B10	130	136.5
B11	127	129.5
B12	115	121
B13	134	134
B14	112	115.75
B15	160	161
B18	127	126.5
B19	135	138.5
B20	143	149.5
C02	130	132.5
C03	137	140.25
C04	190	209
C05	123	131.25
C07	115	115
C08	130	135
C09	150	152.25
C10	130	140
C11	125	126.5
C12	111	118.33
C13	138	150
C14	110	116.5
C15	160	159
C17	120	124.33
C18	124	126
C19	137	140
C20	137	138.25

blind to diagnostic group. The nonblind experimenter made every attempt to assure thorough standardization and to maintain the same, detached, matter-of-fact style with every subject. The number of individual experimental sessions conducted by each of the four experimenters was 12, 2, 16, and 10.

Questionnaires

The expectancy measure used (Questionnaire 1) was a four-item measure to which subjects responded by rating on a 9-point Likert-type scale how well they expected to perform on the experimental tasks and how confident they were of this prediction (see Appendix C). The

self-efficacy measure utilized (Questionnaire 2) was the Self- Assessment Scale (Ollendick & Hart, 1985; ReynaMcGlone, Ollendick, & Hart, 1986). In their development of this 10-item measure, Ollendick and Hart found that the scale discriminated bulimic and normal women (see Appendix D). The attribution measures (Questionnaires 3 and 4; see Hart, 1985; Perconte, 1983) contained questions about performance on the two types of experimental tasks, anagram and design problems. On these questionnaires, subjects were asked to rate several factors related to their performance on the tasks on 9-point Likert-type scales (see Appendices E and F). These factors included importance of having performed well, generalization of performance to other tasks, perceived control and attributions of performance to ability, task difficulty, effort, and luck.

Materials

The tasks included perceptual design problems and anagrams and were adapted from Feather's research (1961, 1963). All problems and anagrams in the failure condition were insoluble, while all problems and anagrams in the success condition were soluble. All problems and anagrams are listed in Appendix G. The feedback statements were adapted from Scheier and Carver's work (1982) and are indicated below. Experimenters were instructed to use a neutral, matter-of-fact tone of voice while issuing the instructions and feedback statements to subjects. Experimenters were equipped with a digital watch, clipboard, laminated 4" x 6" index cards displaying the tasks, a supply of 4" x 6" slips of tracing paper, blank notebook paper, and a set of the questionnaires described above. After signing the first experimental consent form (see Appendix H), each subject was assessed individually by one of the experimenters, as follows.

Initial Instructions

The experimenter gave the following introduction and instructions at the beginning of the experiment:

> In this study, we are trying to examine whether people who have different eating habits differ in their ability to concentrate and to perform on perceptual and verbal tasks. We've chosen some perceptual tasks in which you will be asked to trace over some designs, and some verbal tasks in which you will be asked to unscramble some jumbled words (anagrams). All of these tasks have been found to be highly related to how well students can concentrate and how well they succeed in their courses at Virginia Tech. We also have some brief questionnaires we would like you to complete as you go along. Do you have any questions (Questions about experimental hypotheses and such were deferred until the end). Are you ready to begin?
>
> Remember, there are 2 types of tasks you will be doing: 1)tasks examining how well you can unscramble jumbled words, and 2)tasks examining how well you can trace designs.
>
> Please fill out these two questionnaires. They concern how well you think you can do on the tasks I've told you about, and how well you think you can do in other situations (Questionnaire 1 and 2 were then administered for the first time).
>
> Now, please unscramble these letters to form a common english word and write your answer on this piece of paper. You have five minutes.

The student was then given the first anagram of either the success or failure condition, depending on which group she had been assigned to. The experimenter began timing at that point. Any time a subject appeared to give up on any task, the experimenter gave the prompt, "Why don't you go ahead and try again?" If the subject was in the failure condition and refused to continue on the task or appeared to give up a second time, the experimenter said, "Okay. You didn't get that one. Let's go on to the next one." Experimenters also took informal notes on subjects' behavior, verbal statements, apparent degree of naivete, etc.

Failure feedback.

After the subject had been working on Anagram One for three minutes, the experimenter stated, "You may want to speed up a little. You only have about two minutes left." After the five minutes were up, the experimenter said, "Well, your time is up. Sorry about that." Anagram Two was administered using similar instructions and the subject was provided with

a clean piece of paper. The experimenter stated "Here's the next one. Again, try to unscramble these letters to form a common english word and write your answer on this piece of paper. You have five minutes."

The experimenter again "began timing," i.e., looked at the digital watch and noted the time. After the subject had worked on Anagram Two for three minutes, the experimenter said, "Are you concentrating? Could you try a little harder, please?" After the five minutes were up, the experimenter stated, "Time is up. No need for you to try to do it any more. Let's just do the next task." The anagrams and notebook paper were then put away, and the experimenter presented Design 1 and several slips of tracing paper with the following instructions.

> This is Part 1 of the Perceptual Reasoning Test. Please trace over all the lines of the design without lifting your pencil and without tracing over any line twice. Use a new slip of paper each time you begin tracing or start over. You can try as many times as you like, but you must finish the design in ten minutes.

The experimenter noted the time and, after the subject had been working on the problem for six minutes, stated "Well, it looks like you may not finish this one either. You have only four minutes left." After the allotted ten minutes were over, the experimenter gave the following feedback and instructions.

> Well, that's it. Your time is up. You know, I am pretty familiar with the Verbal Ability and Perceptual Reasoning Tests, and I am supposed to let you know how you are doing. You're not doing too well so far. The time you are spending on the tasks is unusually long; for sure it's in the bottom 10% of students who take these tests. Sorry you're not finding this any easier.
>
> Now, if you would please fill out these short questionnaires, we will go on to the rest of these tasks. You will be doing one more design and two more anagrams similar to the ones you just did.

The measures of performance attributions, Questionnaires 3 and 4, were administered at this point for the first time, followed by the re-administration of the expectancy and efficacy measures, Questionnaires 1 and 2, in that order. Occasionally, a subject would ask about or comment on the fact that they had previously filled out Questionnaires 1 and 2. When this happened, the experimenter explained simply that this involved finding out how she was feeling about the questions right now. After these were completed, the experimenter presented Design 2 and several pieces of clean tracing paper with the following instructions.

> This is part 2 of the Perceptual Reasoning Test. Again, please trace over all the lines of the design without lifting your pencil and without tracing over any line twice. Use a new slip of paper each time you begin tracing or start over. You can try as many times as you like, but you must finish the design in 10 minutes.

The experimenter noted the time and, after the subject had been working on Design 2 for 6 minutes, stated, "Try harder now. Just four minutes left." After the full 10 minutes were up, the experimenter stated, "Okay. Time is up. You didn't get that design. Let's go on to the rest of the anagrams." Anagram instructions were issued in the same manner as previously. When a subject clearly understood that the instructions were the same as before, it was permissible that they be abbreviated slightly for Anagrams 3 and 4. However, the amount of time allowed was stated prior to every task.

After the subject had worked on Anagram 3 for three minutes, the experimenter indicated, "Try to unscramble it soon. You have approximately two minutes now." When the full five minutes had elapsed, the experimenter said, "Stop. Time is up. That's still scrambled. Let's do the last one now." The subject was then provided with a new piece of paper and presented Anagram 4, with the same instructions as before. After the subject had worked on Anagram 4 for 3 minutes, the experimenter noted, "You're still not getting it yet. You now have two minutes to finish." After the allotted time had elapsed, the experimenter said, "Okay. All the time is up."

The experimenter then put all the task materials aside, focused his or her eye contact on the subject and issued the following summary feedback and instructions.

> Well, you did about the same on the tasks as you did before. You didn't solve any of the tasks in the experiment. This happens, as I indicated earlier, in about 10% of the students who take these tests. Sorry you didn't do any better.
>
> Now please fill out these questionnaires. (Questionnaires 4, 3, and 2, were then administered, respectively). Okay. Now please fill out this questionnaire. This time, I would like you to fill out Questionnaire 1 while thinking about how you could perform on these same types of tasks on a different day, say sometime within the next few months.

After completion of the questionnaires, the subject was carefully and thoroughly debriefed (see below).

Success feedback.

Initial instructions were identical to those given in the failure condition. For two subjects who failed to solve a "success" anagram, the positive feedback had to be modified accordingly. (They were told that their attempts were very close to the answer.) Otherwise, the standard feedback statements were issued as follows.

Immediately after the subject finished Anagram 1, the experimenter said, "You really finished quickly. That's good. Please go on to this next one." Anagram 2 was then administered with the same instructions as described above. As soon as the subject solved it, the experimenter told her, "Great. You are doing very well. We can go on to the Perceptual Reasoning Test." The instructions for this task were then given, exactly the same as they were given in the failure condition. Most success subjects completed the problem in less than five of the allotted ten minutes. However, if a subject was still working on Design 1 at the end of 5 minutes, the experimenter indicated, "You're doing a good job." When the subject completed Design 1, she was given the following feedback and instructions.

> You are really good at this.
>
> You know, I am pretty familiar with the Verbal Ability and Perceptual Reasoning tests, and I am supposed to let you know how you are doing. You are doing very well so far. The time you are spending on the tasks is unusually short (fast); for sure in the top 10% of students who take these tests. Congratulations on scoring so high.
>
> Now, if you would please fill out these short questionnaires, we will go on to the rest of these tasks. You will be doing 1 more design and 2 more anagrams similar to the ones you just did.

Questionnaires 3, 4, 1, and 2 were then administered, respectively. The same experimenter response as outlined in the failure condition above was given to the success subject if she asked about having to fill out the same questionnaires repeatedly. After these questionnaires were completed, the experimenter provided several pieces of clean tracing paper and issued the same instructions for the second design as described above in the failure condition.

If the subject did not complete Design 2 in five of the allotted ten minutes, the specific statement the experimenters were instructed to issue at this time was, "You are doing so well on these. You really seem to have the hang of these tasks." When the subject finished, the experimenter noted the time and stated, "Very good. You did that design well. Let's go on to the rest of the anagrams. The regular anagram instructions were then issued, including the statement of how much time was allowed (five minutes for each anagram).

After the subject finished the third anagram, the experimenter said, "Outstanding. Let's do the last one now." The experimenter then provided another clean piece of paper, issued the same anagram instructions as previously and presented Anagram 4. When the subject finished this last anagram, the experimenter told her, "Excellent." Subsequently, the experimenter put all task materials away, focused her eye contact on the subject and gave the following summary feedback:

> Well, you did about the same on the tasks as you did before. You solved all of the tasks in the experiment, and you did so in very good times. As I indicated earlier, about 10% of the students who take these tests are able to score about as well as you did. Again, congratulations for scoring so high. Now, please fill out these questionnaires.

Questionnaires 4, 3, and 2 were then administered, respectively. The experimenter then indicated, "Okay. Now, please fill out this questionnaire. This time I would like you to fill out Questionnaire 1 while thinking about how you could perform on these same tasks on a different day, say sometime within the next few months.

Debriefing

The following debriefing procedures were carried out for all subjects who participated in the experiment. However, the debriefing of failure subjects included increased emphasis on the apologetic tone and on reassurance. Debriefing of the failure subjects also tended to be

lengthier in order to insure that any negative feelings, i.e., anxiety, embarrassment, etc. had been dealt with.

Phase I: Explanation of Manipulations.

The experimenter explained to the subject that her performance on **all** of the tasks was not related in any way to her true abilities. If the subject was in the failure condition, it was explained to her that all of the tasks she was asked to do were, in fact, insoluble; it was emphasized that no one would be able to solve them, including the experimenter, and so forth. If the subject was in the success condition, it was explained to her that her "excellent" performance was predetermined; hence, it could not be interpreted as predicting that she would graduate in the top 10% of her class. In all cases, subjects were shown the task materials of the other group and explained that their assignment to the easy or impossible tasks was determined before each subject arrived for the experiment by a simple flip of a coin.

It was then explained to subjects that this ongoing research was attempting to investigate whether people with different eating habits respond to success and failure experiences in different ways. Hence, people who had reported eating problems as well as those who had reported no eating problems on the questionnaire in the eating survey had been asked to participate in this experiment.

Phase II: Reassurance and Demonstration of Competence on Actual Tasks.

This portion of debriefing was primarily used for failure condition subjects. Sincere and substantial apologies were issued for any discomfort the subject may have experienced during the experiment. The subject was offered the opportunity to do success condition tasks (as many as she wanted to do), and she was given immediate and positive feedback on her

performance on these. The experimenter then allowed the subject to ask any questions, and continued to answer these and to converse leisurely until she was convinced that the subject understood and that the subject was feeling comfortable with herself.

Regardless of success or failure assignment, the experimenter then had the subject sign Consent Form II (see Appendix I).

Phase III: Information and Referral.

Finally, each subject offered a brochure about eating disorders, which she could keep if she wanted to (Appendix X). No subjects were told that they had eating disorders; all subjects were told that eating disorders were relatively common among college women and that the research involved the study of problematic as well as of normal eating patterns. Additionally, the experimenter wrote the names and phone numbers of several local treatment facilities on the optional brochure and indicated to the subject that these were some of the available resources in this community, which perhaps might one day be useful to the subject or to a friend or family member.

Results of Study I

Due to the large number of dependent measures, summary scores were created and subjected to an overall multivariate analysis of variance as the first statistical analysis of Study I. The four summary variables created were composite scores of: 1) performance expectancy; 2) self-efficacy scale scores; 3) performance attributions; and 4) number of attempts on the insoluble design problems. The means and standard deviations for these composite variables are presented in Table 5 on page 48. The means and standard deviations for all variables are presented in Appendix Z. The means and standard deviations for the bulimic and nonbulimc groups are presented in Appendix AA, and the same statistics for success and failure groups are presented in Appendix BB, The means and standard deviations for each of the four groups in the study (failure-bulimics, success-bulimics, failure-nonbulimics, and success-nonbulimics) are presented in Appendix CC.

Results for the overall MANOVA were examined using Wilks' criterion. Examining the null hypothesis of no overall effect for classification as bulimic or nonbulimic, an F-value of 2.46 was obtained ($p = .0657$). For the hypothesis of no overall effect of success/failure group assignment, an F-value of 99.37 was obtained ($p < .0001$). For the hypothesis of no overall effect of the interaction of classification and success/failure group, an F-value of 1.90 was obtained ($p = .13$). These results suggested strong main effects for both bulimic/nonbulimic

Table 5. Means of Summary Variables in Study I

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
Failure - Bulimics				
Self-Efficacy	52.233	13.364	32.333	72.000
Expectancy	60.700	10.605	42.000	77.000
Design Trials	31.000	6.074	21.000	40.000
Attributions	50.700	25.608	16.000	98.000
Success - Bulimics				
Self-Efficacy	51.963	7.493	37.000	62.000
Expectancy	39.889	18.045	19.000	66.000
Design Trials	5.600	2.797	3.000	11.000
Attributions	105.667	17.190	75.000	133.000
Failure - Controls				
Self-Efficacy	58.567	12.434	42.667	81.000
Expectancy	60.900	8.863	45.000	74.000
Design Trials	35.800	7.345	24.000	50.000
Attributions	46.700	24.766	11.000	84.000
Success - Controls				
Self-Efficacy	65.200	8.931	46.333	75.333
Expectancy	49.900	5.782	36.000	57.000
Design Trials	4.500	1.841	3.000	9.000
Attributions	92.100	23.197	64.000	126.000

classification and success/failure group, and few interaction effects. Separate ANOVAs also were conducted on each of the four summary variables, which, not surprisingly, yielded similar results (see Table 6 on page 49 through Table 9 on page 52).

Subsequently, the data were analyzed using a series of 2 x 2 (diagnostic group: bulimic and nonbulimic; task condition: success and failure) univariate ANOVAs as well as a few 2 x 2 x 4 (diagnostic group: bulimic and nonbulimic; task condition: success and failure; time: assessment points 1, 2, 3, and 4) repeated measures ANOVAs on select variables. Variables which were assessed three times, i.e., performance satisfaction, were subjected to a 2 x 2 x 3 repeated measures ANOVA. Methodologically, it is critical to note that initial expectancy

Table 6. ANOVA Table for Mean Self-efficacy Scores in Study I

Variable: Mean Total Score on Self-Assessment Scale

Source	df	SS	MS	F	p	R^2
Model	3	1152	384	3.23	.0341	.22
Error	35	4166	119			
Total	38	5318				

ANOVA

Source	df	SS	F	p
Diagnosis Bulim./Nonb.	1	932	7.83	.0083
Condition Succ./Fail.	1	121	1.02	.3194
Diag.XCond.	1	99	0.83	.3681

levels were similar across success and failure conditions as well as across bulimic and nonbulimic groups. Thus, no significant differences were evident on this variable across any of the groups **prior** to the manipulations.

Hypothesis 1 stated that after the success/failure manipulation, subjects exposed to failure would expect to perform significantly worse than subjects exposed to success. Expectancy scores consisted of the sum of the ratings on Question 1 and Question 3 in Appendix C, with higher scores indicating expectancy of poorer performance. The results indicated that, after the first set of tasks, failure subjects reported expecting to do significantly worse on upcoming tasks, as compared to success subjects. The mean failure group rating was 12.5 (s. d. = 3.62) while the mean success group rating was 7.9 (s. d. = 3.35, $p < .01$). After the second set of tasks, failure subjects again reported significantly lower levels of expectancy for future tasks, with the mean failure group rating being 13.05 (s. d. = 3.03) and the mean success group rating being 6.16 (s. d. = 2.73, $p < .01$). A repeated measures analysis of variance on

Table 7. ANOVA Table for Summed Expectancy Ratings in Study I

Variable: Summed Expectancy Ratings

Source	df	SS	MS	F	p	R^2
Model	3	2859	953	7.21	.0007	.38
Error	35	4625	132			
Total	38	7484				

ANOVA

Source	df	SS	F	p
Diagnosis Bulim./Nonb.	1	202	1.53	.2241
Condition Succ./Fail.	1	2384	18.04	.0002
Diag.XCond.	1	273	2.06	.1598

this variable showed that expectancy of successful performance over time varied significantly as a function of the experimental manipulation, with failure subjects increasingly expecting to do significantly worse than success subjects ($p < .00001$). These findings are congruent with Hypothesis 1 and indicate a strong general effect of the experimental manipulation of inducing success and failure experiences.

Recall that hypothesis 2 stated that after the success/failure manipulations, subects exposed to success will make different attributions than subjects exposed to failure. Success and failure subjects differed significantly on almost every attributional index, both after the first set of tasks (assessment point 2) and after the second set of tasks (assessment point 3). Specifically, success subjects, to a greater degree than failure subjects, attributed their "performance" to internal factors ($p < .01$ at both assessment points), to stable factors ($p < .01$ at both assessment points), and to global or generalizing factors ($p < .01$ at both assessment points). They also perceived a greater degree of control in producing a

Table 8. ANOVA Table for Total Design Attempts Study I

Variable: Total Number of Attempts on Design Problems

Source	df	SS	MS	F	p	R^2
Model	3	7951	2650	101.04	.0001	.90
Error	35	918	26			
Total	38	8869				

ANOVA

Source	df	SS	F	p
Diagnosis Bulim./Nonb.	1	13	.49	.4880
Condition Succ./Fail.	1	7830	298.49	.0001
Diag.XCond.	1	109	4.15	.0493

successful outcome ($p < .01$ at both assessment points). Only one attributional variable, external attributions, was not significantly different across groups (scores on this variable were computed independently from scores on the conceptually related internal attributions variable). Hypothesis 2 thus appeared to be confirmed.

According to hypothesis 3, success subjects were expected to report that it was important to perform well on the tasks to a greater degree than subjects exposed to failure. The ratings on importance of successful performance were examined for anagram performance (question 5 in Appendix E) as well as design performance (question 5 in Appendix F). Higher scores indicate a greater degree of importance associated with successful performance.

For anagram performance at assessment point two, the mean success group importance rating was 7.30 (s. d. = 1.63) while the mean failure group rating was 4.85 (s. d. = 2.70), a significant difference ($p < .01$). This finding was replicated at assessment point three, with

Table 9. ANOVA Table for Attributions Summary Scores in Study I

Variable: Composite Attributions Score

Source	df	SS	MS	F	p	R^2
Model	3	25142	8381	15.75	.0001	.57
Error	35	18629	532			
Total	38	43771				

ANOVA

Source	df	SS	F	p
Diagnosis Bulim./Nonb.	1	525	0.99	.3277
Condition Succ./Fail.	1	24190	45.45	.0001
Diag.XCond.	1	427	0.80	.3764

the mean success group importance rating being 7.05 (s. d. = 1.25) and the mean failure group importance rating being 4.15 (s. d. = 2.55, $p < .01$).

For design task performance, success subjects had a mean rating of 7.30 (s. d. = 1.66) at assessment point two and 7.47 (s. d. = 1.26) at assessment point three. Failure subjects at assessment point two had a mean rating of 5.05 (s. d. = 2.48) and, at assessment point three, a mean rating of 4.50 (s. d. = 2.67). At both times, the ratings of the importance of successful design task performance were significantly higher for success subjects ($p < .01$). Thus, success subjects indeed reported that it had been important for them to perform well on the tasks to a significantly greater degree than did failure subjects, and hypothesis 3 was confirmed. Furthermore, this was found at both assessment points, on both types of tasks, and independently of bulimic/nonbulimic group.

Overall, the results of hypotheses 1 through 3 indicate that the success and failure manipulations produced the intended effects. Subjects exposed to the failure manipulation

expected poorer performance and made the expected attributions, i.e., that the failure was due to external factors which they reported were not necessarily under their control. Conversely, subjects exposed to the success manipulation expected better performance, and attributed the success to internal factors which they reported as being under their control.

Hypothesis 4 stated that bulimics would report lower self-efficacy than nonbulimics. The mean self-efficacy score for bulimics at the outset of the experiment (prior to manipulations) was 51.70 (s. d. = 10.61), significantly lower than the mean score for nonbulimics (61.50, s. d. = 10.48, $p < .01$). Notably, both groups demonstrated little, if any, change in their self-efficacy scale scores as a result of the manipulations. The bulimic and nonbulimic group means remained stable, with bulimics still reporting lower self-efficacy at the middle ($p < .02$) and at the end ($p < .02$) of the experiment, as compared to nonbulimics, in both conditions. Thus, hypothese 4 was supported at all three separate assessments. Figure 2 on page 54 illustrates the stability of these scores for the success condition.

Recall that hypothesis 5 stated that bulimcs would report that it was important to perform well on the tasks to a greater degree than would nonbulimics. This hypothesis was not supported. Bulimics actually demonstrated similar degrees of reported importance of successful performance as did nonbulimics, both after the first set of tasks and after the second set of tasks. However, the absence of evidence for this prediction does not preclude the possibility that this variable changed differentially over the course of the experiment. Graphic examination of the data suggested that this was the case (see Figure 3 on page 56). Specifically, bulimics appeared to increase slightly the level of reported importance they attached to the tasks. Because all the absolute numerical changes were modest, static group differences were not significant at either assessment point taken alone, despite the fact that the relative mean values actually had reversed themselves from time 2 to time 3. Furthermore, these slight trends were consistent across success and failure conditions and across anagram and design tasks. To further investigate this trend, a repeated measures

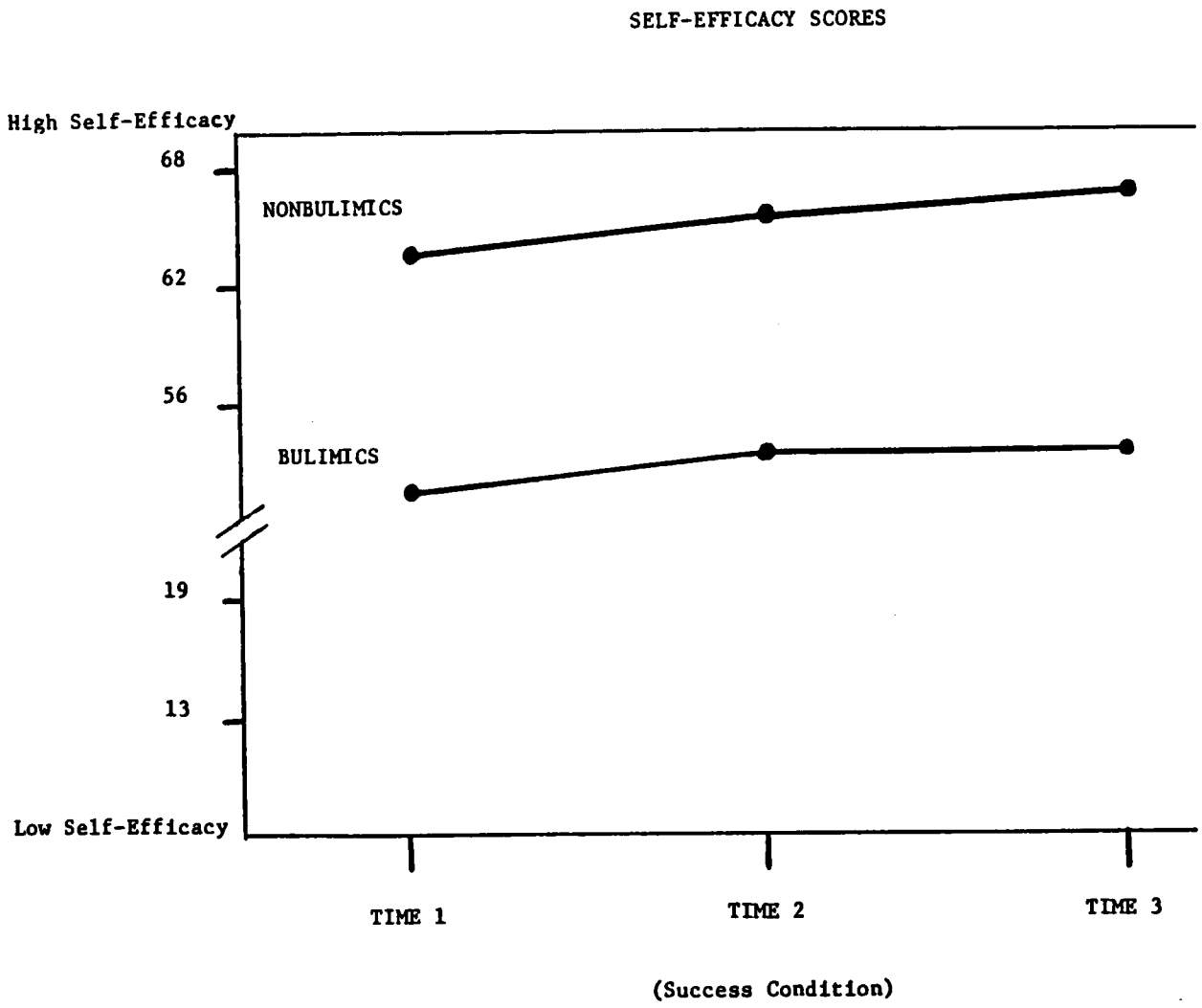


Figure 2. Self-Assessment Scale Scores in Study I

analysis of variance was conducted on this variable. The obtained result was that the effect was marginally significant ($p = .07$) and worthy of further investigation in Study II.

Hypothesis 6, which stated that bulimics would make different attributions than nonbulimics, was not supported. Analyses of variance were conducted with all attributions questions (Appendices E and F), which indicated no statistically significant differences between bulimics and nonbulimics. With the possible exception of changes over time in question 5 (discussed earlier and separately, because it relates directly to hypothesis 5), bulimics and nonbulimics made similar attributions after the success-failure manipulations. The ANOVA table on the attributions summary variable is illustrative, indicating significant success-failure differences but no significant bulimic-nonbulimic differences.

Hypothesis 7 stated that bulimics would exhibit greater behavioral persistence, as indicated by more time spent working on the insoluble tasks (failure condition only), as compared to nonbulimic subjects. Persistence on the design problems was assessed by the average amount of time the subject spent on each insoluble design trial (recall from the procedures outlined above that each subject was permitted to try as many times as she wished within the allotted period). A new trial was considered to occur when the subject started the design over with a fresh piece of tracing paper. Thus, lower numbers of trials indicate a longer period of time spent on each trial. This was assumed to be suggestive of a persistent, thoughtful, "on-task" strategy as opposed to a disorganized, impulsive strategy.

Due to unforeseen methodological difficulties (separation of anagram attempts from the data set by a research assistant), only the design tasks could be examined on the persistence variable. The average amount of time spent by failure-bulimics on the insoluble design trials was 38.71 seconds, whereas the average amount of time spent by failure-nonbulimcs was 33.52 seconds. Thus, bulimics did appear to persist more on the insoluble designs, however, this difference was nonsignificant ($p = .13$). Hypothesis 7, therefore, was not confirmed.

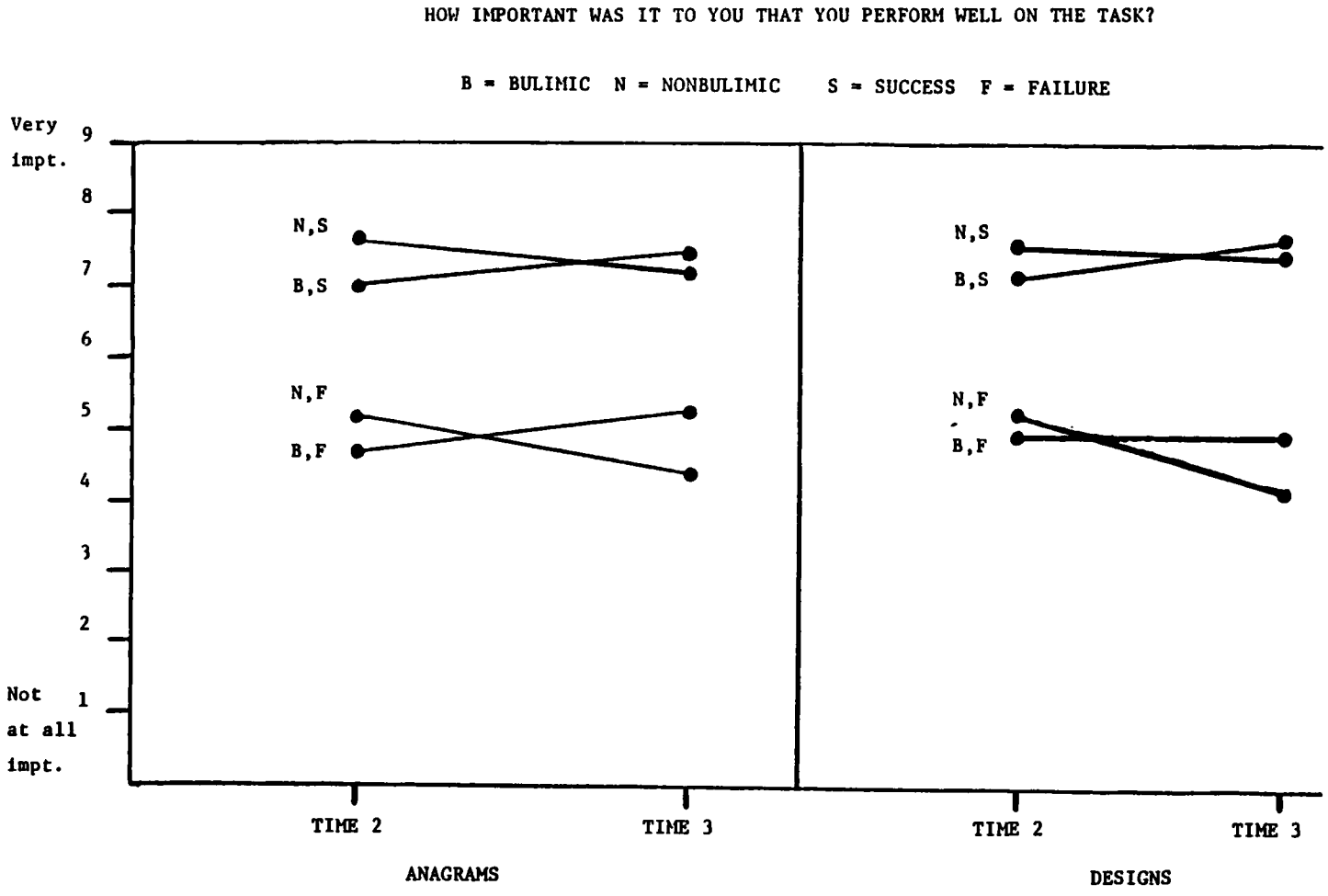


Figure 3. Importance Ratings in Study I

Discussion of Study I

The findings from the pilot data confirm some of the initial hypotheses as well as raise additional questions for further investigation. The findings of highly significant differences between the two experimental conditions indicates that the manipulations were effective. Failure as well as success effects seemed to be induced, as seen in the data on levels of expectancy, attributions to internal, stable, and global factors, perceived control, and reported level of importance of performing well. The success-failure findings suggest that subjects generally tended to use adaptive attributional styles or self-serving biases. These appear to be primarily main effects of success and failure which hold for both diagnostic groups. These main effects of the success-failure manipulations were important in that they supported the experimental methodology, thus substantiating basic assumptions of the study.

Among the Study I findings of bulimic-nonbulimic differences, none were more pronounced than the results on the self-efficacy scale. The significantly lower self-efficacy of the bulimics, as compared to the nonbulimics, confirms the stated prediction as well as earlier suggestions in the literature. Additionally, the finding that neither the bulimic nor the control subjects experienced changes in this measure of self-efficacy over the course of the experiment suggests that this is an **a priori** difference between bulimics and nonbulimics; futher, it is relatively stable and not affected by short-term experiences of either success or failure.

It appears, then, that bulimics and nonbulimics have a general difference in this type of self-efficacy which is not easily or readily altered by performance accomplishments nor environmental feedback. It is important to demonstrate this by empirical means; however, the capacity of this measure to explore immediate changes in responding through experimental manipulations such as success and failure seems limited. This may be due to the generalized nature of the scale, that is, it assess confidence in doing a number of things, not just in performing well in a single, specific situation. Assessment including a measure which is more sensitive and relevant to short-term situational variables may be useful in subsequent research. For example, questions tapping subjects' self-efficacy for successful performance on the specific experimental tasks may be especially useful.

Contrary to what was hypothesized, bulimics did not differ from nonbulimics on performance attributions of either success or failure. This surprising finding challenges viewpoints which indicate that bulimics have a maladaptive attributional pattern, that they engage in cognitive distortions (i.e., magnification of events such as failure) or that they do not recognize their own successes. The attributional data on internal-external locus, controllability, stability, and generality in this study showed that bulimics made similar attributions as did the normal controls.

Reasons for the lack of finding of bulimic-nonbulimic differences on attributions might include that: 1) the bulimic subjects were not very depressed; 2) the bulimic subjects were not truly bulimic, or, that the bulimia in these college students was not sufficiently severe to affect cognitive processes such as attributions; 3) attributions actually are not different between bulimics and other individuals; and/or 4) attributions of **successful/failing laboratory task performance** do not differentiate bulimics from nonbulimics, although other, more externally valid, cognitive variables might discriminate between these groups. In order to examine some of these possibilities in future research, assessment of depression, more stringent inclusion criteria, and assessment of cognitive variables other than attributions are needed.

While most of the attributional questions did not distinguish bulimcs and nonbulimics, responses to the single question, "How important was it to you that you perform well on the task(s)?" revealed a possible response difference over the course of the experiment (although the differences at any one assessment point by itself were nonsignificant, suggesting that hypothesis 5 needs to be revised to be more specific). It appeared that bulimics became increasingly engaged in the tasks while nonbulimics exhibited the opposite tendency (recall Figure 3 on page 56). Further exploration of this variable is warranted. Modification of the question to asking about upcoming task performance (rather than only post-performance assessment) also would be useful and would be a simple way to modify the current procedures to include more measurements per subject on this variable.

The finding on the behavioral measure of persistence, number of attempts on insoluble design problems, was nonsignificant, vague, and open to several possible interpretations. The fewer attempts made by bulimics during the fixed time period was thought, initially, to represent an on-task, thoughtful, and effortful task-taking style. If this is valid, then bulimics in this study could be considered to be slightly more adaptive, had the effect been stronger and statistically significant.

However, an alternative viewpoint was considered after the completion of Study I. It was observed that several bulimic subjects in the **success** condition seemed to have more trouble with the **easy** tasks than did the nonbulimic subjects. They seemed to be anxious about the situation, made spontaneous self-deprecatory remarks during the experiment prior to solving the tasks, and, at times, appeared to require both more time and more attempts to solve the easy problems than would be expected. While this was not analyzed formally, it was suggestive of test anxiety and of the occurrence of distracting, maladaptive thoughts which could hamper performance.

The inclusion of situational anxiety in subsequent research is indicated, as well as other dimensions of situational ("state") and generalized ("trait") affect. Several indications in the

literature suggest depression, anxiety, mood swings, interpersonal sensitiviy, and overall affective instability among bulimics (Casper et al., 1980; Garfinkel & Garner, 1982). Investigators are beginning to identify associations between bulimic symptoms and mood (Johnson-Sabine et al., 1984; Schlundt et al., 1986). Additionally, one would expect that maladaptive cognitions and behaviors are accompanied by increases in negative affect. Furthermore, differential changes in situational affect between bulimics and nonbulimics have rarely, if ever, been assessed systematically and would be relevant for research including the induction of success and failure.

If this is valid, then the bulimics' fewer attempts during insoluble tasks in the failure condition could be reflective of being distracted and off-task (rather than persistent and on-task). This requires further investigation in order to determine: 1) whether the bulimic-nonbulimic differences in number of attempts can be established more firmly and significant statistically, and 2) if the difference can be established, is it indicative of persistence or distraction? In addition to more comparisons on the number of attempts, the assessment of covert self-statements could shed light on these questions.

These data raise interesting questions concerning the degree to which bulimics can be said to be adaptive or maladaptive responders. It may be that our current knowledge base on cognitions and bulimia is such that further exploration, identification, and description of cognitive processes will be required before the implications for adaptive behavior are inferred.

Finally, the current findings are based on a relatively small (n = 40) sample and a somewhat subjective selection process. Further research should attempt to correct these methodological deficiencies as well as incorporate the other suggestions outlined above.

Objectives and Hypotheses of Study II

Study II was designed to replicate and clarify some of the findings of Study I as well as to investigate the new questions which were raised by the earlier work. Objectives of Study II included: 1) to further investigate differences between bulimics and nonbulimics on the cognitive variables of expectancy, self-efficacy, and reported importance of successful performance; 2) to further investigate the observed behavioral difference between bulimics and nonbulimics in number of attempts on the insoluble tasks; 3) to investigate whether the lack of bulimic-nonbulimic differences in performance attributions found in Study I was replicable; 4) to investigate differences between bulimics and nonbulimics on two additional cognitive measures, performance satisfaction and self-statements during experimental tasks; 5) to investigate differences between bulimics and nonbulimics on a general measure of depression; 6) to investigate whether the observed differences on the cognitive measures may be accounted for by depression; and 7) to investigate differences between bulimics and nonbulimics on state anxiety, state depression, and state hostility, and to examine how the levels of these variables change for both groups when exposed to failure and when exposed to success.

The hypotheses for Study II are divided into two major groups: 1) overall success-failure differences, and 2) bulimic-nonbulimic differences. The first group represents simply a series of checks on the manipulations. Essentially, these hypotheses simply ask whether the manipulations worked; whether the subjects experienced these inductions as actual successes and failures. The second, larger group of hypotheses focus on the primary purpose of the study: the investigation of cognitive, affective, and behavioral differences between bulimics and nonbulimics before, during, and after experiences of success and failure.

The overall success-failure differences which were expected are listed below as hypotheses 1 through 4. The bulimic-nonbulimic differences which were expected are listed as hypotheses 5 through 12.

1. As in Study I, subjects exposed to failure will expect to perform significantly worse than subjects exposed to success. Furthermore, this difference will increase as a result of repeated success-failure experiences.

2. Subjects exposed to failure will experience a decrease in their self-efficacy to solve the tasks; conversely, subjects exposed to success will experience an increase in their self-efficacy to solve the tasks. Furthermore, this difference will increase as a result of repeated success-failure experiences.

3. Subjects exposed to success will report significantly higher performance satisfaction than subjects exposed to failure, throughout the experiment.

4. Failure subjects will experience more increases in their levels of state anxiety, depression, and hostility than success subjects.

5. As in Study I, bulimics will report significantly lower self-efficacy than nonbulimics (as measured by scores on the Self-Assessment Scale, given in Appendix D), both prior to the experiment and at its conclusion.

6. Bulimics will also report significantly lower self-efficacy to solve the specific tasks in the experiment as compared to nonbulimics (see question 2 in Appendix M) prior to the manipulations.

7. Over the course of the experiment, bulimics will increase their ratings on the importance of successful performance (see question 3 in Appendix M), while nonbulimics will

decrease their ratings on this question. This is expected to occur independently of success- failure experiences, as observed in Study I (see Figure 3 on page 56).

8. Within the failure condition, as in Study I, bulimics will make fewer attempts on the insoluble tasks as compared to nonbulimics.

9. Within the success condition, performance satisfaction will fluctuate or decrease for bulimic subjects over the course of the experiment. For nonbulimic subjects, however, performance satisfaction will stabilize or increase after repeated success.

10. After the experiment, bulimic subjects exposed to failure will report that they had experienced distracting thoughts, including thoughts specifically related to eating and physical appearance, to a significantly greater degree than nonbulimic subjects exposed to failure.

11. Bulimics will have significantly higher scores on the Beck Depression Inventory than nonbulimic subjects.

12. Bulimics will have higher scores than nonbulimics on all three situational affective variables: depression, anxiety, and hostility. Furthermore, this difference will be observed both prior to, and after, the manipulations and in both success and failure conditions.

Method of Study II

Subjects

Initial screening

A new, large sample (n = 1526) of students were administered the BULIT, the Beck Depression Inventory (Beck, 1972), and questions about age, height, and weight over the course of eight months. Of these, 1289 were in psychology courses at VPI and received extra credit for their participation, 131 were in a VPI nutrition course who completed the survey at the request of their instructor, 79 were VPI students who belonged to campus Greek organizations which responded to a request for research volunteers (see Appendix J), and 27 were Hollins College students who volunteered to complete the survey during a special event sponsored by the department of student counseling.

Selection

The selection criteria for Study II were more stringent than those for Study I. In Study I there was no required cutoff score and subjects were not administered a systematic diagnostic interview. Study II added both of these in addition to DSM-III criteria. Thus, based on a total BULIT cutoff score of 102 and fulfillment of DSM-III criteria (as noted by examination of relevant item responses on the BULIT, Appendix B), 26 female subjects were selected for the bulimic group. Additionally, 26 female subjects with a total BULIT score of less than 88, who clearly did not fulfill DSM-III criteria, and who matched the bulimics on age, height, and weight were selected for the control group. Additiionally, Study II featured post-experiment diagnostic interviews in order to insure valid and reliable classification of subects as "bulimic" and "normal" (discussed in more detail below).

Thus, the **n** for the experiment in Study II was increased by 30% from Study I. All 52 subjects were female undergraduates at VPI. BULIT scores averaged 117 (s.d. = 9) for the bulimic group and 58 (s.d. = 12) for the control group. As in Study I, a reasonably close overall match was obtained on age, height, and weight (see Table 10 on page 66). Again, a subsample (n = 17) of subjects were weighed in the laboratory to check the accuracy of self-reported weight. Self-report of weight was found to be highly accurate, with the Pearson correlation coefficient between self-reported and actual weight being .91 ($p < .0001$).

Design

Subjects were assigned randomly to either the success or failure condition. The overall design for Study II was a 2 x 2 design, with 2 levels of diagnosis (bulimic and nonbulimic) and 2 levels of experimental manipulation (success and failure). Thirteen subjects comprised each of these four cells. Additionally, several variables were measured repeatedly over the course

Table 10. Age, Height, and Weight for Study II Subjects

Bulimics				Controls			
No.	Age	Height	Weight	No.	Age	Height	Weight
B01	18	5′3″	125	C01	18	5′3″	120
B02	18	5′4″	148	C02	20	5′5″	145
B03	18	5′6″	134	C03	18	5′6″	135
B04	19	5′6″	105	C04	18	5′5″	100
B05	18	5′3″	125	C05	19	5′2″	120
B06	18	5′2″	115	C06	20	5′2″	118
B07	18	5′11″	175	C07	19	5′10″	178
B08	18	5′6″	151	C08	20	5′6″	147
B09	18	5′2″	115	C09	20	5′2″	110
B10	18	5′4″	134	C10	18	5′4″	132
B11	20	5′4″	115	C11	18	5′5″	115
B12	19	5′9″	143	C12	20	5′10″	143
B13	18	5′4″	125	C13	20	5′5″	130
B14	18	5′4″	120	C14	18	5′3″	121
B15	18	5′3″	127	C15	18	5′3″	128
B16	19	5′6″	157	C16	18	5′5″	155
B17	18	5′4″	145	C17	18	5′3″	140
B18	18	5′6″	150	C18	20	5′6″	145
B19	18	5′6″	120	C19	18	5′6″	120
B20	19	5′8″	127	C20	19	5′8″	128
B21	18	5′6″	171	C21	19	5′7″	175
B22	18	5′6″	150	C22	19	5′7″	153
B23	18	5′5″	128	C23	20	5′5″	125
B24	18	5′6″	124	C24	20	5′5″	125
B25	22	5′4″	120	C25	20	5′5″	123
B26	20	5′5″	124	C26	19	5′4″	120

of the experiment, thus incorporating a third dimension ("time" or "repeated success/failure") into the study. Specific analyses were conducted with a 2 x 2 x 2 design, a 2 x 2 x 3 design, or a 2 x 2 x 4 design (depending on whether the variable was measured two, three, or four times during the experiment).

Experimental Procedures

The experimental procedures for the success and failure manipulations were almost identical to those used in Study I. The procedural modifications, intended to be methodological improvements, were: 1) a question examining self-efficacy for the specific experimental tasks was added at each assessment point (Question 2 in Appendix M); 2) a measure of general depression, completed prior to all manipulations, was added; 3) there were four assessment points during the experiment rather than three; 4) the two attribution questionnaires used in the first study (Appendices E and F) were combined into one (Appendix K); 5) the time allowance was abbreviated, such that a total of 18 (rather then 40) minutes was permitted for the same six tasks used in Study I (Appendix G), and 6) one person administered the manipulations rather than three. Details of the experimental procedures for Study II are given in the instructional script in Appendix L. As in Study I, several of the experimental sessions were audiotaped to determine whether the script was followed. These tapes were then checked against the scripts; it was found that the manipulations were carried out correctly for each one.

Questionnaires

The questionnaires for the experiment in Study II were as follows. Questionnaire 1 contained 3 questions in a 9-point Likert scale format. The first question examined expectancy, in like manner as Study I. The second question was added to tap subjects' self-efficacy to solve the experimental tasks. The third question was added to further assess the degree of importance attached to performing well. Questionnaire 1 was administered at all four assessment points, and it is presented in Appendix M. Questionnaire 1 was modified slightly at the final assessment point (Questionnaire 1, Form P) in order to measure theoretical expectancy of

task performance in the future, as no tasks were given after the fourth assessment point (see Appendix N).

Questionnaire 2, the Self-Assessment scale (Ollendick & Hart, 1985; ReynaMcGlone, Ollendick, & Hart, 1986) was the same as the one utilized in Study I (Appendix D). Because scores on this measure of self-efficacy did not change signicantly after the manipulations in Study I, this scale was administered only at the beginning and end of the Study II experiment, rather than at each assessment point.

Questionnaire 3, the Multiple Affect Adjective Checklist (Zuckerman & Lubin, 1965; Zuckerman, Lubin, Rinck, Soliday, Albott, & Carlson, 1986), was added in Study II in order to assess immediate affective responses to the manipulations. This 132-item scale contains 21 items assessing anxiety, 40 items assessing depression, 30 items assessing hostility, and 41 filler items. The scale has been demonstrated to have adequate psychometric properties such as validity and reliability, and it appears to measure depression and anxiety particularly well, although these two subscales are correlated (Zuckerman & Lubin, 1965; Zuckerman et al., 1986). For the purposes of this study, the original MAACL was divided into four forms, with each form containin approximately one fourth of the items of the three affective subscales, and some of the filler items.

Because the number of anxiety items (21) and the number of hostility items (30) do not divide evenly into four, these scale items were distributed to be the nearest possible to equal subsets among the four forms. Then, 10 of the (40) depression items and the number of filler items which would make each of the MAACL forms exactly 28 were added. Thus, Form 1 contained 5 anxiety items, 8 hostility items, 10 depression items, and 5 filler items (Appendix O). Form 2 contained 5 anxiety items, 7 hostility items, 10 depression items, and 6 filler items (Appendix P). Form 3 contained 6 anxiety items, 7 hostility items, 10 depression items, and 5 filler items (Appendix Q). Finally, Form 4 contained 5 anxiety items, 8 hostility items, 10 depression items, and 5 filler items (Appendix R).

Thus, all of the original MAACL items were utilized, except for 20 of the 41 filler items. The division into four different forms allowed assessment of situational anxiety, depression, and hostility, as well as endorsement of filler items, at each assessment point without redundant presentation of the same adjectives. Items from the four subscales were presented in counterbalanced order such that a different order of anxiety, hostility, depression, and filler items was utilized at each assessment point. The order of these for Forms 1 through 4, respectively, was: 1) filler, anxiety, depression, hostility; 2) anxiety, depression, hostility, filler; 3) depression, hostility, filler, anxiety; and 4)hostility, filler, anxiety, and depression.

A measure of performance satisfaction was added in Study II. This three-item measure was administered after each set of tasks, at the second, third, and fourth assessment points (see Appendix S). As noted above, the two attribution measures used in Study I (Hart,1985; Perconte, 1983) were combined into one for Study II. Thus, Questionnaire 5 of Study II assessed attributions about performance on the tasks in general, rather than separately assessing attributions about design performance and attributions about anagram performance. The revised attribution questionnaire is given in Appendix K.

Questionnaire 6 contained 10 statements, primarily adapted from the 24-item Self-Statements Test created by Hart (1985). The items were designed to assess the degree to which bulimic, depressed, and normal subjects experienced specific thoughts while working on tasks. The items chosen for this study were selected based on the concept of adaptive cognition (see Appendix T).

Following the completion of all tasks and questionnaires in the experiment, subjects were debriefed carefully according to the guidelines used in Study I. Subsequently, nine additional questions were asked of the subjects orally (see Appendix U) and an interview concerning symptoms of bulimia was administered and audiotaped (see Appendix V for interview questions).

Recall that the major purpose of the post-experiment diagnostic interview was to assure the correct classification of subjects as "bulimic" and "normal." The audiotaped interviews were rated retrospectively on bulimic symptomatology by a blind, independent rater knowledgeable of DSM-III criteria for bulimia, using the form given in Appendix W. Additionally, a second rater completed the form independently after rating a randomly-selected one-third of the interviews. Interjudge reliability was calculated using the formula: (number of agreements / number of agreements plus number of disagreements) x 100. The interjudge reliability was 93%.

Results of Study II

Due to the large number of dependent variables, summary scores were created and subjected to an overall multivariate analysis of variance as the first statistical analysis of Study II. The ten summary variables created were composite scores of: 1) combined expectancy and task self-efficacy, 2) average score on the self-assessment (self-efficacy) scale, 3) average rating of successful task importance, 4) trait and state affect, including Beck Depression and all MAACL scores, 5) total number of trials attempted on the six tasks, 6) attributions thought to function adaptively, 7) attributions thought to function maladaptively, 8) average rating of performance satisfaction, 9) self-statements thought to function adaptively, and 10) self-statements thought to function maladaptively. The means and standard deviations for each of these ten summary variables can be found in Table 11 on page 73. The intercorrelation coefficients for these variables, plus age, height, weight, and scores on the BULIT and the Beck Depression Inventory are given in the matrix in Table 12 on page 74 and Table 13 on page 75. Appendix DD lists the means and standard deviations for **all** variables in Study II. Appendix EE lists the means and standard deviations for the bulimic and nonbulimic groups, and Appendix FF lists these statistics for the success and failure groups. The means and standard deviations for each of the four groups (failure-bulimics, success-bulimics, failure-nonbulimics, and success-nonbulimics) can be found in Appendix GG.

Table 11. Means for Summary Variables for Study II

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
Failure-Bulimics				
Expectancy and Efficacy	6.529	1.214	3.750	8.500
Self-Efficacy Scale	47.577	11.830	31.500	65.000
Importance of Tasks	6.452	1.332	4.250	9.000
Affect	65.077	20.855	29.000	101.000
Total Attempts	40.923	21.333	15.000	81.000
Adaptive Attributions	0.576	0.273	0.111	1.298
Maladptive Attributions	0.569	0.177	0.249	0.891
Performance Satisfaction	1.615	0.926	1.000	3.778
Maladaptive Self-Statements	0.483	0.188	0.247	0.791
Adaptive Self-Statements	0.668	0.064	0.589	0.834
Success-Bulimics				
Expectancy and Efficacy	4.260	1.300	1.125	5.625
Self-Efficacy Scale	47.538	12.722	23.500	68.000
Importance of Tasks	6.837	1.612	3.875	8.875
Affect	40.692	16.444	18.000	76.000
Total Attempts	13.462	6.050	8.000	29.000
Adaptive Attributions	0.741	0.154	0.432	1.000
Maladptive Attributions	0.516	0.196	0.111	0.704
Performance Satisfaction	7.538	1.080	5.111	9.000
Maladaptive Self-Statements	0.442	0.213	0.111	0.823
Adaptive Self-Statements	0.723	0.322	0.301	1.571
Failure-Controls				
Expectancy and Efficacy	5.856	1.304	4.125	8.375
Self-Efficacy Scale	62.769	13.712	36.500	80.500
Importance of Tasks	4.981	2.194	1.500	8.250
Affect	41.308	13.419	25.000	66.000
Total Attempts	54.000	32.088	13.000	127.000
Adaptive Attributions	0.661	0.262	0.111	1.095
Maladptive Attributions	0.463	0.170	0.288	0.781
Performance Satisfaction	1.880	1.112	1.000	4.778
Maladaptive Self-Statements	0.289	0.098	0.179	0.536
Adaptive Self-Statements	0.642	0.203	0.301	1.095
Success-Controls				
Expectancy and Efficacy	3.221	1.369	1.250	5.250
Self-Efficacy Scale	71.000	9.469	53.000	86.000
Importance of Tasks	7.221	0.955	5.500	8.875
Affect	19.154	9.856	7.000	45.000
Total Attempts	11.538	5.753	3.000	21.000
Adaptive Attributions	0.847	0.077	0.716	1.000
Maladptive Attributions	0.439	0.261	0.111	0.815
Performance Satisfaction	7.624	1.134	5.222	9.000
Maladaptive Self-Statements	0.181	0.074	0.111	0.364
Adaptive Self-Statements	0.829	0.201	0.545	1.183

Results for the overall MANOVA of the summary variables were examined using Wilks' criterion. Examining the null hypothesis of no overall effect of bulimic/nonbulimic diagnosis,

Table 12. Intercorrelations for Main Variables in Study II

	AGE	HT	WRTRPTWT	BULIT	BECK	TOTALXEF	AVGSAS	TASKIMPO
AGE	1.00000	0.09215	-0.08467	-0.31241	0.09588	-0.00392	0.13633	-0.07921
	0.0000	0.5159	0.5507	0.0241	0.4989	0.9780	0.3352	0.5767
HT	0.09215	1.00000	0.58857	-0.00619	0.24488	0.23487	-0.22841	-0.15894
	0.5159	0.0000	0.0001	0.9653	0.0802	0.0937	0.1034	0.2604
WRTRPTWT	-0.08467	0.58857	1.00000	-0.00382	0.10486	0.04964	-0.24622	0.15954
	0.5507	0.0001	0.0000	0.9786	0.4594	0.7267	0.0785	0.2586
BULIT	-0.31241	-0.00619	-0.00382	1.00000	0.58194	0.23078	-0.63621	0.15729
	0.0241	0.9653	0.9786	0.0000	0.0001	0.0998	0.0001	0.2654
BECK	0.09588	0.24488	0.10486	0.58194	1.00000	0.14250	-0.56524	0.10658
	0.4989	0.0802	0.4594	0.0001	0.0000	0.3136	0.0001	0.4520
TOTALXEF	-0.00392	0.23487	0.04964	0.23078	0.14250	1.00000	-0.23066	-0.26610
	0.9780	0.0937	0.7267	0.0998	0.3136	0.0000	0.0999	0.0566
AVGSAS	0.13633	-0.22841	-0.24622	-0.63621	-0.56524	-0.23066	1.00000	0.06938
	0.3352	0.1034	0.0785	0.0001	0.0001	0.0999	0.0000	0.6250
TASKIMPO	-0.07921	-0.15894	0.15954	0.15729	0.10658	-0.26610	0.06938	1.00000
	0.5767	0.2604	0.2586	0.2654	0.4520	0.0566	0.6250	0.0000
AFFECTOL	0.02192	0.20027	0.07645	0.51560	0.73352	0.55587	-0.56413	0.01271
	0.8774	0.1546	0.5901	0.0001	0.0001	0.0001	0.0001	0.9287
TOTTRYS	0.12203	0.14483	0.03773	-0.18361	-0.13497	0.38812	-0.23446	-0.35928
	0.3888	0.3056	0.7906	0.1926	0.3401	0.0045	0.0943	0.0089
ATTRADAP	-0.13729	0.05422	0.21730	-0.20380	-0.18819	-0.38781	0.20660	0.38013
	0.3318	0.7027	0.1218	0.1473	0.1815	0.0045	0.1417	0.0054
ATTRMAL	0.00188	0.01185	-0.16764	0.18660	0.11540	0.27427	-0.18530	-0.07308
	0.9895	0.9335	0.2349	0.1853	0.4153	0.0491	0.1885	0.6066
AVGSATIS	-0.07860	-0.06977	0.07659	-0.00340	-0.01932	-0.73031	0.08799	0.28617
	0.5797	0.6231	0.5894	0.9809	0.8919	0.0001	0.5351	0.0397
SSMALDAP	-0.11111	0.18397	0.12918	0.58288	0.52556	0.42615	-0.44165	0.09008
	0.4329	0.1917	0.3614	0.0001	0.0001	0.0016	0.0010	0.5254
SSADAPT	-0.14451	-0.17422	0.18175	-0.10596	-0.22115	-0.45837	0.20022	0.25617
	0.3067	0.2167	0.1972	0.4547	0.1151	0.0006	0.1547	0.0668

an **F** value of 6.68 was obtained ($p < .0001$). Examining the null hypothesis of no overall effect of success/failure group assignment, an **F** value of 49.74 was obtained ($p < .0001$). For the

Table 13. Intercorrelations for Main Variables in Study II (continued)

	AFFECTOL	TOTTRYS	ATTRADAP	ATTRMAL	AVGSATIS	SSMALDAP	SSADAPT
AGE	0.02192	0.12203	-0.13729	0.00188	-0.07860	-0.11111	-0.14451
	0.8774	0.3888	0.3318	0.9895	0.5797	0.4329	0.3067
HT	0.20027	0.14483	0.05422	0.01185	-0.06977	0.18397	-0.17422
	0.1546	0.3056	0.7027	0.9335	0.6231	0.1917	0.2167
WRTRPTWT	0.07645	0.03773	0.21730	-0.16764	0.07659	0.12918	0.18175
	0.5901	0.7906	0.1218	0.2349	0.5894	0.3614	0.1972
BULIT	0.51560	-0.18361	-0.20380	0.18660	-0.00340	0.58288	-0.10596
	0.0001	0.1926	0.1473	0.1853	0.9809	0.0001	0.4547
BECK	0.73352	-0.13497	-0.18819	0.11540	-0.01932	0.52556	-0.22115
	0.0001	0.3401	0.1815	0.4153	0.8919	0.0001	0.1151
TOTALXEF	0.55587	0.38812	-0.38781	0.27427	-0.73031	0.42615	-0.45837
	0.0001	0.0045	0.0045	0.0491	0.0001	0.0016	0.0006
AVGSAS	-0.56413	-0.23446	0.20660	-0.18530	0.08799	-0.44165	0.20022
	0.0001	0.0943	0.1417	0.1885	0.5351	0.0010	0.1547
TASKIMPO	0.01271	-0.35928	0.38013	-0.07308	0.28617	0.09008	0.25617
	0.9287	0.0089	0.0054	0.6066	0.0397	0.5254	0.0668
AFFECTOL	1.00000	0.21531	-0.35516	0.14881	-0.55609	0.57823	-0.34852
	0.0000	0.1253	0.0098	0.2924	0.0001	0.0001	0.0113
TOTTRYS	0.21531	1.00000	-0.29928	0.02905	-0.57666	0.10479	-0.21264
	0.1253	0.0000	0.0311	0.8380	0.0001	0.4597	0.1302
ATTRADAP	-0.35516	-0.29928	1.00000	0.03365	0.37212	-0.28482	0.34093
	0.0098	0.0311	0.0000	0.8128	0.0066	0.0407	0.0134
ATTRMAL	0.14881	0.02905	0.03365	1.00000	-0.17860	0.32457	-0.31308
	0.2924	0.8380	0.8128	0.0000	0.2052	0.0189	0.0238
AVGSATIS	-0.55609	-0.57666	0.37212	-0.17860	1.00000	-0.25455	0.31409
	0.0001	0.0001	0.0066	0.2052	0.0000	0.0686	0.0234
SSMALDAP	0.57823	0.10479	-0.28482	0.32457	-0.25455	1.00000	-0.35343
	0.0001	0.4597	0.0407	0.0189	0.0686	0.0000	0.0102
SSADAPT	-0.34852	-0.21264	0.34093	-0.31308	0.31409	-0.35343	1.00000
	0.0113	0.1302	0.0134	0.0238	0.0234	0.0102	0.0000

hypothesis of no overall effect of the interaction of diagnosis and task (success/failure) group, an **F** value of 0.80 ($p = .63$) was obtained. These results indicated strong main effects for both diagnosis and taskgroup and an absence of interaction effects, similar to the Study I results.

Methodologically, it was critical to show that levels of expectancy, self-efficacy to solve the tasks, and level of importance attached to the tasks (the 3 questions in Questionnaire 1, Appendix M) were similar across success and failure conditions **prior** to the manipulations. This was demonstrated through 2 x 2 ANOVAs on each of these three variables, measured at the first assessment point (see Table 14 on page 76 through Table 16 on page 78). As anticipated, each of these indicated similar (nonsignificant differences in) ratings across the groups, suggesting that any post-manipulation group difference on these variables could be attributed to the success/failure experiences.

After these analyses were completed, each of the experimental hypotheses was tested. Recall that hypotheses 1 through 4 were concerned with the success-failure differences and essentially were manipulation checks. Hypothesis 1, as noted earlier, states that subjects exposed to failure expect to perform significantly worse than subjects exposed to success, and that this difference increases after repeated manipulations. The first analysis for this hypothesis was a t-test comparing failure and success subjects on the average expectancy rating across assessment points 2, 3, and 4. The mean rating for the success group was 3.87 (s. d. = 1.23), whereas the mean rating for the failure group was 6.91 (s. d. = 1.67; higher scores indicate expectancy of poorer performance). This analysis produced a t-score of 7.47 and a significance level $p < .0001$, showing that failure subjects did expect to perform significantly worse than success subjects.

To determine whether this difference increased with repeated manipulations, means for each group at each assessment point were graphed (see Figure 4 on page 79) and a 2 x 2 x 4 repeated measures ANOVA was conducted on expectancy. Using Wilks' criterion, results indicated highly significant effects of repeated manipulations ($F = 17.77$, $p < .0001$), and of

Table 14. ANOVA Table for Pre-Manipulation Expectancy in Study II

Variable: Expectancy Rating at Assessment Point 1

Source	df	SS	MS	F	p	R^2
Model	3	6.8	2.3	0.77	.5160	.05
Error	48	141.7	3.0			
Total	51	148.5				

ANOVA

Source	df	SS	F	p
Diagnosis Bulim./Nonb.	1	4.3	1.47	.2319
Condition Succ./Fail.	1	2.3	0.79	.3791
Diag.XCond.	1	0.2	0.06	.8097

the interaction of repeated manipulation and success/failure condition ($F = 17.81$, $p < .0001$). The corresponding univariate F-tests for these effects using the Geisser-Greenhouse adjustment also yielded significance for the effect of repeated manipulaitns ($F = 21.64$, $p < .0001$) and for the intereaction of repeated manipulations and success/failure condiiton ($F = 16.85$, $p < .0001$). As Figure 4 on page 79 illustrates, the success-failure difference in expectancy increased with repeated manipulations and Hypothesis 1 is supported. The experimental manipulations of success and failure appeared to be believable to the subjects and to have had a powerful influence on performance expectancies, which endured throughout the experiment.

Hypothesis 2, above, stated that subjects exposed to failure show a decrease in their self-efficacy to solve the tasks while subjects exposed to success evince an increase in this variable, and that this difference increases as a result of repeated manipulations. Again, the first analysis for this hypothesis was a t-test comparing failure and success subjects on the

Table 15. ANOVA Table for Premanipulation Efficacy to Solve Tasks in Study II

Variable: Efficacy Rating at Assessment Point 1

Source	df	SS	MS	F	p	R^2
Model	3	15.5	5.2	1.85	.1502	.10
Error	48	134.2	2.8			
Total	51	149.7				

Source	df	ANOVA SS	F	p
Diagnosis Bulim./Nonb.	1	11.1	3.96	.0522
Condition Succ./Fail.	1	3.8	1.35	.2513
Diag.XCond.	1	0.7	0.25	.6210

average rating of self-efficacy for successful task performance across assessment points 2, 3, and 4. The mean success group rating was 3.65 (s. d. = 1.60), while the mean failure rating was 6.83 (s. d. = 1.26; higher scores indicate lower self-efficacy). This analysis produced a t-score of 7.97 and a significance level of $p < .0001$, demonstrating that failure subjects did experience decreased self-efficacy to solve the tasks relative to success subjects.

To determine whether this difference increased with repeated manipulations, means for each group at each assessment point were graphed (see Figure 5 on page 80), and a 2 x 2 x 4 repeated measures ANOVA was conducted on self-efficacy to solve the tasks. Results using Wilks' criterion indicated highly significant effects of repeated manipulations ($F = 15.97$, $p < .0001$) and of the interaction of repeated manipulations and success/failure condition ($F = 13.99$, $p < .0001$). Similarly, the corresponding univariate F-tests using the Geisser-Greenhouse adustment yielded significance for the effect of repeated manipulaitons ($F = 19.05$, $p < .0001$) and for the interaction of repeated manipulations and success/failure

Table 16. ANOVA Table for Premanipulation Task Value in Study II

Variable: Rating of Importance of Solving Tasks at Assessment Point 1

Source	df	SS	MS	F	p	R^2
Model	3	16.2	5.4	1.97	.1304	.11
Error	48	130.9	2.7			
Total	51	147.1				

ANOVA

Source	df	SS	F	p
Diagnosis Bulim./Nonb.	1	1.9	0.71	.4053
Condition Succ./Fail.	1	4.9	1.80	.1854
Diag.XCond.	1	9.3	3.41	.0709

condition (**F** = 14.65, p < .0001). As is evident in Figure 5 on page 80, the success-failure difference in self-efficacy to solve the tasks did increase with repeated manipulations, and Hypothesis 2 was supported. Self-efficacy to solve the tasks was sensitive to the success/failure manipulations in much the same way as expectancy (compare Figure 4 on page 79 and Figure 5 on page 80).

Recall that Hypothesis 3 stated that subjects exposed to success report significantly higher performance satisfaction than subjects exposed to failure, throughout the experiment. For this hypothesis, a t-test comparing success and failure subjects on their average performance satisfaction rating across assessment points 2, 3, and 4 was conducted. The mean performance satisfaction rating for the success group was 7.78 (s. d. = 1.10) and the mean rating for the failure group was 1.65 (s. d. = 1.33; higher scores indicate greater satisfaction with task "performance"). This test yielded a t-score of 18.12 and a significance level of p < .0001, thus demonstrating support for Hypothesis 3. As Figure 6 on page 82 shows,

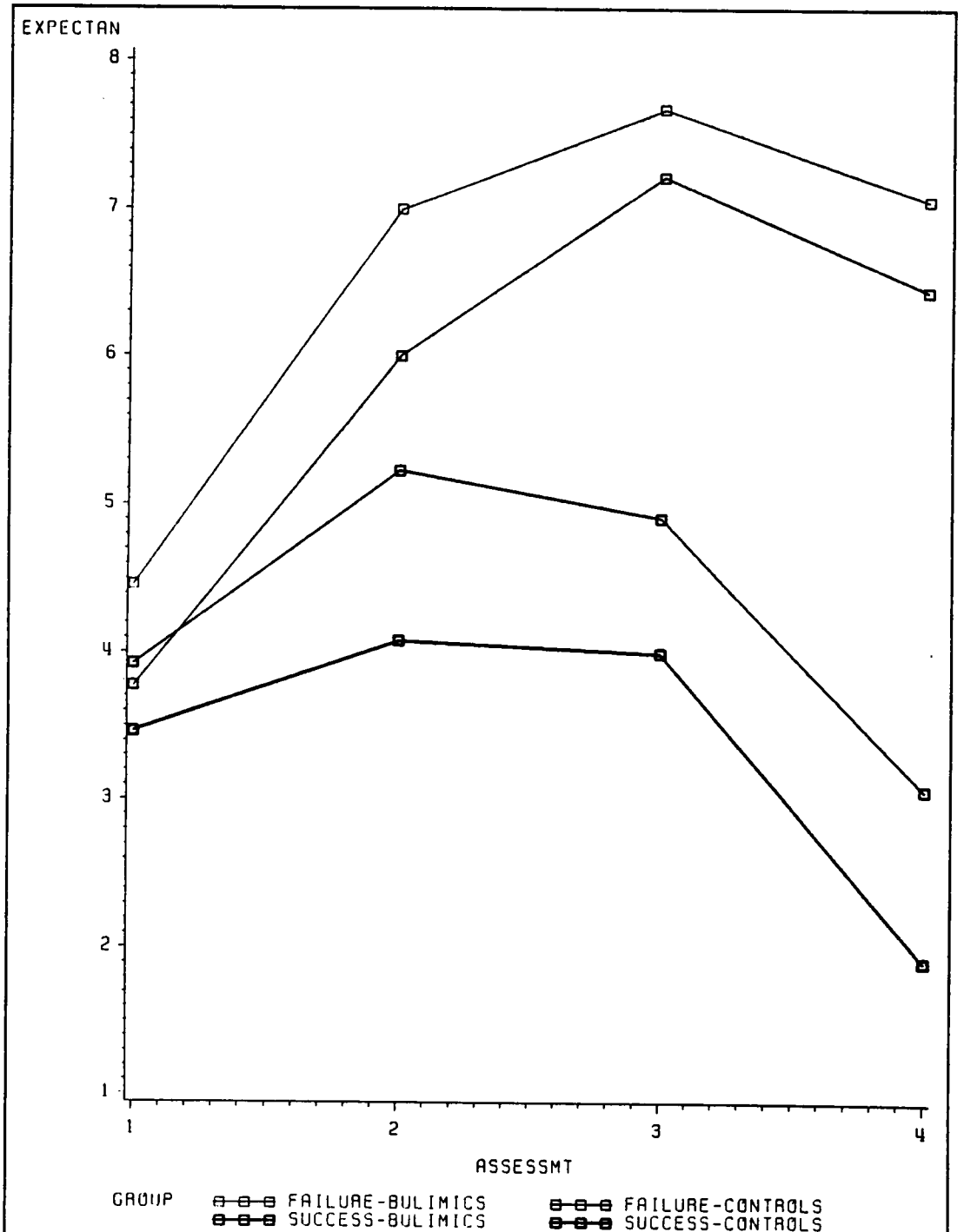


Figure 4. Expectancy Ratings in Study II

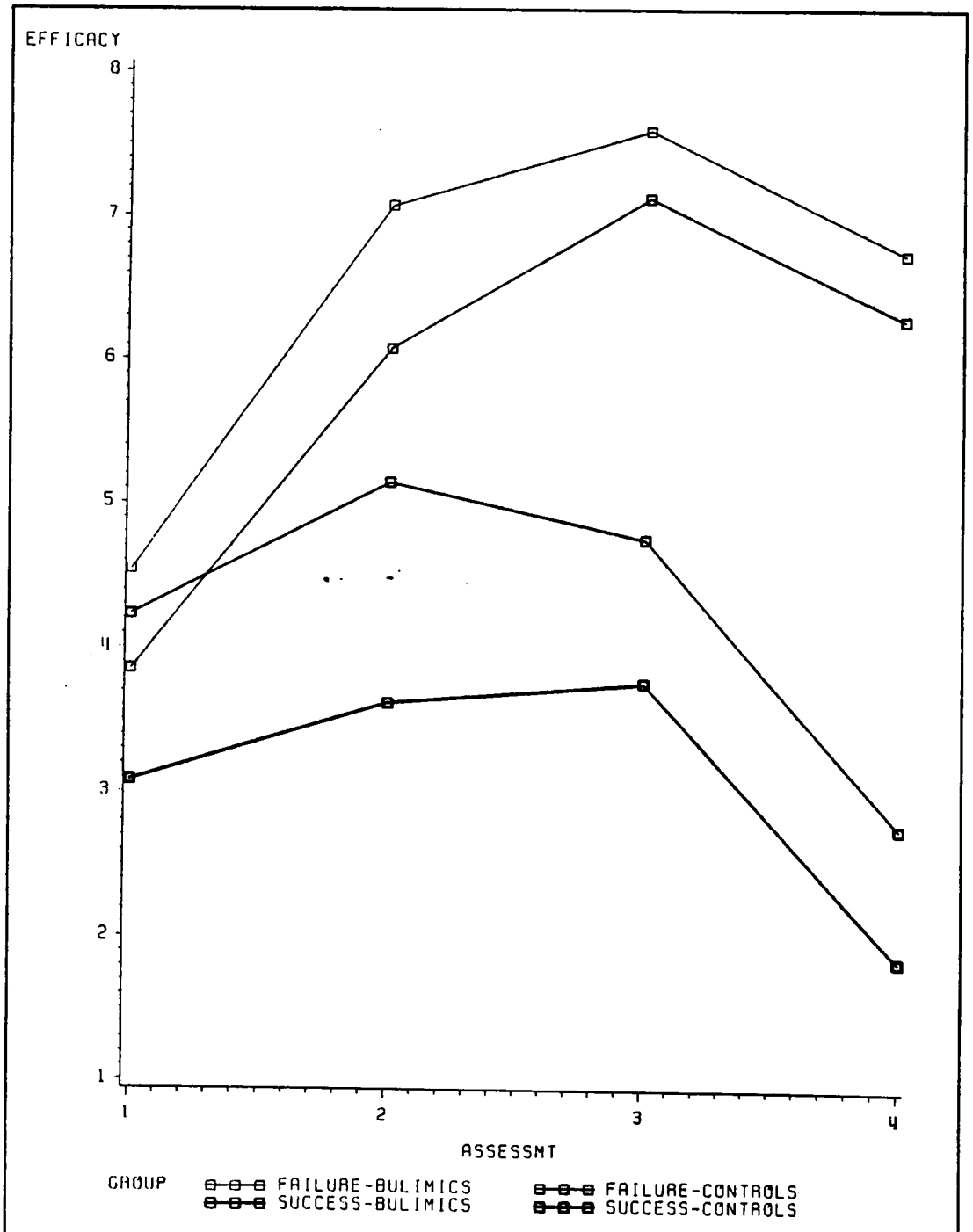


Figure 5. Task Efficacy Ratings in Study II

performance satisfaction ratings remained low for failure subjects and remained high for success subjects, throughout the experiment.

Scores on the MAACL subscales (anxiety, depression, and hostility) were modified in two ways for statistical reasons before the tests of Hypothesis 4 were conducted. First, the raw subscale scores were converted to percentage scores by dividing each raw subscale score by the maximum possible subscale score. Therefore, any differences across time in subscale scores which otherwise could be due simply to different numbers of items in the subscale at different points (i.e., there are six anxiety items at assessment point 3, but only five anxiety items at assessment points 1, 2, and 4) were eliminated and thus spurious results were avoided. Second, because percentage scores are not distributed normally and thus violate a basic assumption of the planned statistics, the arc sine function was used to transform all the percentage scores into radians, which have a maximum value of 1.0 and are distributed normally.

Hypothesis 4, the last manipulation check on the success/failure simulations, stated that failure subjects experience increases in state anxiety, depression, and hostility relative to success subjects. This was tested using a t-test procedure for each of the three variables, examining the average transformed scores for each variable across assessment points 2, 3, and 4. The average state anxiety transformed score for the success group was .28 (s. d. = .24), while the average state anxiety transformed score for the failure group was .71(s. d. = .35; higher scores indicate greater affect for all three MAACL dimensions). The resulting t-score was 5.19 and the significance was $p < .0001$.

For state depression, the average transformed score was .26 (s. d. = .15) for the success group and .67 (s. d. = .26) for the failure group ($t = 7.07$, $p < .0001$). Finally, the average transformed score for state hostility was .21 (s. d. = .12) for the success group and .57 (s. d. = .24) for the failure group ($t = 6.94$, $p < .0001$). These results indicate that subjects exposed

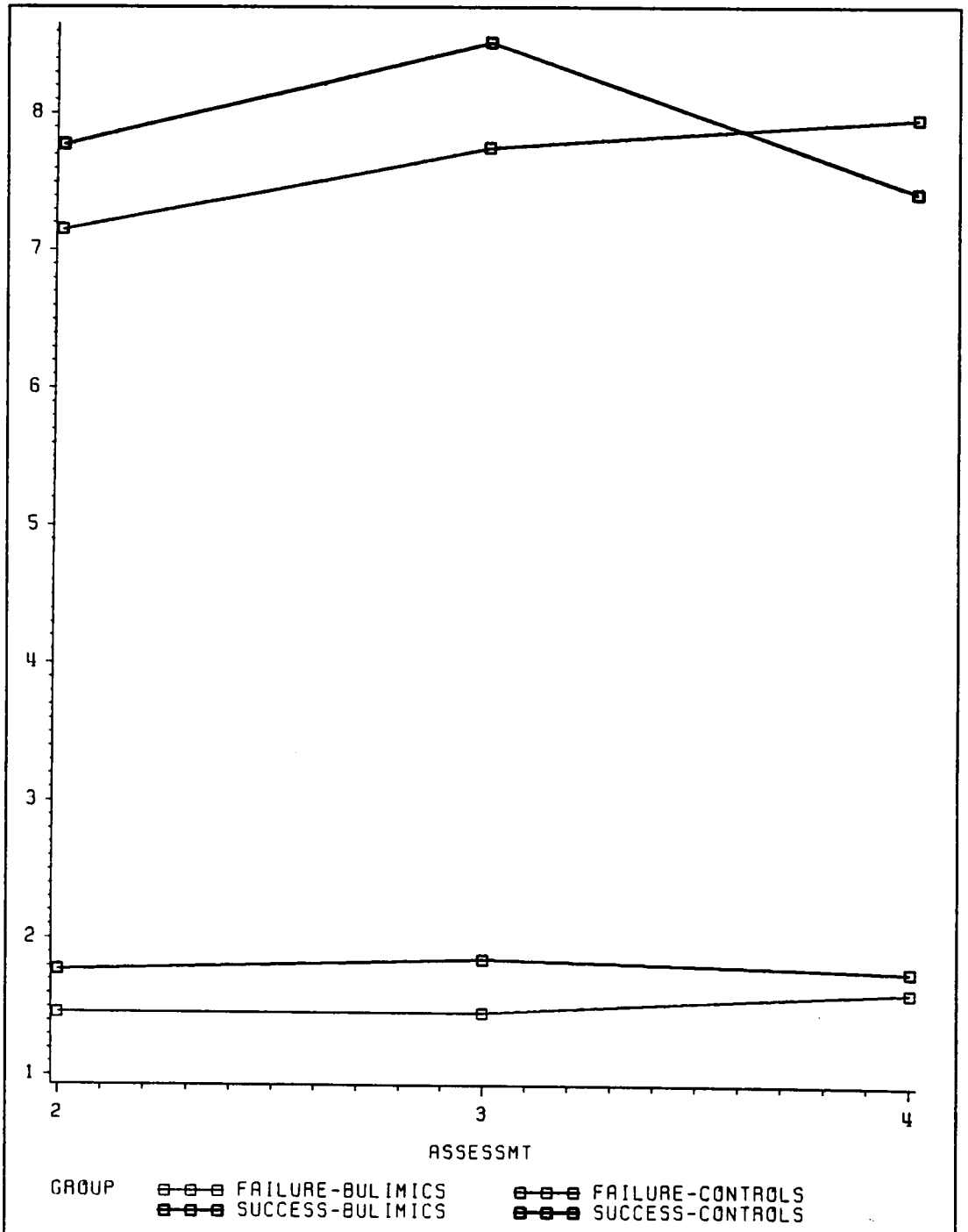


Figure 6. Performance Satisfaction Ratings in Study II

to failure experienced greater increases in situational anxiety, depression, and hostility relative to subjects exposed to success, and support for Hypothesis 4 was demonstrated.

Results of Hypotheses 1 through 4 indicate that the success and failure manipulations produced the intended effects. Subjects exposed to the failure manipulation expected poorer performance after having "failed," and they expected even poorer performance with repeated failures. They experienced a similar decline in self-efficacy to solve the tasks. Finally, they reported dissatisfaction with their ostensible "performance."

Additionally, subjects exposed to failure experienced situational increases in anxiety, depression, and hostility. Conversely, success subjects experienced increased expectancy, increased self-efficacy to solve the tasks, higher satisfaction with their "performance," and little, if any, increases in situational anxiety, depression, and hostility. Thus, it appeared that subjects experienced the success and failure manipulations in a veridical fashion.

Hypotheses 5 through 12 focus on the major purpose of elucidating differences between bulimic and control subjects on the dependent variables. Recall that Hypothesis 5 stated that bulimics would report significantly lower self-efficacy than nonbulimics, as measured by the Self-Assessment Scale (see Appendix D), both prior to the experiment and at its conclusion. This hypothesis was tested by comparing bulimics and nonbulimics on their total SAS score at assessment point one and at assessment point four. At assessment point 1, the mean bulimic group SAS score was 48 (s. d. = 12) while the mean nonbulimic group score was 67 (s. d. = 11; higher scores indicate greater self-efficacy), a significant difference ($t = 5.79$, $p < .0001$). Similar results were obtained at assessment point four, with the mean bulimic group at that time being 47 (s. d. = 12) and the mean nonbulimic score being 67 (s. d. = 15; $t = 5.32$, $p < .0001$). Clearly, the self-efficacy scale scores for bulimics were consistently lower for bulimics as compared to controls, and Hypothesis 5 was supported.

According to Hypothesis 6, bulimics were expected to evince lower self-efficacy to solve the tasks, prior to the manipulations. The mean self-efficacy rating to solve the task at assessment point 1 (question 2 in Appendix M) was 4.38 (s. d. = 1.6) for the bulimics while the mean rating for nonbulimics was 3.46 (s. d. = 1.7; higher scores indicate lower self-efficacy). This difference, although slight, was statistically significant ($t = 2.00$, $p < .05$), and hypothesis 6 was supported. The results over time on efficacy to solve the tasks (Figure 5 on page 80) were similar to those on expectancy (Figure 4 on page 79).

Hypothesis 7 stated that bulimics would increase their ratings on the importance of successful performance over the course of the experiment (see question 2 in Appendix M and question 5 in Appendix K). Recall that this is based on a similar finding from Study I, in which a marginally significant ($p < .07$) trend to this effect was found (see Figure 3 on page 56). The question for Study II was whether this trend would be observed again, and whether it would continue if additional assessments were made.

Hypothesis 7 was not supported. Four separate repeated measures ANOVAs were conducted in search of this trend: 1) an analysis of the ratings, "How important is it to you that you perform well on these tasks?" (Question 3 in Appendices M and N); 2) an analysis of the ratings, "Now that you have worked on these tasks, how important would you say it was to you that you perform well on them?" (Question 5 in Appendix K); 3) an analysis of all these ratings together; and 4) an analysis of all these ratings together, except that the final rating (which pertained to theoretical performance expectancy for future tasks) was excluded.

Hypothesis 7 was tested in several different ways, because this variable was assessed more frequently in Study II. However, all of these analyses failed to show any significant effects for bulimic/nonbulimic group assignment. Furthermore, re-analyses similar to each of the above four analyses were conducted, using only the bulimic group. These also failed to show any significant trends in the importance ratings over time. The data on the importance ratings in Study II are presented in Figure 7 on page 86. As is readily discernible, the trend noted in

Study I (illustrated in Figure 3 on page 56) was not replicated in Study II (compare with Figure 7 on page 86)

A 2 x 2 univariate ANOVA on the average of all ratings of importance of successful task performance produced an **F** score of 4.94 ($p < .0004$). In this analysis, significant effects were found for success/failure condition ($F = 8.87$, $p < .0004$) and for the interaction of success/failure condition and bulimic/nonbulimic group assignment ($F = 4.43$, $p < .04$), but not for bulimic/nonbulimic group assignment by itself ($F = 1.52$, $p = .22$). Interestingly, the highest mean rating on this variable was evinced by the nonbulimic-success group (higher scores indicate greater importance attached to performing well), followed in descending order by the bulimic-success group, the bulimic-failure group, and the nonbulimic-failure group. This is consistent with the relative position of each group on six of the seven separate assessments (see Figure 7 on page 86). Nonbulimics appeared to be more influenced by the manipulations in terms of their responses on this variable, relative to bulimics.

Hypothesis 8 stated that bulimics make would fewer attempts on the insoluble design tasks compared to nonbulimics. The mean number of total attempts for design problems was 16 for the bulimic group and 19 for the nonbulimic group. Although this difference is in the expected direction, the t-test comparing these means was not significant ($t = 1.22$, $p = .24$). Recall that the finding for this variable in Study I was similar, with bulimics making somewhat fewer attempts ($t = 1.59$, $p = .13$). Although Hypothesis 8 was not supported by statistical significance, the findings are consistent with those of Study I. An additional 6 t-tests were conducted comparing the bulimic and nonbulimic means on **each** of the insoluble tasks in the failure condition (anagrams as well as designs). In all six cases, bulimics made fewer attempts than nonbulimics, although none of the six analyses yielded statistical significance (see Table 17 on page 87).

Additionally, the number of attempts for each of the six easy tasks in the success condition was examined, with t-tests comparing the means for bulimics and nonbulimics. Bulimics

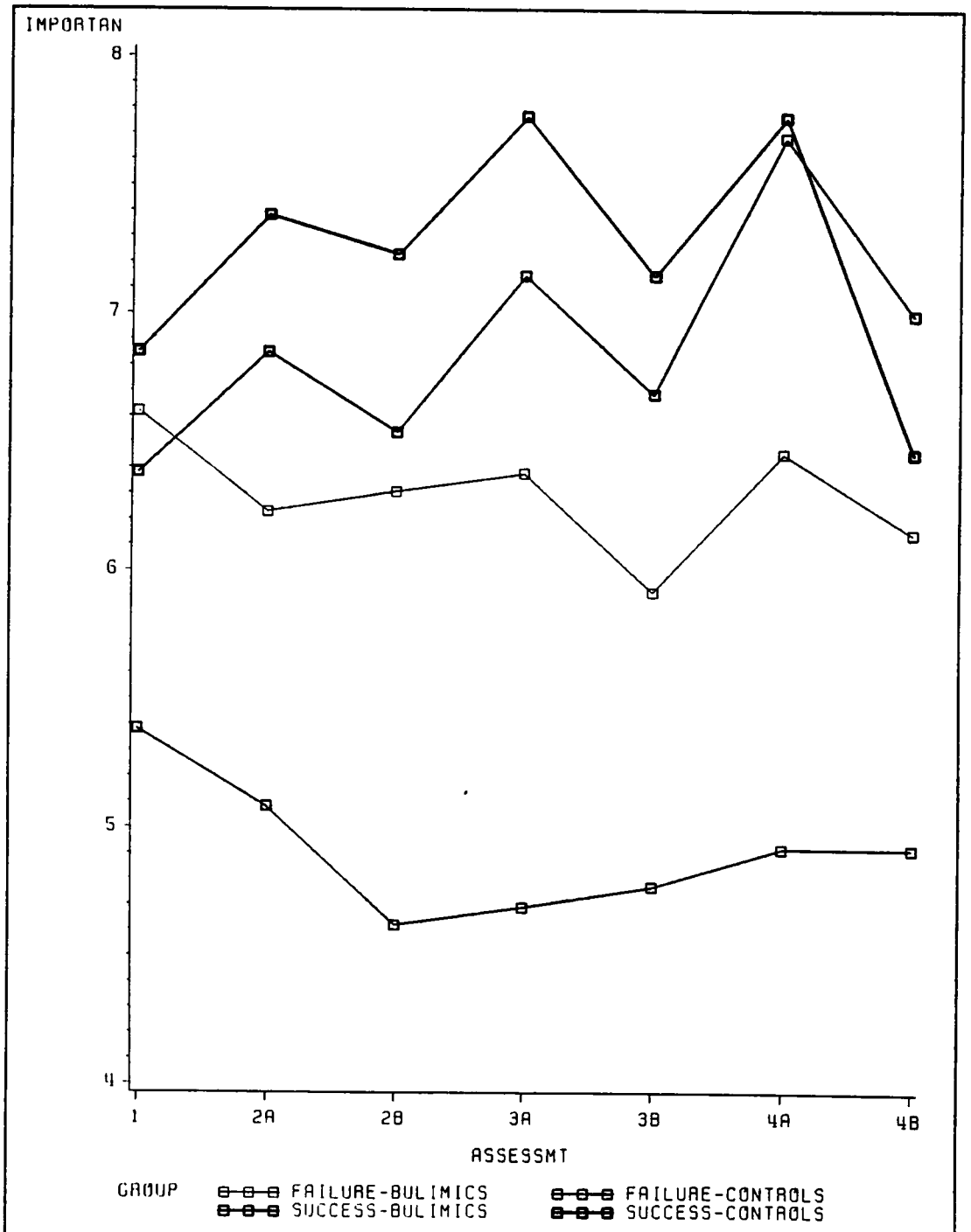


Figure 7. Importance Ratings in Study II

Table 17. Number of Attempts on Insoluble Tasks in Study II

Bulimic Group		Control Group		
Task	Mean (s.d.)	Mean (s.d.)	t	p
Anagram 1	3.69 (4.64)	5.08 (4.42)	.78	.44
Anagram 2	7.31 (6.96)	11.38 (8.53)	1.34	.19
Anagram 3	7.69 (5.33)	10.69 (8.66)	1.06	.30
Anagram 4	5.92 (4.27)	7.77 (6.69)	.84	.41
Design 1	7.85 (2.38)	9.46 (3.57)	1.36	.19
Design 2	8.46 (2.22)	9.62 (3.78)	.95	.35

made more attempts than nonbulimics in the success condition (i.e., the nonbulimics solved the easy tasks more quickly) for five of the six tasks. Like the finding in the failure condition, these findings were consistent but not statistically significant.

Recall that Hypothesis 9 stated that, within the success condition, performance satisfaction would fluctuate or decrease for bulimics as the experiment progressed, whereas this variable would stabilize or increase for nonbulimics. Comparisons of means and repeated measures ANOVAs yielded no support for this hypothesis. Success-bulimics initially had slightly lower performance satisfaction than success-nonbulimics, with both groups increasing their ratings somewhat at the next assessment point. By the final assessment point, these two groups demonstrated an observable trend which was nearly the opposite of what was hypothesized (see Figure 6 on page 82). However, this was not statistically significant.

Hypothesis 10 stated that after the experiment, failure-bulimics would report that they had experienced distracting (maladaptive) thoughts, including thoughts specifically related to eating and physical appearance, to a significantly greater degree than failure-nonbulimics. Items 2, 3, 6, 8 and 10 from Questionnaire 6 (Appendix T) were summed and then divided by the total possible score to form their score for Maladaptive Self-statements. On this variable,

the arc sine function was used to transform these scores in order to insure a normal distribution. Higher scores indicate greater endorsement of dysfunctional thoughts and the maximum possible transformed score is 1.0. The mean transformed score for failure-bulimics was .48 (s. d. = .19), while the mean transformed score for the failure-nonbulimics was .29 (s. d. = .10; $t = 3.29$, $p < .004$). Thus hypothesis 10 was supported. Bulimics did endorse the maladaptive self-statements to a greater degree than nonbulimics. Interestingly, they also endorsed the maladaptive self-statements to a greater degree than did nonbulimics in the **success** condition, with the score for success-bulimics being .44 (s. d. = .21) and the score for success-nonbulimics being .18 (s. d. = .07). This finding was also significant ($t = 4.17$, $p < .0008$).

Hypotheses 11 stated that bulimics would be significantly more depressed than nonbulimics as measured by the Beck Depression Inventory. Not surprisingly, this hypothesis was confirmed, with the bulimic group mean being 13.73 (s. d. = 9.06) and the nonbulimic mean being 5 (s. d. = 4.72). This difference was significant ($t = 4.36$, $p < .0001$).

Due to the known high proportion of bulimics who are depressed, an important methodological question is the degree to which the current findings in regard to cognitive variables may be due to depression. To address this question, analyses of covariance were conducted with the major dependent variables which were correlated significantly with the BDI scores (see intercorrelation matrix, Table 12 on page 74). There were three such dependent variables: 1) composite score on the self-efficacy measure, 2) transformed score for maladaptive self-statements, and 3) composite affect score.

For each of these three variables the BDI scores served as the covariate in an ANCOVA. The ANCOVA tables for these analyses are given in Table 18 on page 90 through Table 20 on page 92. As these tables show, these analyses yielded statistically effects, both overall and for bulimic/nonbulimic group assignment ($p < .01$ in all cases). These results indicate that the observed bulimic-nonbulimic differences in self-efficacy, maladaptive self-statements, and in

situational affective responses cannot be adequately explained by general depression scores alone.

Hypothesis 12 stated that bulimics have higher scores than nonbulimics on all three of the situational affective variables measured: anxiety, depression, and hostility. It was further hypothesized that such differences exist **a priori** as well as after success and failure experiences. Using t-tests comparing the means for bulimics and the means for nonbulimics on all three dimensions, measured prior to as well as after manipulations, bulimics were found to have significantly higher scores in 8 out of 9 cases ($p <= .05$, see Table 21 on page 93 and Table 22 on page 94 for means, t-scores, and exact alpha levels for each test). Higher scores indicate greater affect.

The MAACL scores also evince interesting patterns with repeated assessments over the course of the experiment. Figure 8 on page 95 depicts the mean anxiety scores for each group at each assessment point. As the figure indicates, failure subjects showed a rapid increase in anxiety, but failure-bulimics were consistently more anxious than failure-nonbulimics. Furthermore, the failure-bulimics did not recover or return to their initial levels, as did failure-nonbulimics. Among success subjects, bulimics showed a notable increase (initially) whereas nonbulimics basically did not show any changes on this variable.

A repeated measures ANOVA conducted on this variable yielded highly significant results, using Wilks' criterion, for the effect of repeated manipulations ($F = 20.41$, $p < .0001$), for the interaction effect of repeated manipulations and success/failure group ($F = 10.22$, $p < .0001$) and for the interaction effect of repeated manipulations, success/failure group, and bulimic/nonbulimic group ($F = 3.07$, $p < .04$). Corresponding univariate F-tests using the Geisser-Greenhouse adjustment also yielded significance for the effect of repeated manipulations ($F = 21.21$, $p < .0001$), for the interaction of repeated manipulations and success/failure group ($F = 8.59$, $p < .0001$), and for the interaction of repeated manipulations, success/failure group, and bulimic/nonbulimic group ($F = 4.11$, $p < .01$).

Table 18. ANCOVA Table for Total Self-efficacy Scores in Study II

Dependent Variable: Composite Score on Self-Assessment Scale
Covariate: Beck Depression Inventory Score

Source	df	SS	MS	F	p	R^2
Model	4	24569	6142	11.82	.0001	.50
Error	47	24431	520			
Total	51	49001				

Source	df	SS-I	F	p	SS-III	F	p
Diagnosis Bulim./Nonb.	1	19424	37.37	.0001	7712	14.84	.0004
Condition Succ./Fail.	1	872	1.68	.2015	863	1.66	.2039
Diag.XCond.	1	889	1.71	.1973	552	1.06	.3082
Beck	1	3384	6.51	.0140	3384	6.51	.0140

Somewhat similar results were obtained for the trends in the MAACL depression scores. As Figure 9 on page 96 illustrates, failure subjects showed a rapid increase in depression, and failure-bulimics were consistently more depressed than failure-nonbulimics. Neither failure group recovered to initial levels; however, failure-nonbulimics appeared to be beginning to recover (depression scores declining) whereas failure-bulimics appeared to be becoming even more depressed (depression scores continuing to rise).

For success-bulimic subjects, the depression scores decreased from the pre-manipulation levels, suggesting that successful experience in an achievement situation may have a mood-improving effect for bulimics, at least on a short-term basis. Again, the scores of success-nonbulimics were relatively stable. It appears that successful experience in an achievement has neither a significant mood elevating-effect or a mood-depressing effect for control subjects. A repeated measures ANOVA conducted on this variable yielded highly

Table 19. ANCOVA Table for Maladaptive Self-Statements in Study II

Dependent Variable: Composite Score on Maladaptive Self-Statements
Covariate: Beck Depression Inventory Score

Source	df	SS	MS	F	p	R^2
Model	4	1469	367	10.47	.0001	.47
Error	47	1648	35			
Total	51	3117				

Source	df	SS-I	F	p	SS-III	F	p
Diagnosis Bulim./Nonb.	1	1117	31.85	.0001	447	12.75	.0008
Condition Succ./Fail.	1	132	3.78	.0579	132	3.75	.0587
Diag.XCond.	1	29	0.83	.3658	15	0.44	.5114
Beck	1	190	5.42	.0243	190	5.42	.0243

significant results, using Wilks' criterion, for the effect of repeated manipulations ($F = 8.94$, $p < .0001$), for the interaction effect of repeated manipulations and success/failure group ($F = 14.58$, $p < .0001$), and for the interaction effect of repeated manipulations, success/failure groups, and bulimic/nonbulimic group ($F = 3.23$, $p < .03$). Corresponding univariate F-tests using the Geisser-Greenhouse adjustment also yielded significance for the effect of repeated manipulations ($F = 11.91$, $p < .0001$), for the interaction of repeated manipulations and success/failure group ($F = 21.42$, $p < .0001$), and for the interaction of repeated manipulations, success/failure group. and bulimic/nonbulimic group ($F = 4.40$, $p < .01$).

The four groups showed nearly parallel responses on the MAACL hostility scores over the course of the experiment (see Figure 10 on page 97). Failure-bulimics were consistently the most hostile, followed in descending order (except at the premanipulation point) by failure-nonbulimics, success-bulimics, and success-nonbulimics. Each of the four groups had

Table 20. ANCOVA Table for Affective Summary Scores in Study II

Dependent Variable: Composite Score of BDI and MAACL Variables
Covariate: Beck Depression Inventory Score

Source	df	SS	MS	F	p	R^2
Model	4	21469	5367	62.33	.0001	.84
Error	47	4048	86			
Total	51	25517				

Source	df	SS-I	F	p	SS-III	F	p
Diagnosis Bulim./Nonb.	1	6672	77.47	.0001	532	6.18	.0165
Condition Succ./Fail.	1	7039	81.74	.0001	6999	81.27	.0001
Diag.XCond.	1	16	0.19	.6667	177	2.06	.1579
Beck	1	7743	89.91	.0001	7743	89.91	.0001

its peak mean at assessment point 3. Also, each group recovered at least somewhat by assessment point 4 (at which time subjects were aware that all experimental tasks had been completed). Failure subjects appeared to recover partially, whereas success subjects recovered to their pre-manipulation levels of hostility. A repeated measures ANOVA conducted on this variable yielded highly significant results using Wilks' criterion for the effect of repeated manipulations ($F = 64.10$, $p < .0001$) and for the interaction effect of repeated manipulations and success/failure group ($F = 6.35$, $p < .0001$). Corresponding univariate F-tests using the Geisser-Greenhouse adjustment also yielded significance for the effect of repeated manipulations ($F = 61.01$, $p < .0001$) and for the interaction of repeated manipulations and success/failure group ($F = 9.22$, $p < .0001$).

Results of hypotheses 5 through 12 suggest several interesting differences between bulimics and nonbulimics. On self-report measures of cognitive variables (i.e., most of the dependent

Table 21. T-tests comparing mean MAACL scores of bulimic and control groups at assessment point 1 (pre-manipulation)

Variable	Group	Mean (s.d.)	t	p
Anxiety	Bulimic	.37 (.29)	2.09	.04
	Control	.21 (.28)		
Depression	Bulimic	.43 (.24)	3.68	.0006
	Control	.21 (.20)		
Hostility	Bulimic	.23 (.26)	3.05	.004
	Control	.06 (.10)		

variables), bulimics demonstrated lower self-efficacy scores and a greater frequency of distracting, maladaptive self-statements, as expected. However, success-bulimics did not demonstrate the declining trend in performance satisfaction, nor did either group of bulimics escalate their importance of successful performance ratings, as was hypothesized.

On the behavioral variable, number of attempts for insoluble tasks, bulimics exhibited a consistent tendency to make fewer attempts, as hypothesized; however, this did not reach statistical significance (similar to Study I findings). Interestingly enough, they required more trials to solve the easy problems in the success condition.

On the self-report variables of affect, significant differences were found between bulimics and nonbulimics on measures of trait as well as state affect. Notably, when the Beck Depression scores were covaried out, significant bulimic-nonbulimic differences were still obtained on self-efficacy scores, maladaptive self-statements, and the summary affect score (which included state affect). On all three state affect measures (anxiety, depression, and hostility), bulimics scored consistently and significantly higher than nonbulimics.

Table 22. T-tests comparing mean MAACL scores of bulimic and control groups (averaged across assessment points 2, 3, and 4)

Variable	Group	Mean (s.d.)	t	p
		FAILURE SUBJECTS		
Anxiety	Bulimic	.85 (.38)	2.22	.04
	Control	.57 (.25)		
Depression	Bulimic	.82 (.26)	3.56	.002
	Control	.52 (.16)		
Hostility	Bulimic	.67 (.28)	2.57	.02
	Control	.46 (.12)		
		SUCCESS SUBJECTS		
Anxiety	Bulimic	.39 (.27)	2.72	.01
	Control	.17 (.14)		
Depression	Bulimic	.30 (.14)	1.59	.12
	Control	.21 (.14)		
Hostility	Bulimic	.25 (.13)	2.16	.04
	Control	.16 (.09)		

No hypotheses were made for Study II in regard to bulimic-nonbulimic differences in performance attributions (Appendix K, save question 5), due to the lack of support for such a contention in Study I. As noted earlier, the purpose of including attributions in Study II was to determine simply whether the lack of bulimic-nonbulimic differences on performance attributions would be found again.

The Study II attributions data also indicated a lack of differences between bulimics and nonbulimics, as tested with both the individual attribution variables (items), and summary attribution variables, in both the success and failure conditions.

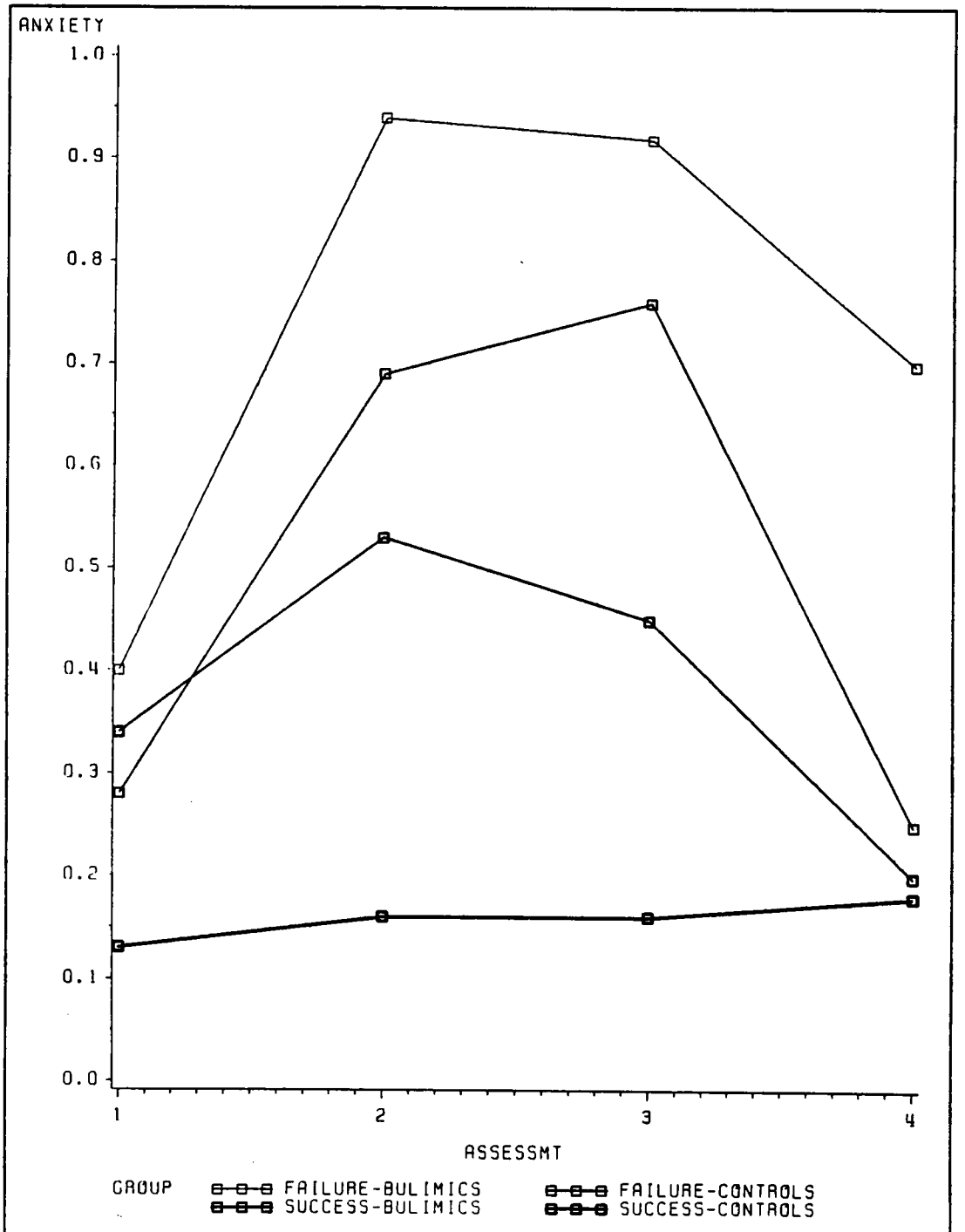


Figure 8. Anxiety Ratings in Study II

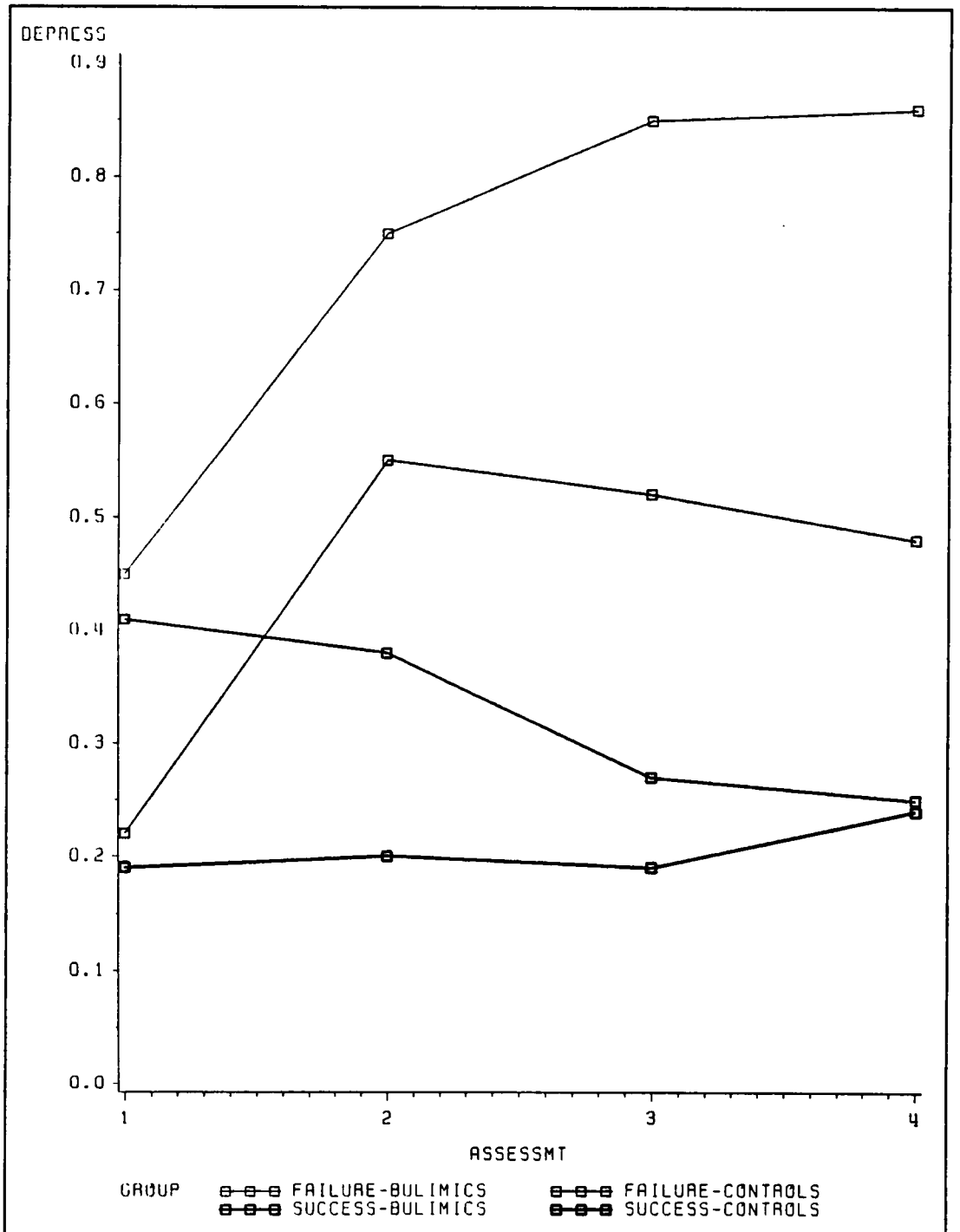


Figure 9. Depression Ratings in Study II

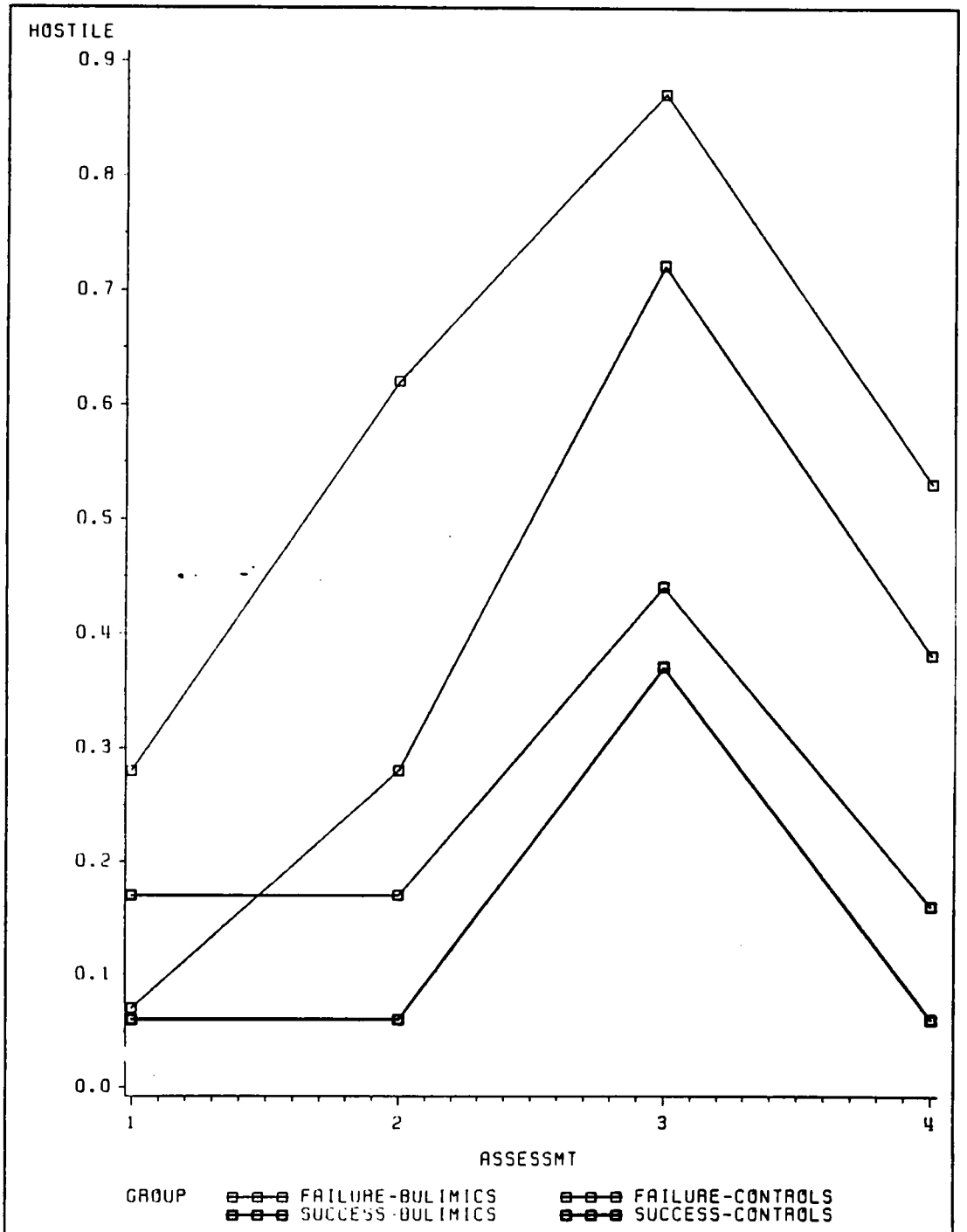


Figure 10. Hostility Ratings in Study II

Discussion of Study II

The findings of Study II are largely, although not entirely, congruent with those of Study I. Moreover, they raise several important questions for future research. Considered below is the interpretation of the findings relevant to the hypothesized bulimic-nonbulimic differences, and some additional findings, including less formal observations which were made. Implications of this research for future research and for the clinical treatment of bulimia are also considered.

The lower self-efficacy of the bulimics supports previous clinical observations and theoretical speculations about the pervasive sense of personal ineffectiveness in these individuals. Bulimics seem to have little confidence in their abilities; furthermore, this phenomenon has been demonstrated in both these studies to be a robust one and one which applies to several specific areas. These areas include not only typically bulimic concerns such as being able to resist binging in the face of stress and to feel good about oneself despite weight gain, but also being able to make constructive use of time, to have confidence after personal performance disappointments, handle stress, and solve the tasks described in this research.

Self-efficacy to appropriately regulate desired weight and to handle stress in these areas appears to be a critical mediator of behavior, congruent with a cognitive social learning

perspective. It is tenable, then, that the lowered self-efficacy of bulimics arose in large part from perceived prior failures in handling stress, performing well, and maintaining desired weight. Performance accomplishments, i.e., experiences of mastery or success, are a critical source of self-efficacy (Bandura, 1986). Unfortunately, it appears that part of the bulimic syndrome involves further binging and purging behavior after self-efficacy has been deflated, thus leading to further failures and even stronger beliefs that one cannot maintain control over eating and stressful situations.

The self-efficacy measure, originally developed by Ollendick and Hart (1985), has received substantial cross-validation in this research and is an excellent, briefly administered discriminater scale between bulimics and normals, which could be quite useful in future studies. Additional research with this scale (ReynaMcGlone, Ollendick, & Hart, 1986) tentatively suggests its promise as a sensitive measure of treatment outcome, in that recovered bulimic patients scored in the normal range.

Clinically, it will be important to target self-efficacy to handle stress, perform well, and to establish and maintain an appropriate pattern of food intake. Because relapse continues to be a substantial problem after treating bulimia (Wilson, 1986), self-efficacy to regain control **after** relapses, perceived or real, also should be included in treatment. Notably, self-efficacy is beginning to emerge as an important mechanism for the successful treatment of bulimia, and has been noted to be the best predictor of relapse in recent research (G. T. Wilson, personal communication, Novemver 15, 1986). Similar findings are being accrued with respect to a variety of other clinical problems (see Bandura, 1977, 1982, 1986).

The escalating degree of importance attached by bulimics to successful task performance found in Study I was not replicated in Study II. The reason for this could be that the Study I finding (Figure 2 on page 54) was a coincidence of measurement error or was a trend which was peculiar to the Study I sample. Given that 1) the rating scale is not backed by much research data, especially with bulimics, and 2) the Study II subjects seemed to be closer to

clinical bulimics than did the Study I sample, the measurement error hypothesis seems plausible.

An alternative explanation is that the expected finding was obscured by the effects of repeated measurement in Study II, in that essentially the same question was asked of the subjects at least seven times within less than an hour. Finally, although the experimental hypothesis was not confirmed, it is notable that the control subjects seemed to use a self-serving bias with this question (i.e., to say that it was important to perform well if they had "succeeded," and to say that it was less important to perform well if they had "failed"), whereas the bulimics did not seem to use this adaptive bias, giving a moderate degree of importance to performance in both conditions (see Figure 6 on page 82). A clinical implication of this finding is that it might be useful to explain to bulimics the concept of self-serving, adaptive biases and then to have them practice using them.

Future work will be necessary in order to more fully explore the differential value which bulimics may or may not place on various outcomes. Post-experiment questions in regard to the relative importance subjects attached to performing well on these tasks, performing well in college, having men be attracted to them, and having friends and family approve of them, did not lead to any striking findings in this study, as all the subjects tended to respond similarly. Of course, all these subjects were college students pursuing extra credit, and the findings may have differed had a broader range of educational status been possible.

Additionally, the perceived importance of successful maintenance of one's desired weight is a highly relevant question which was not included in this research. Had it been included, it would be hypothesized that significant bulimic-nonbulimic differences certainly would have been found, as this is a central concern for bulimics. Clinically, it might be very relevant to confront bulimic individuals with the personal values which their behavior is reflective of, i.e., the high importance placed on weight control relative to many other life goals.

The findings in regard to bulimics making fewer attempts on insoluble designs is difficult to interpret in light of the consistency of this tendency (within and across both studies) **and** the lack of statistical significance of it. The incresed **n** and otherwise improved methodology of Study II did not yield significance in the data. Yet the consistency of the trend is so compelling that it is difficult to discount it.

Originally thought to be indicative of an adaptive, persistent task strategy in bulimics, this view was revised for the second study to suggest a distracted, maladaptive phenomenon. The second interpretation still seems plausible and is congruent with the data on maladaptive self-statements. The more frequent self-deprecatory statements endorsed by bulimics concurs with distraction and slower performance, including possibly a greater latency to solve the easy tasks. Of course, a tendency to be persistent and a tendency to be distracted are not mutually exclusive, and their coexistence could well lead to ambiguous results such as these. The sorting out of both the strengths and weaknesses of bulimics, cognitively and behaviorally, awaits further research. In the meantime, clinical treatments can nonetheless encourage bulimics to utilize their strengths, such as persistence and a desire to perform well, and to deal with their weaknesses, i.e., to "tune out" self-deprecatory thoughts.

The findings on performance satisfaction in this research were not very telling. While it was expected that bulimics might experience decrements in performance satisfaction after success, based on a study by Hart (1985), this did not occur. Future research examining performance satisfaction in bulimics might well use smaller "doses" of success and failure, or present mixed success-failure experiences (i.e., 30% failure and 70% success versus other ratios). The clinical observation that bulimics evaluate themselves more rigidly or harshly certainly applies to standards for body weight; however, the degree to which it applies to other realms of life is not yet clear.

The data herein confirmed the prediction that bulimics would endorse the maladaptive self-statements to a significantly greater degree than did control subjects after failure . These

self-statements are considered maladaptive because they are self-deprecatory in nature, and include the desire to eat in response to the stress of failure (item 3 in Appendix T; also considered maladaptive are items 2, 6, 8, and 10).

Attesting to their more positive self-statements, bulimics did not differ from controls in the endorsement of the other, more adaptive items. It does appear, then, that that bulimics engage in some definitely positive cognitive coping strategies, to include the adaptive self-statements as well as the adaptive attributions. However, they also have some detrimental preoccupations which seem to serve a dysfunctional, distracting role. They are especially preoccupied with food, weight control, and appearance (four of the five maladaptive self-statements items were about these concerns).

Interestingly, some of the overt statements made by bulimics to the immediate post-failure question, "How did you feel while you were working on these tasks?" are congruent with the self-deprecatory nature of the covert statements (see Appendix HH). Notice, however, that while several bulimics frequently mentioned quite negative, self-deprecating thoughts and feelings about themselves and/or their ostensible performance, none of them actually made an eating or appearance-related statement, overtly. Perhaps they were less aware of these thoughts, or perhaps such thoughts were not stated aloud because they seemed irrelevant to the actual question. The overt statements are discussed in more detail below, with reference to affective responding.

Additionally, the endorsement of the maladaptive self-statements cannot be explained solely by exposure to the stress of failure, because it was found that the bulimics also endorsed the maladaptive self-statements to a significantly greater degree than controls in the success condition. Maladaptive, weight-related thoughts in reference to oneself may be continually characteristic of the cognitive activity of bulimics, somewhat independent of particular situations. They may even be beyond conscious awareness, although this would be most challenging to demonstrate empirically.

Note that the self-statements were assessed only once, at the end of the experiment. Repeated assessment of these was avoided in an attempt to avoid reactivity, or unduly influencing their reponses during the experiment. Indeed, it would be difficult to develop a methodology to repeatedly assess such self-statements without influencing those self-statements. These data are relevant clinically in that they suggest that cognitively-based interventions must do more than teach bulimics to make positive self-statements, as they may already be making them.

General depression was higher in bulimics, as hypothesized and noted earlier. While it has been established that bulimia and depression are related problems, the nature and meaning of this relationship is unclear. In this study, these bulimic college students were somewhat depressed; however, they also had significantly lower self-efficacy and significantly greater endorsement of maladaptive self-statements, independently of depression. Therefore, it appears that the current findings cannot be explained away by saying that they are indicative of affective disorder.

Although this issue is controversial, several other researchers also have noted that while depression is an important feature, it cannot account fully for the syndrome of bulimia (Cooper & Fairburn, 1986; Johnson-Sabine, Wood, & Wakeling, 1984; Swift, Andrews, & Barklage, 1986; Walsh, Roos, Glassman, Gladis, & Sadik, 1985). Swift et al. have noted that research in this area must move beyond the classical primary-secondary distinction and should adopt complex, multidimensional theoretical models. Additionally, they have noted that a diversity of relationships between affective disorder and eating disorders is likely, i.e., depression precedes and contributes to subsequently-developed eating disorder; depression directly elicits an eating disorder, which may serve as a defensive strategy, or an eating disorder precedes and contributes to a subsequently-developed affective disorder, and so on.

Whatever the precise causal pathway, eating disorders and affective disorders can certainly maintain and exacerbate each other. Additionally, it should be kept in mind that different

bulimic individuals will have distinct causal pathways; therefore, any one model developed from group research will not be universally applicable. The study of separate clinical subgroups would be one way to handle this problem in research.

Aside from general or trait depression, situational or state depression was also significantly higher for bulimics, as was both state anxiety and state hostility. Additionally, these ratings evinced some interesting patterns with repeated manipulations, especially for depression and anxiety. While all subjects showed a rapid increase in depression, failure-bulimics were consistently more depressed than failure-nonbulimics. Furthermore, the failure-bulimic scores had their highest rating of all at the last assessment point, with their overall pattern over time showing continually increasing depression. In contrast, the failure-nonbulimics had their peak rating at the second assessment point, with their overall pattern after that showing steadily decreasing depression (Figure 9 on page 96). These findings support situational events as being influential in the depression levels of bulimics. They also are congruent with some of the overt statements made by these subjects when asked how they felt during the tasks, e. g., "hopeless," "discouraged, couldn't concentrate," "lousy," and "depressed" (see Appendix HH).

Additionally, it is noteworthy that three of the bulimics wept visibly during the induction of failure, whereas none of the control subjects cried. Each time this happened, the experimenter reminded the subject that the experiment could be terminated immediatedly without penalty. In all three instances, the bulimic subject stated that she did not want to stop the experiment. The experimenter asked this question again, emphasizing the fact that the subject would still receive her extra credit and that it would be perfectly acceptable to end the experiment. They all three insisted upon continuing. Although this happened with just three of twenty-six bulimic subjects, it is intriguing not only because they became visibly upset (consistent with situational influences being salient in their depression levels), but also that they insisted upon staying in the upsetting situation (consistent with rigid, high self-expectations or, perhaps, persistence). Of course, these subjects received extra-careful

attention during the debriefing. Interestingly, by the time of debriefing, these subjects did not appear much more upset than the other bulimic subjects.

The bulimic subjects' patterns of depression scores in the success condition were also interesting. As noted earlier, the success experience appeared to have a mood-improving effect for bulimics, whereas no mood altering effect was noted for controls Figure 9 on page 96. Combined with the patterns in the failure condition, these results suggest that both successful and failing experiences have more of a mood-altering effect for bulmics, congruent with reports in the literature about the frequent mood swings observed in bulimics.

The findings with regard to state anxiety levels were similar to the state depression findings in that bulimics had consistently and significantly higher scores in both conditions and that they were influenced by both manipulations, whereas nonbulimics were influenced only by failure Figure 8 on page 95. In failure, the bulimics evinced not only more anxiety, but also recovered more slowly and to a lesser extent than did controls. Thus, control subjects experienced a rapid but brief increase in anxiety level, followed by a complete recovery to their baseline level by the end of the experiment.

This recovery of the failure-nonbulimic group is congruent with the overt statements some of them made about how they felt during the tasks, i. e., "I felt a little bit anxious, but it didn't really matter," and "At first I felt inadequate. Then after that I just thought, it really wasn't a big deal" (see Appendix II, subjects C12 and C13; also C04 and C10). In contrast, only one bulimic subject in the failure condition made a statement congruent with recovery, and this appeared to be due primarily to her suspicions about deception during the last task (subject B07, Appendix HH). While the examples are of only a few subjects, they do illustrate congruence between overt statements and affective ratings.

The findings in regard to state hostility indicated that bulimics consistently were more hostile than nonbulimics, and that the trends of these groups over time were parallel (Figure 10 on

page 97). Thus, the bulimics always were more hostile during these assessments, but, otherwise, no difference in the bulimic and nonbulimic patterns over time were apparent. The reason for the uniform, peak hostility rating at assessment point three is not clear, especially for the success subjects.

The limitations of this research include that it was restricted to college females (only some of the bulimics were known to be in clinical treatment), the bulimic subjects had different histories of their symptoms and of treatment for them, the experimental situation was laboratory-based, and several of the rating forms in the experiment have not had extensive evaluation psychometrically. Room for improvement in future research is vast and includes the need for more development of standardized measures of cognitive variables, as well as steps to assure correct classification of subjects into groups. The recently published DSM-III-R (American Psychiatric Association, 1987) stipulates a minimum average of two binge eating episodes per week for at least three months. This change in the criteria for bulimia may be helpful in assuring more clinical samples of bulimics in future research.

Methodological problems notwithstanding, these two studies make several important contributions. To summarize, self-efficacy to handle stress, resist binging under stress, control weight, use time constructively, and perform well on the tasks in this research were all significantly lower for bulimics. Self-statements which are maladaptive and self-deprecatory in nature also characterized the bulimics, including negative statements about physical appearance. While the cognitive variables of self-efficacy and self-statements differed between bulimics and controls, the data on performance attributions and performance satisfaction indicated that the bulimics had normative, adaptive responses on those cognitive variables. All affective variables were elevated in bulimics, including trait depression and state depression, anxiety, and hostility. This information is both clinically relevant and important for future research examining the nature of the relationship between disturbances in eating patterns and disturbances in affect.

The current research provides ample stimulation which may encourage future investigations. In particular, relationships among self-efficacy, self-statements, and affective variables with respect to bulimic symptomatology have been identified. Further clarification of these relationships and of their implications for bulimic behavior are needed. While treatment outcome studies are necessary and important, it would be a mistake to limit our efforts to these. Careful, persistent, controlled research which leads to a fuller **understanding** of this complex disorder eventually will be the key to the development of maximally effective treatments.

References

Abraham, H. D. & Joseph, A. B. (1987). Bulimic vomiting alters pain tolerance and mood. *International Journal of Psychiatry in Medicine, 16,* 4, 311-316.

Abramson, E. E. & Stinson, S. G. (1977). Boredom and eating in obese and non-obese individuals. *Addictive Behaviors, 2,* 181-185/

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.

Agras, W. S., & Kirkley, B. G. (1986). Bulimia: Theories of etiology. In K. D. Brownell & J. P. Foreyt (Eds.), *Handbook of Eating Disorders* (pp. 367-378). New York: Basic Books, Inc.

American Psychiatric Association (1980). *Diagnostic and statistical manual of mental disorders* (3rd ed.). Washington D.C.: Author.

American Psychiatric Association (1987). *Diagnostic and statistical manual of mental disorders* (3rd ed.- Revised). Washington D.C.: Author.

Baird, P. & Sights, J. R. (1986). Low self-esteem as a treatment issue in the psychotherapy of anorexia and bulimia. *Journal of Counseling and Development, 64,* 449-451.

Bandura, A. (1977). Toward a unifying theory of behavioral change. *Psychological Review, 84,* 191-215.

Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist, 37,* 122-147.

Bandura, A. (1986). Self-efficacy mechanism in physiological activation and health-promoting behavior. In J. Madden IV, S. Matthysse, & J. Barchas (Eds.), *Adaptation, learning, and affect.* New York: Raven Press.

Barrios, B. A. & Cutts, T. F. (1985). *Fear of weight gain among bulimic and nondisturbed females.* Unpublished manuscript, University of Mississippi, Oxford.

Bayer, A. E., & Baker, D. H. (1983). *Adolescent eating disorders: Anorexia nervosa and bulimia* (Publication No. 352-004). Blacksburg, VA: Virginia Cooperative Extension Service.

Beaumont, P. J. V., George, G. C. W., & Smart, D. E. (1976). "Dieters" and "vomiters and purgers" in anorexia nervosa. *Psychological Medicine, 6,* 617-622.

Beck, A. T. (1972). *Depression: Causes and Treatment.* Philadelphia: University of Pennsylvannia Press.

Beck, A. T. (1976). *Cognitive therapy and the emotional disorders.* New York: International University Press.

Bemis, K. (1978). Current approaches to the etiology and treatment of anorexia nervosa. *Psychological Bulletin, 85,* 593-617.

Boskind-Lodahl, M. (1976). Cinderella's stepsisters: A feminist perspective on anorexia nervosa and bulimia. *Signs: Journal of Women in Culture and Society, 2,* 342-356.

Boskind-Lodahl, M. (1977). The definition and treatment of bulimarexia: The gorging/purging syndrome of young women. Doctoral dissertation, Cornell University.

Boskind-White, M. (1985). Bulimarexia: A sociocultural perspective. In S. W. Emmett (Ed.), *Theory and Treatment of Anorexia Nervosa and Bulimia.* New York: Brunner/Mazel.

Boskind-White, M., & White, W. C. (1983). *Bulimarexia: The binge-purge cycle.* New York: W. W. Norton & Company.

Brotman, A. W., Alonso, A., & Herzog, D. B. (1985). Group therapy for bulimia: Clinical experience and practical recommendations. *Group, 9,* 1, 15-23.

Bruch, H. (1973). *Eating disorders: Obesity, anorexia nervosa, and the person within.* New York: Basic Books, Inc.

Bruch, H. (1985). Four decades of eating disorders. In D. M. Garner & P. E. Garfinkel (Eds.), *Handbook of psychotherapy for anorexia nervosa and bulimia* (pp. 7-18). New York: The Guilford Press.

Cash, T. F. & Brown, T. A. (in press). Body image in anorexia nervosa and bulimia: A review of the literature. *Behavior Modification,* in press.

Casper, R. C., Eckert, E. D., Halmi, K. A., Goldberg, S. C., & Davis, J. M. (1980). Bulimia: Its incidence and clinical importance in patients with anorexia nervosa. *Archives of General Psychiatry, 37,* 1030-1035.

Chernin, K. (1981). *The obsession: Reflections on the tyranny of slenderness.* New York: Harper & Row.

Counts, C. R. & Adams, H. E. (1985). Body image in bulimic, dieting, and normal females. *Journal of Psychopathology and Behavioral Assessment, 7,* 289-300.

Cutts, T., & Barrios, B. A. (1984, March). *Fear of weight gain as a diagnostic indicator of bulimia.* Paper presented at the meeting of the Southeastern Psychological Association, Atlanta, GA.

Dally, P. (1969). *Anorexia Nervosa.* London: William Heineman Medical Books.

Diener, C. I. & Dweck, C. S. (1978). An analysis of learned helplessness: Continuous changes in performance, strategy, and achievement cognitions following failure. *Journal of Personality and Social Psychology, 36,* 451-462.

Dweck, C. S. & Wortman, C. B. (1982). Learned helplessness, anxiety, and achievement motivation: Neglected parallels in cognitive, affective, and coping responses. In H. W. Krohne & L. Laux (Eds.), *Achievement, stress, and anxiety* (pp. 93-125). New York: Hemisphere Publishing Corporation.

Dykens, E. M. & Gerrard, M. (1986). Psychological profiles of purging bulimics, repeat dieters, and controls. *Journal of Consulting and Clinical Psychology, 54,* 283-288.

Edwards, G. M. (1985). Case of bulimia nervosa presenting with acute, fatal abdominal distension. *The Lancet,* 822-823.

Enright, A. B., Butterfield, P., & Berkowitz, B. (1985). Self-help and support groups in the management of eating disorders. In D. M. Garner & P. E. Garfinkel (Eds.), *Handbook of psychotherapy for anorexia nervosa and bulimia* (pp. 491-512). New York: The Guilford Press.

Eubanks, R. (1984). Role of the nutritionist. In P. S. Powers & R. C. Fernandez (Eds.), *Current treatment of anorexia nervosa and bulimia* (pp. 180-207). New York: Karger.

Fairburn, C. G. (1980). Self-induced vomiting. *Journal of Psychosomatic Research, 24,* 193-197.

Fairburn, C. (1981). A cognitive behavioural approach to the treatment of bulimia. *Psychological Medicine, 11, 707-711.*

Fairburn, C., & Cooper, P. J. (1982). Self-induced vomiting and bulimia nervosa: An undetected problem. *British Medical Journal, 284,* 1153-1155.

Fairburn, C. G., Cooper, Z., & Cooper, P. J. (1986). The clinical features and maintenance of bulimia nervosa. In K. D. Brownell & J. P. Foreyt (Eds.), *Handbook of Eating Disorders,* New York: Basic Books.

Feather, N. T. (1961). Relationship of persistence at a task to expectation of success and achievement related motives. *Journal of Abnormal and Social Psychology, 66,* 604-609.

Feather, N. T. (1963). Persistence at a difficult task with alternative task of intermediate difficulty. *Journal of Abnormal and Social Psychology, 66,* 604-609.

Fernandez, R. C. (1984). Disturbances in cognition: Implications for treatment. In P. S. Powers & R. C. Fernandez (Eds.), *Current treatment of anorexia nervosa and bulimia* (pp. 133-142). New York: Karger.

Freeman, C., Sinclair, F., Turnbull, J., & Annandale, A. (1985). Psychotherapy for bulimia: A controlled study. *Journal of Psychiatric Research, 19,* 473-478.

Fremouw, W. J. & Heyneman, N. E. (1983). Cognitive styles and bulimia. *Behavior Therapist, 6,* 143-144.

Gallo, L. & Randel, A. (1982). Chronic vomiting and its effects on the primary dentures: Report of a case. *Journal of Dentistry for Children,* 382-387.

Garfinkel, P. E., & Garner, D. M. (1982). *Anorexia nervosa: A multidimensional perspective.* New York: Bruner/Mazel.

Garfinkel, P. E., Moldofsky, H., & Garner, D. M. (1977). Prognosis in anorexia nervosa as influenced by clinical features, treatment, and self-perception., *Canadian Medical Association Journal, 117,* 1041-1045.

Garfinkel, P. E., Moldofsky, H., & Garner, D. M. (1980). The heterogeneity of anorexia nervosa: Bulimia as a distinct subgroup. *Archives of General Psychiatry, 37,* 1036-1040.

Garner, D. M. & Bemis, K. M. (1982). A cognitive-behavioral approach to anorexia nervosa. *Cognitive Therapy and Research, 6,* 1-27.

Garner, D. M. & Garfinkel, P. E. (1985). *Handbook of Psychotherapy for Anorexia Nervosa and Bulimia.* New York: The Guilford Press.

Garner, D. M., Garfinkel, P. E., & O'Shaughnessy, M. (1985). The validity of the distinction between bulimia with and without anorexia nervosa. *American Journal of Psychiatry, 142,* 5, 581-587.

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

Garner, D. M., Rockert, W., Olmsted, M. P., Johnson, C., & Coscina (1985). Psychoeducational principles in the treatment of bulimia and anorexia nervosa. In D. M. Garner & P. E. Garfinkel (Eds.), *Handbook of psychotherapy for anorexia nervosa and bulimia* (pp.513-572). New York: The Guilford Press.

Giles, T. R., Young, R. R., & Young, D. E. (1985). Behavioral treatment of severe bulimia. *Behavior Therapy, 16,* 393-405.

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

Gormally, J. (1984). The obese binge eater: Diagnosis, etiology, and clinical issues. In R. C. Hawkins, W. J. Fremouw, & P. F. Clement (Eds.), *The binge-purge syndrome: Diagnosis, treatment, and research* (pp. 47-74). New York: Springer Publishing.

Gough, H. G. (1975). *Manual for the California Psychological Inventory.* Palo Alto, CA: Psychologists' Press.

Gwirtsman, H. E., Roy-Byrne, P., Yager, J., & Gerner, R. H. (1983). Neuroendocrine abnormalities in bulimia. *American Journal of Psychiatry, 140,* 559-563.

Halmi, K. A., Falk, J. R., & Schwartz, E. (1981). Binge-eating and vomiting: A survey of a college population. *Psychological Medicine, 11,* 697-706.

Hart, K. J. (1985). *The performance and cognitive self-statements of normal, depressed, and bulimic women exposed to learned helplessness training.* Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University, Blacksburg, VA.

Hart, K. J., & Ollendick, T. H. (1985). Prevalence of bulimia in working and university women, *American Journal of Psychiatry, 142,* 851-854.

Hawkins, R. C., & Clement, P. (1982). Binge eating syndrome: The measurement problem and a conceptual problem. In R. C. Hawkins and P. Clement (Eds.), *Binge eating: Theory, research, and treatment.* New York: Plenum.

Herman, C. P., & Mack, D. (1975). Restrained and unrestrained eating. *Journal of Personality, 43,* 647-660.

Herman, C. P. & Polivy, J. (1975). Anxiety, restraint, and eating behavior. *Journal of Abnormal Psychology, 84,* 666-672.

Herman, C. P., Polivy, J., & Silver, R. (1979). Effects of an observer on eating behavior: The induction of sensible eating. *Journal of Personality, 47,* 85-99.

Herzog, D. B. (1982). Bulimia: The secretive syndrome. *Psychosomatics, 23,* 481-483.

Herzog, D. B. (1986). Antidepressant use in eating disorders. *Psychosomatics, 27,* 11 (supplement), 17-23.

Higgins, J. T., Oppenheimer, E. Y., & Gershman, M. (1985). Phenylpropanolamine-associated headache. *American Journal of Diseases of Childhood, 139,* 331.

Hollon, S. D., & Bemis, K. M. (1981). Self-report and the assessment of cognitive functions. In M. Hersen and A. S. Bellack, *Behavioral Assessment: A Practical Handbook.* New York: Pergamon Press.

Holmgren, S., Humble, K., Norring, C., Roos, B. E., Rosmark, B., & Sohlberg, S. (1983). The anorectic-bulimic conflict. *International Journal of Eating Disorders, 2,* (2), 3-14.

Horner, M. S. (1970). Femininity and successful achievement: A basic inconsistency. In J. Bardwick, E. M. Douvan, M. S. Horner, & D. Gutmann (Eds.), *Feminine personality and conflict.* Monterey, CA: Brooks/Cole.

Horner, M. S. (1972). Toward an understanding of achievement-related conflicts in women. *Journal of Social Issues, 28,* 157-175.

Humphrey, L. L. (1983). A sequential analysis of family processes in anorexia and bulimia. In *Understanding Anorexia Nervosa and Bulimia: Report of the Fourth Ross Conference on Medical Research* (pp. 37-46). Columbus, OH: Ross Laboratories.

Humphrey, L. L., Apple, R. F., & Kirschenbaum, D. E. (1986). Differentiating bulimic-anorexic from normal families using interpersonal and behavioral observational systems. *Journal of Consulting and Clinical Psychology, 54,* 190-195.

Huon, G. F. & Brown, L. B. (1985). Evaluating a group treatment for bulimia. *Journal of Psychiatric Research, 19,* 479-483.

Janet, P. (1919). *Les Obsessions et la Psychasthenie.* Paris: Felix Alcan.

Johnson, C. (1985). Initial consultation for patients with bulimia and anorexia nervosa. In D. M. Garner & P. E. Garfinkel (Eds.), *Handbook of psychotherapy for anorexia nervosa and bulimia* (pp. 19-51). New York: The Guilford Press.

Johnson, C. L., Lewis, C., Love, S., Stuckey, M., & Lewis, L. (1983). A descriptive survey of dieting and bulimic behavior in a female high school population. In *Understanding Anorexia Nervosa and Bulimia: Report of the Fourth Ross Conference on Medical Research* (pp. 14-20). Columbus, OH: Ross Laboratories.

Johnson, W. G., Corrigan, S. A., & Mayo, L. L. (1986). Innovative treatment approaches to bulimia nervosa. *Journal of Psychopathology and Behavioral Assessment,* in press.

Johnson-Sabine, E. C., Wood, K. H., & Wakeling, A. (1984). Mood changes in bulimia nervosa. *British Journal of Psychiatry, 145,* 512-516.

Jonas, J. M., & Gold, M. S. (1987). Treatment of antidepressant-resistant bulimia with naltrexone. *International Journal of Psychiatry in Medicine, 16,* 4, 305-309.

Jones, D., Fox, M., Babigan, H. & Hatton, H. (1980). Epidemiology of anorexia nervosa in Monroe County, New York: 1960-1976. *Psychosomatic Medicine, 42,* 551-558.

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

Kirkley, B. G., Schneider, J. A., Agras, W. S., & Bachman, J. A. (1985). Comparison of two group treatments for bulimia. *Journal of Consulting and Clinical Psychology, 53,* 43-48.

Lacey, J. H. (1984). Moderation of bulimia. *Journal of Psychosomatic Research, 28,* 397-402.

Lacey, J. H. & Birtchnell, S. A. (1986). Body image and its disturbances. *Journal of Psychometric Research, 30,* 623-631.

Langer, E. & Dweck, C. S. (1973). *Personal politics.* New Jersey: Prentice Hall.

Lerner, H. D. (1986). Current developments in the psychoanalytic psychotherapy of anorexia nervosa and bulimia nervosa. *The Clinical Psychologist, 39,* 39-43.

Lindy, D. C., Walsh, T., Roose, S. P., Gladis, M., & Glassman, A. H. (1985). The dexamethasone suppression test in bulimia. *American Journal of Psychiatry, 142,* 1375-1376.

Loro, A. D., Jr. (1980). *Binge eating: A clinical-behavioral description.* Paper presented at the meeting of the Association for the Advancement of Behavior Therapy, New York, NY.

Loro, A. D., Jr. (1982). Treatment for eating disorders. In P. A. Boudewyns & F. J. Keefe (Eds.), *Behavioral Medicine in General Medical Practice.* Reading, Mass.: Addison-Wesley.

Loro, A. D. (1984). Binge-eating: A cognitive-behavioral treatment approach. In R. C. Hawkins, W. J. Fremouw, & P. F. Clement (Eds.), *The binge-purge syndrome: Diagnosis, treatment, and research* (pp. 183-210). New York: Springer Publishing, Inc.

Loro, A. D. Jr., & Orleans, C. S. (1982). The behavioral assessment of obesity. In F. J. Keefe & J. A. Blumenthal (Eds.), *Assessment strategies in behavioral medicine.* New York: Grune & Stratton.

Love, S. Q. (1984). Prediction of bulimic behaviors: A social learning analysis. Doctoral dissertation, Virginia Polytechnic Institute and State University, Blacksburg, VA.

Love, S. Q., Ollendick, T. H., Johnson, C. L., & Schlesinger, S. E. (1985). A preliminary report on the prediction of bulimic behaviors: A social learning analysis. *Bulletin of the Society of Psychologists in Addictive Behaviors, 4,* 93-101.

Maccoby, E. E. (1963). Women's intellect. In S. M. Farber & R. H. L. Wilson (Eds.), *The potential of women.* (pp. 144-182). New York: Springer Publishing.

Maceyko, S. J., & Nagelberg, D. B. (1985, March). *The prevalence of bulimia and related personality variables in high school students.* Paper presented at the meeting of the Southeastern Psychological Association, Atlanta, GA.

Margittai, K. J., Blouin, A., & Perez, E. P. (1987). A study of the drop-outs in psychopharmacological research with bulimics. *International Journal of Psychiatry in Medicine, 16,* 4, 297-304.

Miller, S. G. (1984). Family therapy of the eating disorders. In P. S. Powers & R. C. Fernandez (Eds.), *Current Treatment of Anorexia Nervosa and Bulimia (pp. 92-112).* New York: Karger.

Minuchin, S., Rosman, B. L., & Baker, L. (1978). *Psychosomatic families: Anorexia nervosa in context.* Massachusetts: Harvard University Press.

Mitchell, J. E. (1986). Bulimia: Medical and physiological aspects. In K. D. Brownell & J. P. Foreyt, *Handbook of Eating Disorders: Physiology, Psychology, and Treatment of Obesity, Anorexia, and Bulimia.* (pp. 379-388). New York: Basic Books, Inc.

Mitchell, J. E., & Pyle, R. L. (1981). The bulimic syndrome in normal weight individuals: A review. *International Journal of Eating Disorders, 1,* 61-73.

Mitchell, J. E., Pyle, R. L., & Miner, R. A. (1982). Gastric dilatation as a complication of bulimia. *Psychosomatics, 23,* 96-97.

Mizes, J. S. (1987, March). Personality characteristics of bulimic and non-eating disordered female controls: A cognitive-behavioral perspective. Paper presented at the meeting of the Society of Behavioral Medicine, Washington, D. C.

Morgan, H. G., & Russell, G. F. M. (1975). Value of family background and clinical features as predictors of long-term outcome in anorexia nervosa: Four-year follow-up study of 41 patients. *Psychological Medicine, 5,* 355-372.

Needleman, H. L., & Waber, D. (1977). The use of amitriptyline in anorexia nervosa. In R. A. Vigersky (Ed.), *Anorexia Nervosa* (pp. 357-362). New York: Raven Press.

Norman, D. K., & Herzog, D. B. (1983). Bulimia, anorexia nervosa and anorexia nervosa with bulimia: A comparative analysis of MMPI profiles. *International Journal of Eating Disorders, 2,* 43-52.

Ollendick, T. H. (1979). Success and failure: Implications for child psychopathology. In A. J. Finch, Jr. & P. C. Kendall (Eds.), *Clinical treatment and research in child psychopathology* (pp. 35-49). New York: Spectrum Publications, Inc.

Ollendick, T. H. & Hart, K. J. (1985). Self-efficacy: The development of the self-efficacy scale. Unpublished manuscript. Virginia Polytechynic Institute and State University, Blacksburg, VA.

Orbach, S. (1978). *Fat is a feminist issue.* New York: Paddington Press.

Ordman, A. M., & Kirschenbaum, D. S. (1985). Cognitive-behavioral therapy for bulimia: An initial outcome study. *Journal of Consulting and Clinical Psychology, 53,* 305-313.

Orleans, C. T. & Barnett, L. R. (1984). Bulimarexia: Guidelines for behavioral assessment and treatment. In R. C. Hawkins, W. J. Fremouw, & P. F. Clement (Eds.), *The binge-purge syndrome: Diagnosis, treatment, and research* (pp.24-39). New York: McGraw-Hill.

Perconte, S. T. (1983). The effects of increasing amounts of exposure and failure feedback on learned helplessness: An investigation of task parameters. Doctoral dissertation, Virginia Polytechnic Institute and State University, Blacksburg, VA.

Peterson, C. & Seligman, M. E. P. (1984). Causal explanations as a risk factor for depression: Theory and evidence. *Psychological Review, 91,* 347-374.

Polivy, J. (1976). Perception of calories and regulation of intake in restrained and unrestrained subjects. *Addictive Behaviors, 1,* 237-243.

Polivy, J. & Herman, C. P. (1985). Dieting and binging: A causal analysis. *American Psychologist, 40,* 193-201.

Polivy, J., Herman, C. P., Hackett, R., & Kuleshnyk, I. (1983). *The effects of personal and public monitoring of consumption on eating in restrained and unrestrained subjects.* Unpublished manuscript, University of Toronto, Canada.

Polivy, J., Herman, C. P., Jazwinski, C., & Olmsted, M. (1982). *Restraint and binge eating: Theory, research, and treatment.* New York: Plenum Press.

Polivy, J., Herman, C. P., Olmsted, M. P., & Jazwinski, C. (1984). Restraint and binge eating. In R. C. Hawkins, W. J. Fremouw, & P. F. Clement (Eds.), *The binge-purge syndrome: Diagnosis, treatment, and research* (pp. 104-122). New York: Springer Publishing.

Powers, P. S., & Fernandez, R. C. (Eds.). (1984). *Current treatment of anorexia nervosa and bulimia.* New York: Karger.

Pyle, R. L., Mitchell, J. E., & Eckert, E. D. (1981). Bulimia: A report of 34 cases. *Journal of Clinical Psychiatry, 42,* 60-64.

Pyle, R., Mitchell, J. E., Eckert,E. D., Halverson, P., Neuman, P., & Goff, G. (1982). The incidence of bulimia in freshman college students. *International Journal of Eating Disorders, 3,* 193-200.

Rau, J. H., & Green, R. S. (1984). Neurological factors affecting binge eating: Body over mind. In R. C. Hawkins, W. J. Fremouw, & P. F. Clement (Eds.), *The binge-purge syndrome: Diagnosis, treatment, and research* (pp. 123-143). New York: Springer Publishing.

Rau, J., Struve, F., & Grenn, R. (1979). Electro-encephalographic correlates of compulsive eating. *Clinical Electroencephalography, 10,* 180-189.

ReynaMcGlone, C. L., Ollendick, T. H., & Hart, K. J. (1986). Self-efficacy and bulimia: Development and validation of the self-assessment scale. Paper presented at the meeting of the Association for the Advancement of Behavior Therapy, Chicago, IL.

Rimm, D. C. & Masters, J. C. (1979). *Behavior therapy: Techniques and empirical findings.* New York: Academic Press, Inc.

Root, A. W. (1984). Biological aspects of eating disorders. In P. S. Powers & R. C. Fernandez (Eds.), *Current treatment of anorexia nervosa and bulimia* (pp.158-165). New York: Karger.

Rosen, J. C., & Leitenenberg, H. (1982). Bulimia nervosa: Treatment with exposure and response prevention. *Behavior Therapy, 13,* 117-124.

Rosenhan, D. L., & Seligman, M. E. (1984). *Abnormal psychology* New York: W. W. Norton & Co., Inc.

Rost, W., Neuhaus, M., & Florin, I. (1982). Bulimia nervosa: Sex role attitude, sex role behavior, and sex role-related locus of control in bulimarexic women. *Journal of Psychosomatic Research, 26,* 403-408.

Rubin, D. (1970). *Forever thin.* New York: Grammercy.

Ruderman, A. J. (1985). Restraint and irrational cognitions. *Behavior Research and Therapy, 23,* 557-561.

Ruderman, A., & Wilson, G. T. (1979). Weight, restraint, cognitions, and counterregulation. *Behaviour Therapy and Research, 17,* 581-590.

Ruff, G. A. & Barrios, B. A. (1986). Realistic assessment of body image. *Behavioral Assessment, 8,* 237-251.

Russell, G. (1979). Bulimia nervosa: An ominous variant of anorexia nervosa. *Psychological Medicine, 9,* 429-448.

Sabine, E., Yonace, A., Farrington, A., Barratt, K., & Wakeling, A. (1983). Bulimia nervosa: A placebo-controlled double-blind therapeutic trial of mianserin. *British Journal of Clinical Pharmacology, 15,* 1955-2025.

Saul, S. H., Dekker, A., & Watson, C. G. (1981). Acute gastric dilatation with infarction and perforation. *Gut, 22,* 978-983.

Schacter, S., Goldman, R., & Gordon, A. (1968). Effects of fear, deprivation, and obesity on eating. *Journal of Personality and Social Psychology, 10,* 91=97.

Scheier, M. F. & Carver, C. S. (1982). Self-consciousness, outcome expectancy, and persistence. *Journal of Research in Personality, 16,* 409-418.

Schlesier-Stroop, B. (1984). Bulimia: A review of the literature. *Psychological Bulletin, 95,* 247-257.

Schlundt, D. G., Johnson, W. G., & Jarrell, M. P. (1986). A sequential analysis of environmental, behavioral, and affective variables predictive of vomiting in bulimia nervosa. *Behavioral Assessment, 8,* 253-269.

Scott, W. A. (1962). Cognitive structure and social structure: Some concepts and relationships. In N. F. Washburne (Ed.), *Decisions, values, and groups. Vol. 2.* (pp. 86-118). New York: Pergamon Press.

Scott, W. A. (1963). Conceptualizing and measuring structural properties of cognition. In O. J. Harvery (Ed.), *Motivation and social interaction* (pp. 266-288). New York: Ronald Press.

Seligman, M. E. P. (1975). *Helplessness: On depression, development, and death.* San Francisco: Freeman.

Selvini-Palazzoli, M. (1978). *Self-starvation: From individual to family therapy in the treatment of anorexia nervosa.* New York: Aronson.

Smith, M. C. & Thelen, M. H. (1984). Development and validation of a test for bulimia. *Journal of Consulting and Clinical Psychology, 52,* 863-872.

Spack, N. O. (1985). Medical complications of anorexia nervosa and bulimia. In S. W. Emmet, *Theory and Treatment of Anorexia Nervosa and Bulimia.* (pp. 5 - 19). New York: Brunner/Mazel.

Spencer, J. A., & Fremouw, W. J. (1979). Binge eating as a function of eating and weight classification. *Journal of Abnormal Psychology, 88,* 262-267.

Strangler, R. S., & Printz, R. M. (1980). DSM-III: Psychiatric diagnosis in a university population. *American Journal of Psychiatry, 138,* 937-940.

Strober, M., Salkin, B., Burroughs, J., & Morrell, W. (1982). Validity of the bulimia-restricter distinction in anorexia nervosa: Parental personality characteristics and familiy psychiatric morbidity. *The Journal of Nervous and Mental Disease, 170,* 345-351.

Stunkard, A. J. (1976). The pain of obesity. Palo Alto: Bull Press.

Swift, W. J., Andrews, D., & Barklage, N. E. (1986). The relationship between affective disorder and eating disorders: A review of the literature. *American Journal of Psychiatry, 143,* 290-299.

Thelen, M. H., Mann, L. M., Pruitt, J., & Smith, M. (1987). Bulimia: Prevalence and component factors in college women. *Journal of Psychosomatic Research, 31,* 1, 73-78.

Toner, B. B., Garfinkel, P. E., & Garner, D. M. (1987). Cognitive style of patients with bulimic and diet-restricting anorexia nervosa. *American Journal of Psychiatry, 144,* 4, 510-512.

Trapp, E. P. & Kausler, P. K. (1958). Test anxiety level and goal-setting behavior. *Journal of Consulting Psychology, 22,* 31-34.

Weiner, B. (Ed.). (1974). *Achievement motivation and attribution theory.* Morristown, NJ: General Learning Press.

Weiner, B. (1982). An attribution theory of motivation and emotion. In H. W. Krohne & L. Laux (Eds.), *Achievement, stress and anxiety* (pp.223-245). New York: Hemisphere Publishing Corporation.

Weiner, B., Frieze, I. H., Kukla, A., Reed, L., Rest, S., & Rosenbaum, R. M. (1971). *Perceiving the causes of success and failure.* Morristown, NJ: General Learning Press.

Weiss, S. R., & Ebert, M. H. (1983). Psychological and behavioral characteristics of normal-weight bulimics and normal-weight controls. *Psychosomatic Medicine, 45,* 293-303.

Welch, R. L. & Huston, A. C. (1982). Effects of induced success/failure and attributions on the problem-solving behavior of psychologically androgynous and feminine women. *Journal of Personality, 50,* 81-97.

White, W. C. (1985). Bulimarexia: Intervention strategies and outcome considerations. In S. W. Emmett, *Theory and Treatment of Anorexia Nervosa and Bulimia.* New York: Brunner/Mazel.

White, W. C., & Boskind-White, M. (1984). An experiential behavioral treatment program for bulimarexic women. In R. C. Hawkins, W. J. Fremouw, & P. F. Clement (Eds.), *The*

binge-purge syndrome: Diagnosis, treatment, and research (pp. 75-103). New York: Springer Publishing, Inc.

Wilson, C. P. (Ed.). (1983). *Fear of being fat.* New York: Jason Aronson, Inc.

Wilson, G. T. (1976). Obesity, binge eating, and behavior therapy: Some clinical observations. *Behavior Therapy, 7,* 700-701.

Wilson, G. T. (1986). Cognitive-behavioral and pharmacological therapies for bulimia. In K. D. Brownell & J. P. Foreyt (Eds.), *Handbook of Eating Disorders: Physiology, Psychology, and Treatment of Obesity, Anorexia, and Bulimia* (pp. 450-475). New York: Basic Books, Inc.

Wolcott, R. B., Yager, J., & Gordon, J. (1984). Dental sequelae to the binge-purge syndrome (bulimia): report of cases. *Journal of the American Dental Association, 109,* 723-725.

Woody, E. Z., Costanzo, P. R., Leifer, H., & Conger, J. (1981). The effects of taste and caloric perceptions on the eating behavior of restrained and unrestrained subjects. *Cognitive Research and Therapy, 5,* 381-390.

Zuckerman, M. & Lubin, B. (1965). Manual for the multilple affect adjective checklist. San Diego, CA: Educational and Industrial Testing Service.

Zuckerman, M. & Lubin, B. (1985). Manual for the MAACL-R: The Multiple Affect Adjective Checklist-Revised. San Diego, CA: Educational and Industrial Testing Service.

Zuckerman, M., Lubin, B., Rinck, C. M., Soliday, S. M., Albott, W. L., & Carlson, K. (1986). Discriminant validity of the multiple affect adjective checklist-revised. *Journal of Psychopathology and Behavioral Assessment, 8,* 119-128.

Appendix A: Consent form for eating survey

EATING SURVEY

Consent Form

I, _____, freely and voluntarily consent to participate in a research study called "Eating Survey." The procedures to be followed have been explained to me and I understand them. They are as follows:

1. I will be asked to complete several questionnaires about my recent and general eating behavior. This will take approximately 35 minutes, and I understand that I will earn 1 extra point toward my grade in Introductory Psychology for my participation in this survey.

2. Based on all the results of this survey (administered to a large sample of students), a portion of students will be telephoned within approximately 30 days to participate in two additional studies (1 point each). I understand that if I am notified of eligibility to participate in the additional studies, the basis of my selection will be explained. Selection for further participation may involve sensitive issues related to my eating behavior.

3. I understand that all aspects of this research (both the initial survey and the second part, which I might have the opportunity to participate in) are completely voluntary. I know that I may withdraw my consent at any time without penalty.

4. I understand that all information that I supply will be held strictly confidential. Furthermore, in any scientific report of this project, there will be no way to identify me as a participant.

_____
Signature

If you have any questions about this research, please contact:
Cynthia McGlone, M. S.
961-5388 or 951-0905

Thomas H. Ollendick, Ph. D.
961-6451

Steve Zaccaro, Ph. D.
Human Subjects Committee
961-7916

Appendix B: Bulimia test (BULIT)

SMITH AND THELEN INVENTORY

Answer each question by filling in the appropriate circles on the computer answer sheet. Please respond to each item as honestly as possible; remember, all of the information you provide will be kept strictly confidential.

* * * * * * *

1. DO YOU EVER EAT UNCONTROLLABLY TO THE POINT OF STUFFING YOURSELF (i.e., GOING ON EATING BINGES)?

   a. once a month or less (or never)
   b. 2-3 times a month
   c. once or twice a week
   d. 3-6 times a week
   e. once a day or more

2. I AM SATISFIED WITH MY EATING PATTERNS.

   a. agree
   b. neutral
   c. disagree a little
   d. disagree
   e. disagree strongly

3. HAVE YOU EVER KEPT EATING UNTIL YOU THOUGHT YOU'D EXPLODE?

   a. practically every time I eat
   b. very frequently
   c. often
   d. sometimes
   e. seldom or never

4. WOULD YOU PRESENTLY CALL YOURSELF A "BINGE EATER"?

   a. yes, absolutely
   b. yes
   c. yes, probably
   d. yes, possibly
   e. no, probably not

5. I PREFER TO EAT:

   a. at home alone
   b. at home with others
   c. in a public restaurant
   d. at a friend's house
   e. doesn't matter

6. DO YOU FEEL YOU HAVE CONTROL OVER THE AMOUNT OF FOOD YOU CONSUME?

   a. most or all of the time
   b. a lot of the time
   c. occasionally
   d. rarely
   e. never

7. I USE LAXATIVES OR SUPPOSITORIES TO HELP CONTROL MY WEIGHT.

   a. once a day or more
   b. 3-6 times a week
   c. once or twice a week
   d. 2-3 times a month
   e. once a month or less (or never)

8. I EAT UNTIL I FEEL TOO TIRED TO CONTINUE.

   a. at least once a day
   b. 3-6 times a week
   c. once or twice a week
   d. 2-3 times a month
   e. once a month or less (or never)

9. HOW OFTEN DO YOU PREFER EATING ICE CREAM, MILK SHAKES, OR PUDDINGS DURING A BINGE?

a. always
b. frequently
c. sometimes
d. seldom or never
e. I don't binge

10. HOW MUCH ARE YOU CONCERNED ABOUT YOUR EATING BINGES?

a. I don't binge
b. bothers me a little
c. moderate concern
d. major concern
e. probably the biggest concern in my life

11. MOST PEOPLE I KNOW WOULD BE AMAZED IF THEY KNEW HOW MUCH FOOD I CAN CONSUME AT ONE SITTING.

a. without a doubt
b. very probably
c. probably
d. possibly
e. no

12. DO YOU EVER EAT TO THE POINT OF FEELING SICK?

a. very frequently
b. frequently
c. fairly often
d. occasionally
e. rarely or never

13. I AM AFRAID TO EAT ANYTHING FOR FEAR THAT I WON'T BE ABLE TO STOP.

a. always
b. almost always
c. frequently
d. sometimes
e. seldom or never

14. I DON'T LIKE MYSELF AFTER I EAT TOO MUCH.

a. always
b. frequently
c. sometimes
d. seldom or never
e. I don't eat too much

15. HOW OFTEN DO YOU INTENTIONALLY VOMIT AFTER EATING?

a. 2 or more times a week
b. once a week
c. 2-3 times a month
d. once a month
e. less than once a month (or never)

16. WHICH OF THE FOLLOWING DESCRIBES YOUR FEELINGS AFTER BINGE EATING?

a. I don't binge eat
b. I feel O.K.
c. I feel mildly upset with myself
d. I feel quite upset with myself
e. I hate myself

17. I EAT A LOT OF FOOD WHEN I'M NOT EVEN HUNGRY.

a. very frequently
b. frequently
c. occasionally
d. sometimes
e. seldom or never

18. MY EATING PATTERNS ARE DIFFERENT FROM EATING PATTERNS OF MOST PEOPLE.

a. always
b. almost always
c. frequently
d. sometimes
e. seldom or never

19. I HAVE TRIED TO LOSE WEIGHT BY FASTING OR GOING ON "CRASH" DIETS.

a. not in the past year
b. once in the past year
c. 2-3 times in the past year
d. 4-5 times in the past year
e. more than 5 times in the past year

20. I FEEL SAD OR BLUE AFTER EATING MORE THAN I'D PLANNED TO EAT.

a. always
b. almost always
c. frequently
d. sometimes
e. seldom, never, or not applicable

21. WHEN ENGAGED IN AN EATING BINGE, I TEND TO EAT FOODS THAT ARE HIGH IN CARBOHYDRATES (SWEETS AND STARCHES).

a. always
b. almost always
c. frequently
d. sometimes
e. seldom, or I don't binge

22. COMPARED TO MOST PEOPLE, MY ABILITY TO CONTROL MY EATING BEHAVIOR SEEMS TO BE:

a. greater than others' ability
b. about the same
c. less
d. much less
e. I have absolutely no control

23. ONE OF YOUR BEST FRIENDS SUDDENLY SUGGESTS THAT YOU BOTH EAT AT A NEW RESTAURANT BUFFET THAT NIGHT. ALTHOUGH YOU'D PLANNED ON EATING SOMETHING LIGHT AT HOME, YOU GO AHEAD AND EAT OUT, EATING QUITE A LOT AND FEELING UNCOMFORTABLY FULL. HOW WOULD YOU FEEL ABOUT YOURSELF ON THE RIDE HOME?

a. fine, glad I'd tried that new restaurant
b. a little regretful that I'd eaten so much
c. somewhat disappointed in myself
d. upset with myself
e. totally disgusted with myself

24. I WOULD PRESENTLY LABEL MYSELF A "COMPULSIVE EATER" (ONE WHO ENGAGES IN EPISODES OF UNCONTROLLED EATING).

a. absolutely
b. yes
c. yes, probably
d. yes, possibly
e. no, probably not

25. WHAT IS THE MOST WEIGHT YOU'VE EVER LOST IN ONE MONTH?

a. over 20 pounds
b. 12-20 pounds
c. 8-11 pounds
d. 4-7 pounds
e. less than 4 pounds

26. IF I EAT TOO MUCH AT NIGHT I FEEL DEPRESSED THE NEXT MORNING.

a. always
b. frequently
c. sometimes
d. seldom or never
e. I don't eat too much at night

27. DO YOU BELIEVE THAT IT IS EASIER FOR YOU TO VOMIT THAN IT IS FOR MOST PEOPLE?

a. yes, it's no problem at all for me
b. yes, it's easier
c. yes, it's a little easier
d. about the same
e. no, it's less easy

28. I FEEL THAT FOOD CONTROLS MY LIFE.

a. always
b. almost always
c. frequently
d. sometimes
e. seldom or never

29. I FEEL DEPRESSED IMMEDIATELY AFTER I EAT TOO MUCH.

a. always
b. frequently
c. sometimes
d. seldom or never
e. I don't eat too much

30. HOW OFTEN DO YOU VOMIT AFTER EATING IN ORDER TO LOSE WEIGHT?

a. less than once a month (or never)
b. once a month
c. 2-3 times a month
d. once a week
e. 2 or more times a week

31. WHEN CONSUMING A LARGE QUANTITY OF FOOD, AT WHAT RATE OF SPEED DO YOU USUALLY EAT?

a. more rapidly than most people have ever eaten in their lives
b. a lot more rapidly than most people
c. a little more rapidly than most people
d. about the same rate as most people
e. more slowly than most people (or not applicable)

32. WHAT IS THE MOST WEIGHT YOU'VE EVER GAINED IN ONE MONTH?

a. over 20 pounds
b. 12-20 pounds
c. 8-11 pounds
d. 4-7 pounds
e. less than 4 pounds

33. FEMALES ONLY. My last menstrual period was:

a. within the past month
b. within the past 2 months
c. within the past 4 months
d. within the past 6 months
e. not within the past 6 months

34. I USE DIURETICS (water pills) to help control my weight.

a. once a day or more
b. 3-6 times a week
c. once or twice a week
d. 2-3 times a month
e. once a month or less (or never)

35. HOW DO YOU THINK YOUR APPETITE COMPARES WITH THAT OF MOST PEOPLE YOU KNOW?

a. many times larger than most
b. much larger
c. a little larger
d. about the same
e. smaller than most

36. FEMALES ONLY. My menstrual cycles occur once a month.

a. always
b. usually
c. sometimes
d. seldom
e. never

Appendix C: Expectancy Measure in Study I

QUESTIONNAIRE 1

1. In your opinion, how well do you expect to perform on the "Verbal Ability" tasks you are about to do?

Very well 1 2 3 4 5 6 7 8 9 Very poorly

2. How sure are you of the prediction you have just made about your performance?

Very sure 1 2 3 4 5 6 7 8 9 Very unsure

3. In your opinion, how well do you expect to perform on the "Perceptual Reasoning" task you are about to do?

Very well 1 2 3 4 5 6 7 8 9 Very poorly

4. How sure are you of the prediction you have just made about your performance?

Very sure 1 2 3 4 5 6 7 8 9 Very unsure

Appendix D: Self-Assessment (Self-Efficacy) Scale

Self-Assessment Scale

1	2	3	4	5	6	7	8	9
Not At All Sure		A Little Sure		Somewhat Sure		Quite Sure		Very Sure

* * * * * * * * * * *

1.	How sure are you that you can start up a conversation with someone you don't know whom you met at a party?	1	2	3	4	5	6	7	8	9
2.	How sure are you that you could say "no" to someone when it seems that he/she is taking advantage of you?	1	2	3	4	5	6	7	8	9
3.	How sure are you that you can follow a diet to regulate your weight once you have begun a specific diet plan?	1	2	3	4	5	6	7	8	9
4.	When you don't perform as well as you know you can, how sure are you that you can continue to have confidence in yourself?	1	2	3	4	5	6	7	8	9
5.	When someone gives you a compliment about your appearance, how sure are you that you can accept it and believe that the person really means it?	1	2	3	4	5	6	7	8	9
6.	How sure are you that you can resist the urge to binge when in a stressful situation?	1	2	3	4	5	6	7	8	9
7.	How sure are you that you can handle stress in a productive way?	1	2	3	4	5	6	7	8	9
8.	When you're alone, how sure are you that you can feel good about yourself and use that time in a non-anxious manner?	1	2	3	4	5	6	7	8	9
9.	If you should gain a few pounds, how sure are you that you can continue to feel good about yourself?	1	2	3	4	5	6	7	8	9
10.	If your parents suggest that you do something you really do not want to do, how sure are you that you can resist their influence and make a decision to your own liking?	1	2	3	4	5	6	7	8	9

Appendix E: Attributions of Anagram Task Performance, Study I

Questionnaire 3

Circle the number on the scale which best describes your feelings and beliefs.

1. In your opinion, how much was your performance on the anagrams determined by your ability?

Very little 1 2 3 4 5 6 7 8 9 Very much

2. In your opinion, how much was your performance on the anagrams determined by the difficulty of the anagrams?

Very little 1 2 3 4 5 6 7 8 9 Very much

3. In your opinion, how much was your performance on the anagrams determined by how hard you tried?

Very little 1 2 3 4 5 6 7 8 9 Very much

4. In your opinion, how much was your performance on the anagrams determined by luck?

Very little 1 2 3 4 5 6 7 8 9 Very much

5. How important was it to you that you perform well on the anagram task?

Not at all 1 2 3 4 5 6 7 8 9 Very important

6. In your opinion, how much was your performance on the anagrams a good indicator of how well you will perform on other anagram solving tasks?

Not at all 1 2 3 4 5 6 7 8 9 Very much

7. In your opinion, what degree of control did you have in producing successful results on these anagrams?

No control 1 2 3 4 5 6 7 8 9 Very much control

Appendix F: Attributions of Design Task Performance, Study I

Questionnaire 4

Circle the number on the scale which best describes your feelings and beliefs.

1. In your opinion, how much was your performance on the problems determined by your ability?

Very little 1 2 3 4 5 6 7 8 9 Very much

2. In your opinion, how much was your performance on the problems determined by the difficulty of the problems?

Very little 1 2 3 4 5 6 7 8 9 Very much

3. In your opinion, how much was your performance on the problems determined by how hard you tried?

Very little 1 2 3 4 5 6 7 8 9 Very much

4. In your opinion, how much was your performance on the problems determined by luck?

Very little 1 2 3 4 5 6 7 8 9 Very much

5. How important was it to you that you perform well on the experimental task?

Not at all 1 2 3 4 5 6 7 8 9 Very important

6. In your opinion, how much was your performance on the problems a good indicator of how well you will perform on other problem solving tasks?

Not at all 1 2 3 4 5 6 7 8 9 Very much

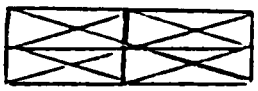
7. In your opinion, what degree of control did you have in producing successful results on these problems?

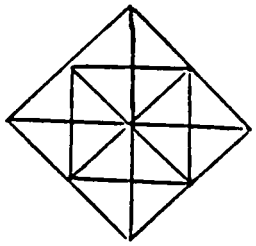
No control 1 2 3 4 5 6 7 8 9 Very much control

Appendix G: Anagrams and Designs

Condition 1: Failure

Designs 1 and 2





Anagram 1 - ALSEGT

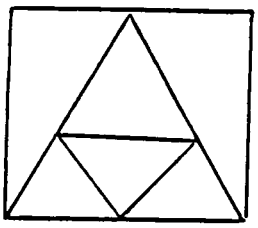
Anagram 2 - OPUSGN

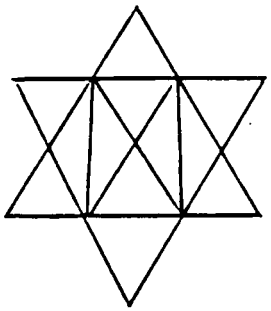
Anagram 3 - EMAGLE

Anagram 4 - FESLNI

Condition 2: Success

Designs 1 and 2





Anagram 1 - VERBLA

Anagram 2 - RFATHE

Anagram 3 - MIDDEL

Anagram 4 - ORNAGE

Appendix H: Experimental Consent Form 1

CONSENT FORM

I, _____, freely and voluntarily agree to participate in a study entitled, "Perceptual Reasoning and Verbal Ability Tasks." The procedures have been explained to me and I understand them. They are as follows:

1. I understand that I will be asked to complete a few brief questionnaires and that I will be asked to work on several perceptual reasoning tasks and tasks of verbal ability. I know that this is expected to take less than one hour and that I will be awarded one extra credit point toward my grade in Introductory Psychology upon completion of the project.

2. All information obtained from me will be held strictly confidential. In any scientific report of this project, there will be no way to identify individual participants.

3. I understand that any and all questions I may have will be answered by the experimenter upon completion of my participation.

4. I understand that I may withdraw from participation in this research without penalty. (This does not apply to the agreement to show up for scheduled research unless a 24-hour notice is given.)

5. IF APPLICABLE:

   If my research participation is scheduled after Winter quarter 1985 (e.g., early Spring quarter), I understand all of the following:

   a) My signature below indicates a pledge and contract to appear for research participation at the stated time, date, and place.

   b) I will be awarded one extra credit for this pre-scheduled participation which will be added to my Introductory Psychology course point total for the Winter quarter, even though my participation will not actually take place until the scheduled time during the Spring quarter.

   c) My signature below represents a sincere commitment after careful consideration to appear for the research as scheduled. I agree to contact Cynthia McGlone (961-6581) or Tom Ollendick (961-6451) in the event that any emergency or exterminating circumstance interfere with my attendance.

REMEMBER!

Your signature indicates your pledged agreement to return to

_____ on _____ at _____

_____	_____	_____
Signature	Date	Campus Phone #

People to contact if you have questions about this research:

Cynthia McGlone, M.S.	Thomas H. Ollendick, Ph.D.	Stephen J. Zaccaro, Ph.D.
Dept. of Psychology	Dept. of Psychology	Human Subjects Committee
961-6581	961-6451	961-7916

Appendix I: Experimental Consent Form 2

CONSENT FORM - II (Debriefing)

1. I have been informed of the true nature of the experiment entitled, "Perceptual Reasoning and Verbal Ability Tasks." Furthermore, I understand that verbal feedback given to me during the experiment was not related to my actual performance and is not a reflection of my abilities.

2. I hereby agree not to discuss the procedures and events of this experiment with other people, particularly students who are enrolled, or might become enrolled in the future, in Introductory Psychology at Virginia Tech.

_____ _____

Signature Date

Appendix J: Request for Research Volunteers

COLLEGE OF ARTS AND SCIENCES

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061

DEPARTMENT OF PSYCHOLOGY

TO: Virginia Tech Greek Organizations

FROM: Cynthia McGlone, M.S.
Ph.D. Candidate in Psychology

RE: Educational Offerings for your Organization(s)

Topics include:

Anorexia Nervosa
Bulimia Nervosa
Obesity
Compulsive Eating
Sex Roles and Eating Disorders
Social Functions, Eating, and Eating Disorders
Weight Management
Dieting and Nutrition
---and any combination of the above or related topic of your interest!

Dear Greek Leaders,

I am willing to offer you educational seminars, workshops, classes, and individually-tailored presentations to fit the needs and interests of your organization if you can provide me with volunteers for my research project on the eating patterns of college women. The volunteers must be female and currently attending college. For most volunteers, this will involve 15 minutes or less of their time; about 5-10% of the volunteers will participate for an additional 45 minutes.

Please contact me if you have interest in this. The more volunteers you can provide, the more presentations and services I can offer to you. My experience and knowledge in all of the above areas is extensive. I would be happy to speak with you about your organization and to tailor my presentations to your specific desires. Thank you.

Sincerely,

Cynthia McGlone
(evenings)
961-6581 (days)

Appendix K: Attributions of Performance, Study II

QUESTIONNAIRE 5

1. In your opinion, how much was your performance on these tasks determined by your ability?

Very little 1 2 3 4 5 6 7 8 9 Very much

2. In your opinion, how much was your performance on the tasks determined by the difficulty of the tasks?

Very little 1 2 3 4 5 6 7 8 9 Very much

3. In your opinion, how much was your performance on the tasks determined by how hard you tried?

Very little 1 2 3 4 5 6 7 8 9 Very much

4. In your opinion, how much was your performance on the tasks determined by luck?

Very little 1 2 3 4 5 6 7 8 9 Very much

5. Now that you have worked on these tasks, how important would you say it was to you that you perform well on them?

Not at all 1 2 3 4 5 6 7 8 9 Very important

6. In your opinion, how much was your performance on these tasks a good indicator of how well you will perform on other tasks like these?

Not at all 1 2 3 4 5 6 7 8 9 Very much

7. In your opinion, what degree of control did you have in producing successful results on these tasks?

No control 1 2 3 4 5 6 7 8 9 Very much control

Appendix L: Experimental Script for Study II

Procedures

Reminders:

1. Use a neutral, matter-of-fact tone of voice.
2. Defer questions about research purposes & hypotheses until after interview & debriefing.
3. Experimenter statements are in CAPITAL LETTERS; follow verbatim.
4. Follow all procedures herein scrupulously. Be especially certain procedures and feedback statements are congruent with subject's assigned group (condition 1 or condition 2).
5. With the subject's permission, audiotape the entire session when indicated.
6. For all subjects, the interview portion should be audiotaped, unless they object.
7. Equipment: digital watch, clipboard, laminated task cards, a a supply of 4" x 6" slips of tracing paper, blank notebook paper, this script, and subject's folder containing all necessary papers.

*Introduction & Initial Instructions

IN THIS STUDY WE ARE TRYING TO EXAMINE WHETHER PEOPLE WHO HAVE DIFFERENT EATING HABITS DIFFER IN THEIR ABILITY TO CONCENTRATE AND TO PERFORM ON VARIOUS TASKS. WE'VE CHOSEN SOME PERCEPTUAL TASKS IN WHICH YOU WILL BE ASKED TO TRACE OVER SOME DESIGNS, AND SOME VERBAL TASKS IN WHICH YOU WILL BE ASKED TO UNSCRAMBLE SOME JUMBLED UP WORDS (ANAGRAMS). ALL OF THESE TASKS HAVE BEEN FOUND TO BE HIGHLY RELATED TO HOW WELL STUDENTS CAN CONCENTRATE AND HOW WELL THEY SUCCEED IN THEIR COURSES AT VIRGINIA TECH. ALSO, WE WILL BE ASKING YOU TO COMPLETE SOME BRIEF QUESTIONNAIRES AS WE GO ALONG. THEY INCLUDE QUESTIONS ABOUT VARIOUS THOUGHTS AND FEELINGS THAT PEOPLE MAY HAVE AS THEY COMPLETE TASKS LIKE THESE. DO YOU HAVE ANY QUESTIONS?

PLEASE INDICATE YOUR WILLINGNESS TO PARTICIPATE IN THIS EXPERIMENT BY SIGNING THIS CONSENT FORM (Note: this is consent form I for the experiment; "contracted" subjects will have already signed this.
*For subjects contracted before 1-1-86, have them complete the Beck).
OKAY. REMEMBER YOU WILL BE WORKING ON (1) TASKS WHICH EXAMINE HOW WELL YOU CAN UNSCRAMBLE JUMBLED WORDS AND (2) HOW WELL YOU CAN SUCCESSFULLY TRACE OVER GEOMETRIC DESIGNS.

##########################time 1##################################

PLEASE FILL OUT THESE TWO QUESTIONNAIRES. THEY CONCERN HOW WELL YOU THINK YOU CAN DO ON THE TASKS I'VE TOLD YOU ABOUT, AND HOW WELL YOU THINK YOU CAN DO IN OTHER SITUATIONS.
*Administer Questionnaire 1 and 2 and label t1.

THIS IS A LIST OF WORDS WHICH DESCRIBE DIFFERENT KINDS OF MOODS AND FEELINGS. MARK A CHECK BESIDE THE WORDS WHICH DESCRIBE HOW YOU FEEL NOW. SOME OF THE WORDS MAY SOUND ALIKE, BUT I WANT YOU TO CHECK ALL THE WORDS THAT DESCRIBE YOUR FEELINGS RIGHT NOW. WORK ON THIS ONE RAPIDLY.

*Administer Questionnaire 3, Form 1.

OKAY, FINE.

NOW, UNSCRAMBLE THESE LETTERS TO FORM A COMMON ENGLISH WORD AND WRITE WRITE YOUR ANSWER ON THIS PIECE OF PAPER. YOU HAVE 2 MINUTES.

*Give student anagram 1 for her group and start timing. Continue the experiment using appropriate feedback statements as indicated in the Condition 1 or Condition 2 script > >.

For all subjects, record exact amount of time subject works on each task, and record your own observations of her behavior, i.e., their verbal statements as well as any nonverbal reactions, apparent degree of naivete, concentration, effort, responses to debriefing, etc.

Any time a subject comments or asks about filling out similar questions repeatedly, just explain that WE WANT TO KNOW HOW YOU ARE FEELING ABOUT THE QUESTIONS NOW.

Condition 1

Note: any time a condition 1 subject appears to "give up" on any task give one prompt as follows: WHY DON'T YOU GO AHEAD AND TRY

AGAIN?" and note this in your observations. If she refuses or gives up later, say: OKAY. YOU DIDN'T GET THAT ONE. LET'S GO ON TO THE NEXT ONE.

> > After subject has worked on Anagram One for 1 1/2 minutes, say:

SPEED UP. YOU HAVE 30 SECONDS LEFT.

After the 2 minutes are up, say:

WELL, YOUR TIME IS UP. SORRY ABOUT THAT.

Present Design 1 and several slips of tracing paper with the following instructions:

THIS IS PART 1 OF THE PERCEPTUAL REASONING TEST. PLEASE TRACE OVER ALL THE LINES OF THE DESIGN WITHOUT LIFTING YOUR PENCIL AND WITHOUT TRACING OVER ANY LINE TWICE. USE A NEW SLIP OF PAPER EACH TIME YOU BEGIN TRACING OR STARTING OVER. YOU CAN TRY AS MANY TIMES AS YOU LIKE, BUT YOU MUST FINISH THE DESIGN IN 4 MINUTES.

*Start timing. After 3 minutes, say:

TRY TO SPEED UP, OR YOU WON'T FINISH. YOU HAVE 1 MINUTE LEFT.

After the 4 minutes are up, say: OKAY. TIME'S UP. Put away materials.

Say:

I'M PRETTY FAMILIAR WITH THESE TESTS, AND I'LL KEEP LETTING YOU KNOW HOW YOU'RE DOING AS WE GO ALONG. SO FAR, YOU'RE NOT DOING TOO WELL. ESPECIALLY, THE TIME YOU ARE SPENDING ON THE TASKS IS UNUSUALLY LONG; IT'S ABOUT IN THE BOTTOM 10% OF STUDENTS WHO TAKE THESE TESTS. SORRY YOU'RE NOT FINDING THIS ANY EASIER. WE HAVE SEVERAL MORE OF THEM YET TO DO, HOWEVER.

NOW, IF YOU WOULD PLEASE FILL OUT THIS CHECKLIST. IT IS SIMILAR TO ONE YOU DID BEFORE, WITH A NEW LIST OF WORDS WHICH DESCRIBE DIFFERENT MOODS AND FEELINGS. AGAIN, MARK A CHECK BESIDE ALL THE

WORDS WHICH DESCRIBE HOW YOU FEEL RIGHT NOW. WORK RAPIDLY.

##########################time 2##################################

*Administer Questionnaire 3, form 2. Then say:

OKAY, NOW PLEASE FILL OUT THESE, AND THEN I'LL GIVE YOU SOME MORE TASKS TO WORK ON.

*Administer questionnaires 4, 5, and 1, in that order & label t2. Say:

OKAY, GOOD. NOW, HERE'S THE NEXT ONE. AGAIN, TRY TO UNSCRAMBLE THESE LETTERS TO FORM A COMMON ENGLISH WORD AND WRITE YOUR ANSWER ON THIS PIECE OF PAPER. YOU HAVE 3 MINUTES.

Present Anagram 2.

After 2 minutes, say:

ARE YOU CONCENTRATING? .....OKAY. YOU HAVE 1 MINUTE LEFT.

After the 3 minutes is up, say:

TIME IS UP. WE CAN PUT THIS AWAY NOW.

LET'S DO THE NEXT ONE. TRY TO UNSCRAMBLE THIS ONE; AGAIN, IT'S A COMMON ENGLISH WORD AND YOU HAVE 3 MINUTES.

Present Anagram 3.

After 2 minutes, say:

TRY AS HARD AS YOU CAN, OKAY? 1 MINUTE LEFT.

After the 3 minutes is up, say:

TIME IS UP. THAT'S STILL SCRAMBLED.

Put away anagram materials and say:

WELL, YOU'RE STILL DOING ABOUT THE SAME AS BEFORE. YOU HAVEN'T GOTTEN ANY OF THEM YET, ALTHOUGH YOU'VE BEEN SPENDING A LONG TIME ON ALL OF THEM SO FAR.

OKAY, PLEASE FILL OUT THIS CHECKLIST. IT'S ANOTHER LIST OF WORDS WHICH DESCRIBE DIFFERENT MOODS AND FEELINGS. MARK A CHECK

BESIDE ALL THE WORDS WHICH DESCRIBE HOW YOU FEEL RIGHT NOW AND WORK RAPIDLY.

##########################time 3##################################

*Administer Questionnaire 3, form 3; then say:

FINE. PLEASE FILL OUT THESE, AND THEN I'LL GIVE YOU 2 MORE TASKS TO DO.

*Administer Questionnaires 4, 5, and 1, in that order and label t3.

Present Design 2 and several new slips of tracing paper and say:

THIS IS PART 2 OF THE PERCEPTUAL REASONING TEST. JUST LIKE BEFORE, PLEASE TRACE OVER ALL THE LINES OF THE DESIGN WITHOUT LIFTING YOUR PENCIL AND WITHOUT CROSSING OVER ANY LINE TWICE. USE A NEW SLIP OF PAPER EACH TIME YOU BEGIN TRACING OR START OVER. YOU CAN TRY AS MANY TIMES AS YOU LIKE, BUT YOU MUST FINISH THE DESIGN IN 4 MINUTES.

*Start timing. After 3 minutes, say:

TRY HARDER NOW. JUST 1 MINUTE LEFT.

After the 4 minutes are up, say:

STOP NOW. THAT'S ALL THE TIME FOR THAT ONE. LET'S DO THE LAST TASK NOW. (Put away design materials). THIS IS ANOTHER ANAGRAM; ANOTHER COMMON ENGLISH WORD THAT'S JUMBLED UP. PLEASE TRY TO UNSCRAMBLE IT; YOU HAVE 2 MINUTES. (Supply paper).

Present Anagram 4.

After subject has worked on Anagram 4 for 1 1/2 minutes, say:

YOU NOW HAVE 30 SECONDS TO FINISH.

After the time is up, say:

OKAY. ALL THE TIME IS UP.

*Put all materials away and focus on S and say

WELL, THAT'S ALL OF THE TASKS. YOU DID ABOUT THE SAME ALL THE WAY THROUGH, AS YOU PROBABLY KNOW BY NOW. AS I SAID EARLIER, THIS

HAPPENS IN ABOUT 10% OR SO OF STUDENTS WHO TAKE THESE TESTS. SORRY YOU DIDN'T DO ANY BETTER.

NOW PLEASE FILL OUT THIS CHECKLIST; JUST CHECK OFF THE WORDS THAT THAT DESCRIBE YOUR FEELINGS NOW, AT THIS MOMENT AND, AGAIN, WORK RAPIDLY.

*Administer Questionnaire 3, Form 4.

##########################time 4##################################

THANK YOU. NOW, PLEASE FILL OUT THESE QUESTIONNAIRES.

*Administer questionnaires 3, 4, 5, 6, 1-Form P, and 2. Label t4.

When S has finished these questionnaires proceed to Debriefing and Interview.

Condition 2

*Note: In the unlikely event that a Condition 2 S gives up or has considerable difficulty with any of the tasks, tell her that she is doing fine and that her attempts so far are very close to the answer(s). Use extra encouragement, if necessary, to get her to continue/keep trying, but don't go conspicuously over the time limit and, even if she doesn't get one, do not give any failure feedback. I.e., say it was really good effort, really close.

> > As soon as S finishes Anagram 1, note her time and tell her:

YOU REALLY FINISHED QUICKLY. THAT'S GOOD.

Present Design 1 and several slips of tracing paper with the following instructions:

THIS IS PART 1 OF THE PERCEPTUAL REASONING TEST. PLEASE TRACE OVER ALL THE LINES OF THE DESIGN WITHOUT LIFTING YOUR PENCIL AND WITHOUT TRACING OVER ANY LINE TWICE. USE A NEW SLIP OF PAPER EACH TIME YOU BEGIN TRACING OR STARTING OVER. YOU CAN TRY AS MANY TIMES AS YOU LIKE, BUT YOU MUST FINISH THE DESIGN IN 4 MINUTES.

*Start timing.

(*Note: If S is still working after 3 minutes, tell her YOU'RE DOING A GOOD JOB.)

As soon as subject finishes Design 1, note time and say:

GREAT. YOU ARE DOING VERY WELL.

Put away materials and say:

I'M PRETTY FAMILIAR WITH THESE TESTS, AND I'LL KEEP LETTING YOU KNOW HOW YOU'RE DOING AS WE GO ALONG. SO FAR, YOU'RE DOING VERY WELL. IN FACT, THE TIME YOU ARE SPENDING ON THE TASKS IS UNUSUALLY SHORT, THAT IS, FAST. IT'S ABOUT IN THE TOP 10% OF STUDENTS WHO TAKE THESE TESTS. CONGRATULATIONS ON SCORING SO HIGH.

NOW, IF YOU WOULD PLEASE FILL OUT THIS CHECKLIST. IT IS SIMILAR TO ONE YOU DID BEFORE, WITH A NEW LIST OF WORDS WHICH DESCRIBE DIFFERENT MOODS AND FEELINGS. AGAIN, MARK A CHECK BESIDE ALL THE WORDS WHICH DESCRIBE HOW YOU FEEL RIGHT NOW. WORK RAPIDLY.

##########################time 2##################################

*Administer Questionnaire 3, form 2. Then say:

OKAY, NOW PLEASE FILL OUT THESE, AND THEN I'LL GIVE YOU SOME MORE TASKS TO WORK ON.

*Administer questionnaires 4, 5, and 1, in that order & label t2. Say:

OKAY, GOOD. NOW, HERE'S THE NEXT ONE. AGAIN, TRY TO UNSCRAMBLE THESE LETTERS TO FORM A COMMON ENGLISH WORD AND WRITE YOUR ANSWER ON THIS PIECE OF PAPER. YOU HAVE 3 MINUTES.

Present Anagram 2. As soon as subject finishes, say:

YOU ARE REALLY GOOD AT THIS.

LET'S DO THE NEXT ONE. TRY TO UNSCRAMBLE THIS ONE; AGAIN, IT'S A COMMON ENGLISH WORD AND YOU HAVE 3 MINUTES.

Present Anagram 3. As soon as subject finishes, say:

VERY GOOD.

Put away anagram materials and say:

WELL, YOU'RE STILL DOING ABOUT THE SAME AS BEFORE. YOU'VE BEEN GETTING THEM ALL SO FAR, AND YOU'VE BEEN SOLVING THEM MORE QUICKLY THAN MOST PEOPLE ARE ABLE TO.

OKAY, PLEASE FILL OUT THIS CHECKLIST. IT'S ANOTHER LIST OF WORDS WHICH DESCRIBE DIFFERENT MOODS AND FEELINGS. MARK A CHECK BESIDE ALL THE WORDS WHICH DESCRIBE HOW YOU FEEL RIGHT NOW AND WORK RAPIDLY.

##########################time 3##################################

*Administer Questionnaire 3, form 3; then say:

FINE. PLEASE FILL OUT THESE, AND THEN I'LL GIVE YOU 2 MORE TASKS TO DO.

*Administer Questionnaires 4, 5, and 1, in that order and label t3.

Present Design 2 and several new slips of tracing paper and say:

THIS IS PART 2 OF THE PERCEPTUAL REASONING TEST. JUST LIKE BEFORE, PLEASE TRACE OVER ALL THE LINES OF THE DESIGN WITHOUT LIFTING YOUR PENCIL AND WITHOUT CROSSING OVER ANY LINE TWICE. USE A NEW SLIP OF

PAPER EACH TIME YOU BEGIN TRACING OR START OVER. YOU CAN TRY AS MANY TIMES AS YOU LIKE, BUT YOU MUST FINISH THE DESIGN IN 4 MINUTES.

*Start timing. As soon as subject finishes, say:

THAT'S GREAT. LET'S DO THE LAST TASK NOW. (Put away design materials). THIS IS ANOTHER ANAGRAM; ANOTHER COMMON ENGLISH WORD THAT'S JUMBLED UP. PLEASE TRY TO UNSCRAMBLE IT; YOU HAVE 2 MINUTES. (Supply paper).

Present Anagram 4. As soon as S has finished, say:

EXCELLENT.

*Put all materials away and focus on S and say

WELL, THAT'S ALL OF THE TASKS. YOU DID ABOUT THE SAME ALL THE WAY THROUGH, AS YOU PROBABLY KNOW BY NOW. YOU SOLVED EVERY TASK IN THE EXPERIMENT, AND YOU DID THEM ALL IN EXTREMELY GOOD TIMES. AS I SAID EARLIER, ABOUT 10% OF THE STUDENTS WHO TAKE THESE TESTS ARE ABLE TO DO THIS WELL. AGAIN, CONGRATULATIONS ON SUCH HIGH SCORES.

NOW PLEASE FILL OUT THIS CHECKLIST; JUST CHECK OFF THE WORDS THAT THAT DESCRIBE YOUR FEELINGS NOW, AT THIS MOMENT AND, AGAIN, WORK RAPIDLY.

*Administer Questionnaire 3, Form 4.

##########################time 4##################################

THANK YOU. NOW, PLEASE FILL OUT THESE QUESTIONNAIRES.

*Administer questionnaires 3, 4, 5, 6, 1-Form P, and 2. Label t4.

When S has finished these questionnaires proceed to Debriefing and Interview.

Appendix M: Task Expectancy and Efficacy Measure, Study II

QUESTIONNAIRE 1

1. How well do you expect to perform on the upcoming tasks?

Very well 1 2 3 4 5 6 7 8 9 Very poorly

2. How sure are you that you can figure these tasks out and solve them successfully?

Very sure 1 2 3 4 5 6 7 8 9 Very unsure

3. How important is it to you that you perform well on these tasks?

Not at all 1 2 3 4 5 6 7 8 9 Very important

Appendix N: Expectancy for Future Performance, Study II

QUESTIONNAIRE 1

FORM P

1. If you were to be presented with tasks like these in about a month, how well would you expect to perform on them?

Very well 1 2 3 4 5 6 7 8 9 Very poorly

2. If you were to be presented with tasks like these in about a month, how sure are you that you would be able to figure them out and solve them successfully?

Very well 1 2 3 4 5 6 7 8 9 Very poorly

3. If you were to be presented with **tasks** like these in about a month, how important would it be **for you** to perform **well on them**?

Not at all 1 2 3 4 5 6 7 8 9 Very important

Appendix O: MAACL Form 1

Questionnaire 3

(Form 1)

1. ____ adventurous
2. ____ affectionate
3. ____ agitated
4. ____ aggressive
5. ____ amused
6. ____ afraid
7. ____ calm
8. ____ desperate
9. ____ cheerful
10. ____ fearful
11. ____ alone
12. ____ active
13. ____ awful
14. ____ alive
15. ____ blue
16. ____ clean
17. ____ destroyed
18. ____ enthusiastic
19. ____ discouraged
20. ____ fine
21. ____ angry
22. ____ agreeable
23. ____ bitter
24. ____ amiable
25. ____ cruel
26. ____ cooperative
27. ____ discontented
28. ____ devoted

Appendix P: MAACL Form 2

Questionnaire 3

(Form 2)

---- contented
---- frightened
---- happy
---- nervous
---- joyful
---- forlorn
---- fit
---- gloomy
---- free
---- hopeless
---- gay
---- lonely
---- glad
---- lost
---- good

16. ---- disagreeable
17. ---- good-natured
18. ---- disgusted
19. ---- kindly
20. ---- enraged
21. ---- polite
22. ---- furious
23. ---- annoyed
24. ---- bashful
25. ---- bored
26. ---- cautious
27. ---- complaining
28. ---- contrary

Appendix Q: MAACL Form 3

Questionnaire 3

(Form 3)

1. ____ low
2. ____ healthy
3. ____ miserable
4. ____ inspired
5. ____ rejected
6. ____ interested
7. ____ sad
8. ____ lucky
9. ____ suffering
10. ____ merry
11. ____ sympathetic
12. ____ irritated
13. ____ tame
14. ____ mad
15. ____ tender
16. ____ mean
17. ____ understanding
18. ____ cool
19. ____ critical
20. ____ cross
21. ____ daring
22. ____ devoted
23. ____ panicky
24. ____ loving
25. ____ shaky
26. ____ pleasant
27. ____ tense
28. ____ secure

Appendix R: MAACL Form 4

Questionnaire 3

(Form 4)

1. ____ offended
2. ____ friendly
3. ____ willful
4. ____ outraged
5. ____ stormy
6. ____ warm
7. ____ unsociable
8. ____ vexed
9. ____ displeased
10. ____ energetic
11. ____ frank
12. ____ gentle
13. ____ grim
14. ____ terrified
15. ____ steady
16. ____ upset
17. ____ thoughtful
18. ____ worrying
19. ____ sunk
20. ____ peaceful
21. ____ terrible
22. ____ safe
23. ____ tormented
24. ____ strong
25. ____ unhappy
26. ____ whole
27. ____ wilted
28. ____ young

Appendix S: Performance Satisfaction Measure, Study II

QUESTIONNAIRE 4

1. How difficult did you find the problems that you just worked on?

1	2	3	4	5	6	7	8	9
very difficult				somewhat difficult				not at all difficult

2. How well do you feel you did on the problems that you just worked on?

1	2	3	4	5	6	7	8	9
not at all well								very well

3. How satisfied are you with your performance on the problems that you just worked on?

1	2	3	4	5	6	7	8	9
not at all satisfied				somewhat satisfied				very satisfied

Appendix T: Self-statements Measure, Study II

QUESTIONNAIRE 6

1	2	3	4	5	6	7	8	9
NEVER		HARDLY EVER		SOMETIMES		OFTEN		VERY OFTEN

Using the rating scale above, please indicate how often during the various tasks in the experiment that each of the thoughts listed below occurred to you.

1. I was thinking that I should try harder.
2. I was thinking that the experimenter must think I'm stupid.
3. I was thinking that I want to eat.
4. I was thinking that I feel competent.
5. I was thinking that I'm doing well.
6. I was thinking that I feel ugly.
7. I was thinking that I like doing these problems.
8. I was thinking that I feel fat.
9. I was thinking about other ways to solve the problems.
10. I was thinking that I don't feel good about the way I look.

Appendix U: Post Experiment Questions, Study II

Post-Experiment Assessment Questions

1. On a scale of 1 to 9, how important is it to you that you do well in college and get good grades?

   1 = Not at all important; 9 = Very, very important

2. On the same scale of 1 to 9, how important is it yo you that your family and friends approve of you and your accomplishments?

3. On the same scale of 1 to 9, how important is it to you that your phsycial appearance is attractive to members of the opposite sex?

4. Using the same scale and being very honest, how important was it to you, overall, that you do well on the tasks in the experiment?

5. Do you generally feel that you are a good student?

   1 = Very much a good student; 9 = Not at all a good student

6. Remember, all of this is strictly confidential.

   What is your current grade point average (QCA) ?

7. Are you satisfied with this grade point average (QCA) ?
8. What would you consider to be your ideal QCA?
9. How sure are you that you can acheive (or maintain) your ideal QCA?

Appendix V: Interview Questions, Study II

Interview Questions and Format

The very last part of this experiement is an interview about eating patterns. The questions will be similar to those you answered in the Eating Survey. Based on responses from that survey, we chose a wide range of students, including some who are very concerned about their eating patterns and weight as well as some who expressed no concern at all in these areas. For this research, these interviews are usually tape-recorded. No names or any other identifying information will be mentioned in any way while we are recording. While all aspects of this research are strictly confidential, I would like to emphasize to you again that these interviews are absolutley confidential and the recordings are anonymous. The tape recordings will be listened to by 1 or 2 independent raters who will not know who you are, and then the tapes will be erased.
You can decline to answer any questions you choose to.

Is this alright with you?

May I turn the tape recorder on and begin?

BINGE EPISODES

The first area is about binge eating. Do you ever eat a very large amount of food in a pretty short time, such as two hours or less?

IF NO:

Do you feel that you overindulge in eating sometimes? (If yes, continue below, as indicated. If no, go to DIETING AND WEIGHT CONTROL.)

IF YES:

Could you tell me what you eat and how much you would eat when you binge? Please be as specific as you can, because different people mean different things when they say that they binge (prompts continued as indicated, i.e., and how much of that, and what else, and what else, would that be it, etc.).

How often would you say you eat like that?

(i.e., per day, week, or month).

How long do you usually spend eating like that on one occasion (20 minutes, 2 hours, the whole evening) ?

In general, are there certain foods that you

tend to binge on more than others? What are they? Any others? Are there certain foods you would not binge on?

Where are you when you binge eat, usually? With other people or by yourself?

Do you usually feel full from binge eating to the point where your abdomen hurts (sometimes, rarely) ?

Do you ever feel sleepy or go to sleep after binge eating (usually, sometimes, rarely) ?

If someone called you or dropped in while you were eating this way, would you stop eating? (If yes, and if that did happen, then would you go back to eating after they hung up or left?)

Have you ever self-induced vomiting for any reason? (If yes - how often have you purposely vomited after eating to control weight and/or to relieve fullness? Have you done this recently? If habitual - would you say that the vomiting is mostly for the purpose of weight control? When did you begin doing this?)

DIETING AND WEIGHT CONTROL

How often would you say you've gone on a strict diet or a crash diet in the past 2 years (describe other dieting,

if present)?

How about in the past year?

How long do your diets usually last (#days, #weeks) ?

Can you describe what your diets typically are? What would you eat in one day while on a diet?

Have you ever used laxatives to control your weight?

Are you using these currently? How often have you used them? When did you begin using them?

Have you ever used water pills/diuretics/diet pills to control your weight?

Are you using these currently? How often have you used them? When did you begin using them?

WEIGHT FLUCTUATION

Have you gained or lost more than 10 pounds in the last few years? (If no, ask about 5 to 10 pounds)

How many times have you lost/gained this much weight in the int the past 3 years? How many times in the past year?

How did/do these gains and losses come about (how did you lose/gain the weight?)

What is the maximum amount of weight you have lost, ever? When and why did this happen? Did you go to a doctor about the weight loss? (Did your parents or other family members want you to go to a doctor?) If so, what

did the doctor say/recommend?

ATTITUDES AND FEELINGS

Compared to other people in college, would you say that your pattern of eating is pretty much the same as their pattern, or different?

In terms of the larger adult population in the U. S., would you say that the way you eat is normal or abnormal?

Are you satisfied with your current patterns of eating?

Are you distressed by your current patterns of eating? What would have to change in order for you to feel satisfied with your patterns of eating?

Are you satisfied with your current weight?

What do you consider to be your ideal weight?

Do you ever feel that your eating is out of control?

Do you think that you will binge eat in the future?

Do you ever fear not being able to stop eating voluntarily?

Are you ever depressed or do you feel bad about yourself after you have binged? If so, what might you think to

yourself then? How often do you feel this way?

(If admitted to several bulimic symptoms —), How concerned are you about your eating patterns (i. e., a little, somewhat, very much)?

Do you have any physical/medical problems that you know about which might affect your eating or weight, i. e., hypoglycemia, diabetes?

Finally, what is your current height and weight?

Thank you very much for your help (tape recorder turned off).

Referral information is discussed at this point, if appropriate, and the student is given the opportunity to ask the researcher any questions that she might have.

Appendix W: Interview Ratings Sheet, Study II

INTERVIEW RATING SHEET Rater _____

Subject # _____

1) Binge eating frequency
   a) 3-6 times a week
   b) Once or twice a week
   c) 2-3 times a month
   d) Once a month or less
   e) Never

2) Dieting frequency
   a) More than 5 times in the past year
   b) 4-5 times in the past year
   c) 2-3 times in the past year
   d) Once in the past year
   e) Not in the past year

3) Vomiting frequency
   a) 2 or more times a week
   b) Once a week
   c) 2-3 times a month
   d) Once a month
   e) Less than once a month
   f) Never

3) Laxative/Diuretic use (circle)
   a) Once a day or more
   b) 3-6 times a week
   c) Once or twice a week
   d) 2-3 times a month
   e) Once a month or less
   f) Never

Bulimic (check all that apply)

_____ A. Recurrent episodes of binge eating (rapid consumption of a large amount of food in a discrete period of time, usually less than two hours).

_____ B. At least three of the following:

_____ 1. Consumption of high-caloric, easily digestible food during a bing

_____ 2. Inconspicuous eating during a binge.

_____ 3. Termination of such eating episodes by abdominal pain, sleep, social interuption, or self-induced vomiting.

_____ 4. Repeated attempts to lose weight by severely restrictive diets, self-induced vomiting, or use of cathartics or diuretics.

_____ 5. Frequent weight fluctuations greater than ten pounds due to alternating binges and fasts.

_____ C. Awareness that this eating pattern is abnormal and fear of not being able to stop eating voluntarily.

_____ D. Depressed mood and self-deprecating thoughts following eating binges.

_____ E. No history of anorexia nervosa or any known physical disorder.

Notes:

Binge eating

_____ A. Binge eating with a frequency of at least 2-3 times per month.

_____ B. Dieting with a frequency of not more than 5 times in the past year.

_____ C. Use of Vomiting, Laxatives, and Diuretics with a frequency of once a month or less (or never)

Control- same criteria as above but also binge eating less than once a month.

Appendix X: Brochure

ARE YOU FAMILIAR WITH ANOREXIA NERVOSA OR BULIMIA?

• An illness that effects all ages (female and male), but is more prevalent among young women. • Characterized by food obsession, binging, vomiting, self-starvation or purging to achieve severe weight loss or maintain normal weight. • Effects can be life-long or fatal.

SYMPTOMS

Note: Not all victims display all symptoms

- Abnormal weight loss
- Refusal to eat, except for tiny portions
- Binge eating
- Vomiting
- Abuse of laxatives, diuretics, emetics or diet pills
- Denial of hunger
- Excessive exercise
- Distorted body image: see themselves as fat though actually thin
- Depression
- Preoccupation with food
- Absent or irregular menstruation in women

Early detection is vital! This problem can be cured if you suspect this problem, contact ANAD or health professionals in your area.

If they are not familiar with anorexia or bulimia, invite them to write or call ANAD.

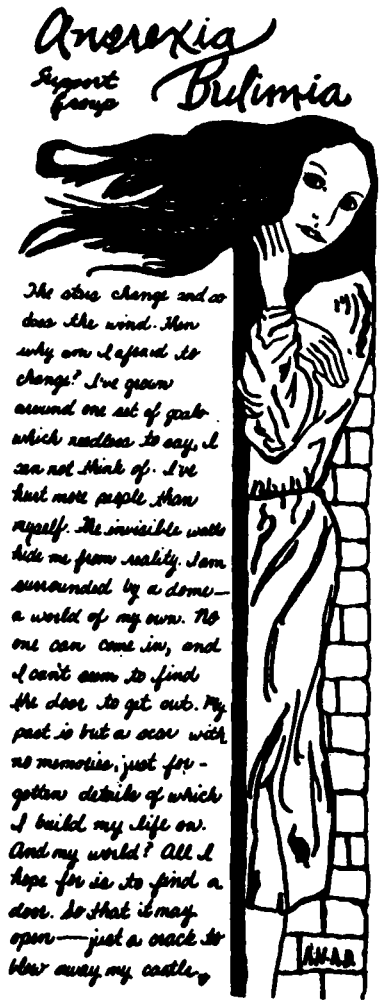
For free information and help nationwide on eating disorders contact:

ANAD
Box 271
Highland Park, IL 60035
(312) 831-3438

NON PROFIT ORG.
U.S. POSTAGE PAID
VERNETTA, IL 60085
PERMIT NO. 49

ANAD

BOX 271
HIGHLAND PARK, ILLINOIS 60035



Appendix Y: Treatment Information

BULIMIA

THE BINGE-PURGE SYNDROME

IF ITS HAPPENING TO YOU OR
SOMEONE YOU KNOW . . .

We Can Help

SERVICES INCLUDE:

individual counseling
support groups
information and referral

UNIVERSITY COUNSELING SERVICES
152 HENDERSON HALL
VA. TECH

Appendix Z: Means for All Variables in Study I

Overall Means of All Variables in Study I (n = 40)

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
AGE	18.725	1.062	17.000	23.000
HEIGHT	65.150	2.471	58.000	70.000
LBS	133.025	18.788	103.000	190.000
EXPECTA	7.975	2.537	3.000	15.000
EXPECTB	10.200	4.158	3.000	18.000
EXPECTC	9.692	4.508	2.000	18.000
CERTAINA	8.375	3.372	2.000	15.000
CERTAINB	8.875	3.539	3.000	16.000
CERTAINC	7.564	3.691	2.000	16.000
EXPECTAB	-2.225	4.203	-10.000	8.000
EXPECTBC	0.641	4.410	-8.000	10.000
EXPECTAC	-1.590	4.988	-12.000	6.000

CERTANAB	-0.500	3.883	-9.000	6.000
CERTANBC	1.436	3.851	-6.000	12.000
CERTANAC	0.923	4.035	-10.000	7.000
SUMXPECT	53.179	14.034	19.000	77.000
ATEM1	6.250	1.850	2.000	9.000
AITEM2	6.725	1.894	2.000	9.000
AITEM3	4.475	1.987	1.000	9.000
AITEM4	5.425	1.852	1.000	9.000
AITEM5	6.350	1.528	3.000	9.000
AITEM6	4.575	2.099	1.000	9.000
AITEM7	5.325	1.789	1.000	9.000
AITEM8	6.025	1.915	1.000	9.000
AITEM9	4.775	2.154	1.000	9.000
AITEM10	6.675	1.789	2.000	9.000
ASUM	56.600	11.531	34.000	81.000
WTCNCERA	13.825	4.793	4.000	24.000
COPSTRSA	10.750	3.326	2.000	18.000
BITEM1	6.525	1.739	3.000	9.000
BITEM2	6.675	1.913	2.000	9.000
BITEM3	4.625	2.192	1.000	9.000
BITEM4	5.550	1.853	1.000	9.000
BITEM5	6.575	1.375	3.000	9.000
BITEM6	4.675	1.992	1.000	9.000
BITEM7	5.325	1.940	1.000	9.000
BITEM8	5.800	1.937	1.000	9.000
BITEM9	4.850	2.202	1.000	9.000
BITEM10	6.600	1.766	2.000	9.000
BSUM	57.200	11.990	32.000	81.000

WTCNCERB	14.150	5.162	3.000	24.000
COPSTRSB	10.875	3.376	4.000	18.000
CITEM1	6.564	1.789	3.000	9.000
CITEM2	6.949	1.905	2.000	9.000
CITEM3	4.667	2.240	1.000	9.000
CITEM4	5.590	2.099	1.000	9.000
CITEM5	6.487	1.374	3.000	9.000
CITEM6	4.795	2.273	1.000	9.000
CITEM7	5.487	1.819	1.000	9.000
CITEM8	5.923	1.952	1.000	9.000
CITEM9	4.897	2.186	1.000	9.000
CITEM10	6.615	1.801	2.000	9.000
CSUM	57.974	12.332	31.000	81.000
WTCNCERC	14.359	5.494	3.000	24.000
COPSTRSC	11.077	3.659	2.000	18.000

Overall Means of All Variables in Study I (n = 40)

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
INT3B	10.500	3.449	2.000	18.000
EXT3B	9.050	2.801	3.000	14.000
GEN3B	5.250	2.048	1.000	9.000
CON3B	5.600	2.351	1.000	9.000
IMP3B	6.075	2.526	1.000	9.000
INT4B	11.675	3.518	5.000	18.000
EXT4B	9.250	3.201	2.000	15.000
GEN4B	4.950	2.241	1.000	9.000

CON4B	5.600	2.479	1.000	9.000
IMP4B	6.175	2.374	1.000	9.000
INT3C	10.154	4.289	2.000	18.000
EXT3C	9.615	2.347	5.000	15.000
GEN3C	5.667	2.228	1.000	9.000
CON3C	5.385	2.267	1.000	9.000
IMP3C	6.000	2.384	1.000	9.000
INT4C	10.769	4.189	2.000	18.000
EXT4C	9.538	2.846	3.000	16.000
GEN4C	5.410	2.245	1.000	9.000
CON4C	5.359	2.323	1.000	9.000
IMP4C	5.949	2.564	1.000	9.000
PERC1	8.900	6.883	1.000	23.000
PERC2	10.325	8.830	1.000	27.000
STABB	23.325	5.451	14.000	36.000
STABC	23.718	6.370	9.000	36.000
TRANB	17.150	7.102	4.000	31.000
TRANC	16.359	6.179	4.000	28.000
ACTUALWT	137.150	19.421	115.000	209.000
PERCTOL	19.225	15.256	3.000	50.000
SELFSUM	171.359	35.489	97.000	243.000
MEANSUM	57.120	11.830	32.333	81.000
SELFAB	-0.600	3.257	-7.000	5.000
SELFAC	-1.513	3.899	-11.000	4.000
SELFBC	-1.051	3.418	-14.000	6.000
WTCNCEAB	-0.325	1.439	-4.000	2.000
WTCNCEAC	-0.487	1.684	-6.000	2.000
WTCNCEBC	-0.256	1.093	-3.000	2.000

COPSTRAB	-0.125	1.539	-3.000	3.000
COPSTRAC	-0.308	1.608	-3.000	3.000
COPSTRBC	-0.231	1.630	-5.000	4.000
INTB	22.175	6.488	9.000	36.000
INTC	20.923	8.263	4.000	36.000
IMPB	12.250	4.840	2.000	18.000
IMPC	11.949	4.925	2.000	18.000
GENB	10.200	3.770	2.000	16.000
GENC	11.077	3.996	2.000	17.000
EXTB	18.300	5.534	5.000	28.000
EXTC	19.154	4.982	8.000	30.000
ATRIBSUM	72.974	33.939	11.000	133.000

Appendix AA: Means for All Variables in Study I for Bulimics and Controls

Means of All Variables in Study I for Bulimics and Controls

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- DIAGNOSI = BU ----------				
AGE	19.100	1.334	17.000	23.000
HEIGHT	65.250	2.308	62.000	70.000
LBS	134.250	18.623	105.000	175.000
EXPECTA	7.900	3.161	3.000	15.000
EXPECTB	9.400	4.394	3.000	17.000
EXPECTC	8.737	4.134	2.000	16.000
CERTAINA	7.300	3.827	2.000	15.000
CERTAINB	9.000	4.155	3.000	16.000

CERTAINC	7.579	3.920	2.000	15.000
EXPECTAB	-1.500	4.072	-8.000	8.000
EXPECTBC	0.895	3.446	-8.000	6.000
EXPECTAC	-0.579	3.863	-9.000	6.000
CERTANAB	-1.700	3.908	-9.000	4.000
CERTANBC	1.684	3.959	-6.000	12.000
CERTANAC	-0.105	3.957	-10.000	7.000
SUMXPECT	50.842	17.746	19.000	77.000
ATEM1	6.450	1.905	3.000	9.000
AITEM2	6.550	2.064	2.000	9.000
AITEM3	4.250	2.221	1.000	9.000
AITEM4	4.800	1.824	1.000	8.000
AITEM5	6.350	1.565	3.000	9.000
AITEM6	3.400	1.789	1.000	7.000
AITEM7	4.650	1.565	1.000	8.000
AITEM8	5.250	1.916	1.000	8.000
AITEM9	3.600	1.698	1.000	7.000
AITEM10	6.400	1.847	3.000	9.000
ASUM	51.700	10.613	34.000	70.000
WTCNCERA	11.250	4.128	4.000	20.000
COPSTRSA	9.450	3.000	2.000	14.000
BITEM1	6.650	1.899	3.000	9.000
BITEM2	6.450	2.114	2.000	9.000
BITEM3	4.300	2.364	1.000	9.000
BITEM4	5.050	1.669	2.000	8.000
BITEM5	6.600	1.353	4.000	9.000
BITEM6	3.700	1.720	1.000	7.000
BITEM7	4.650	1.599	1.000	8.000

BITEM8	5.200	1.989	1.000	9.000
BITEM9	3.650	1.785	1.000	7.000
BITEM10	6.500	1.638	4.000	9.000
BSUM	52.750	11.026	32.000	70.000
WTCNCERB	11.650	4.626	3.000	20.000
COPSTRSB	9.700	2.736	4.000	14.000
CITEM1	6.684	1.974	3.000	9.000
CITEM2	6.789	2.200	2.000	9.000
CITEM3	4.263	2.423	1.000	9.000
CITEM4	5.053	2.172	1.000	8.000
CITEM5	6.421	1.261	4.000	8.000
CITEM6	3.789	2.070	1.000	8.000
CITEM7	4.789	1.475	1.000	7.000
CITEM8	5.105	1.941	1.000	8.000
CITEM9	3.684	1.887	1.000	7.000
CITEM10	6.632	1.739	4.000	9.000
CSUM	53.211	11.545	31.000	76.000

Means of All Variables in Study I for Bulimics and Controls

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- DIAGNOSI = BU ----------				
WTCNCERC	11.737	5.054	3.000	22.000
COPSTRSC	9.842	3.420	2.000	14.000
INT3B	10.100	4.025	2.000	18.000
EXT3B	8.500	2.875	3.000	14.000

GEN3B	5.550	2.259	1.000	9.000
CON3B	6.100	2.125	2.000	9.000
IMP3B	5.800	2.802	1.000	9.000
INT4B	11.450	3.993	5.000	18.000
EXT4B	8.750	3.596	2.000	13.000
GEN4B	5.250	2.425	1.000	9.000
CON4B	5.650	2.601	1.000	9.000
IMP4B	6.000	2.492	1.000	9.000
INT3C	10.105	4.630	3.000	18.000
EXT3C	8.947	2.068	6.000	14.000
GEN3C	5.842	2.340	1.000	9.000
CON3C	5.632	2.216	2.000	9.000
IMP3C	6.158	2.387	2.000	9.000
INT4C	10.895	4.618	4.000	18.000
EXT4C	8.684	2.311	3.000	14.000
GEN4C	5.368	2.477	1.000	9.000
CON4C	5.684	2.311	2.000	9.000
IMP4C	6.158	2.544	2.000	9.000
PERC1	8.700	6.522	1.000	21.000
PERC2	9.600	7.910	1.000	24.000
STABB	22.350	4.826	16.000	36.000
STABC	23.316	7.402	9.000	36.000
TRANB	16.450	7.045	4.000	27.000
TRANC	15.316	5.812	4.000	25.000
ACTUALWT	134.694	14.009	115.750	161.000
PERCTOL	18.300	13.819	3.000	40.000
SELFSUM	156.316	32.069	97.000	216.000
MEANSUM	52.105	10.690	32.333	72.000

SELFAB	-1.050	3.471	-7.000	5.000
SELFAC	-2.053	4.648	-11.000	4.000
SELFBC	-1.263	4.556	-14.000	6.000
WTCNCEAB	-0.400	1.465	-4.000	1.000
WTCNCEAC	-0.526	1.577	-4.000	2.000
WTCNCEBC	-0.316	1.204	-3.000	2.000
COPSTRAB	-0.250	1.650	-3.000	3.000
COPSTRAC	-0.421	1.895	-3.000	3.000
COPSTRBC	-0.263	2.130	-5.000	4.000
INTB	21.550	7.430	9.000	36.000
INTC	21.000	9.043	8.000	36.000
IMPB	11.800	5.217	2.000	18.000
IMPC	12.316	4.911	4.000	18.000
GENB	10.800	4.112	2.000	16.000
GENC	11.211	4.263	3.000	17.000
EXTB	17.250	5.730	5.000	27.000
EXTC	17.632	4.112	9.000	28.000
ATRIBSUM	76.737	35.416	16.000	133.000

Means of All Variables in Study I for Bulimics and Controls

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- DIAGNOSI = NO ----------				
AGE	18.350	0.489	18.000	19.000
HEIGHT	65.050	2.680	58.000	70.000
LBS	131.800	19.354	103.000	190.000

EXPECTA	8.050	1.791	5.000	11.000
EXPECTB	11.000	3.853	5.000	18.000
EXPECTC	10.600	4.762	3.000	18.000
CERTAINA	9.450	2.502	4.000	14.000
CERTAINB	8.750	2.900	4.000	16.000
CERTAINC	7.550	3.561	2.000	16.000
EXPECTAB	-2.950	4.310	-10.000	4.000
EXPECTBC	0.400	5.246	-8.000	10.000
EXPECTAC	-2.550	5.799	-12.000	6.000
CERTANAB	0.700	3.556	-6.000	6.000
CERTANBC	1.200	3.833	-6.000	10.000
CERTANAC	1.900	3.959	-6.000	7.000
SUMXPECT	55.400	9.213	36.000	74.000
ATEM1	6.050	1.820	2.000	9.000
AITEM2	6.900	1.744	2.000	9.000
AITEM3	4.700	1.750	1.000	8.000
AITEM4	6.050	1.701	3.000	9.000
AITEM5	6.350	1.531	3.000	9.000
AITEM6	5.750	1.713	3.000	9.000
AITEM7	6.000	1.777	2.000	9.000
AITEM8	6.800	1.609	3.000	9.000
AITEM9	5.950	1.932	3.000	9.000
AITEM10	6.950	1.731	2.000	9.000
ASUM	61.500	10.476	44.000	81.000
WTCNCERA	16.400	4.018	7.000	24.000
COPSTRSA	12.050	3.187	5.000	18.000
BITEM1	6.400	1.603	3.000	9.000
BITEM2	6.900	1.714	3.000	9.000

BITEM3	4.950	2.012	1.000	8.000
BITEM4	6.050	1.932	1.000	9.000
BITEM5	6.550	1.432	3.000	9.000
BITEM6	5.650	1.785	2.000	9.000
BITEM7	6.000	2.052	2.000	9.000
BITEM8	6.400	1.729	3.000	9.000
BITEM9	6.050	1.932	2.000	9.000
BITEM10	6.700	1.922	2.000	9.000
BSUM	61.650	11.481	41.000	81.000
WTCNCERB	16.650	4.487	6.000	24.000
COPSTRSB	12.050	3.605	6.000	18.000
CITEM1	6.450	1.638	3.000	9.000
CITEM2	7.100	1.619	3.000	9.000
CITEM3	5.050	2.038	1.000	8.000
CITEM4	6.100	1.944	2.000	9.000
CITEM5	6.550	1.504	3.000	9.000
CITEM6	5.750	2.074	1.000	9.000
CITEM7	6.150	1.899	2.000	9.000
CITEM8	6.700	1.658	3.000	9.000
CITEM9	6.050	1.820	3.000	9.000
CITEM10	6.600	1.903	2.000	9.000
CSUM	62.500	11.560	42.000	81.000

Means of All Variables in Study I for Bulimics and Controls

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE

---------- DIAGNOSI = NO ----------

WTCNCERC	16.850	4.771	5.000	24.000
COPSTRSC	12.250	3.567	5.000	18.000
INT3B	10.900	2.808	5.000	15.000
EXT3B	9.600	2.683	5.000	14.000
GEN3B	4.950	1.820	1.000	8.000
CON3B	5.100	2.511	1.000	9.000
IMP3B	6.350	2.254	1.000	9.000
INT4B	11.900	3.059	5.000	17.000
EXT4B	9.750	2.751	4.000	15.000
GEN4B	4.650	2.059	1.000	8.000
CON4B	5.550	2.417	1.000	9.000
IMP4B	6.350	2.300	1.000	9.000
INT3C	10.200	4.060	2.000	16.000
EXT3C	10.250	2.468	5.000	15.000
GEN3C	5.500	2.164	1.000	8.000
CON3C	5.150	2.346	1.000	9.000
IMP3C	5.850	2.434	1.000	9.000
INT4C	10.650	3.856	2.000	16.000
EXT4C	10.350	3.117	3.000	16.000
GEN4C	5.450	2.064	1.000	8.000
CON4C	5.050	2.350	1.000	8.000
IMP4C	5.750	2.633	1.000	9.000
PERC1	9.100	7.391	1.000	23.000
PERC2	11.050	9.817	1.000	27.000
STABB	24.300	5.975	14.000	36.000
STABC	24.100	5.379	15.000	32.000
TRANB	17.850	7.271	4.000	31.000

TRANC	17.350	6.499	4.000	28.000
ACTUALWT	138.451	22.046	115.000	209.000
PERCTOL	20.150	16.881	3.000	50.000
SELFSUM	185.650	33.216	128.000	243.000
MEANSUM	61.883	11.072	42.667	81.000
SELFAB	-0.150	3.048	-7.000	5.000
SELFAC	-1.000	3.061	-7.000	4.000
SELFBC	-0.850	1.899	-5.000	3.000
WTCNCEAB	-0.250	1.446	-4.000	2.000
WTCNCEAC	-0.450	1.820	-6.000	2.000
WTCNCEBC	-0.200	1.005	-2.000	1.000
COPSTRAB	0.000	1.451	-2.000	3.000
COPSTRAC	-0.200	1.322	-2.000	2.000
COPSTRBC	-0.200	1.005	-2.000	2.000
INTB	22.800	5.512	10.000	32.000
INTC	20.850	7.686	4.000	32.000
IMPB	12.700	4.520	2.000	18.000
IMPC	11.600	5.041	2.000	18.000
GENB	9.600	3.393	4.000	16.000
GENC	10.950	3.832	2.000	16.000
EXTB	19.350	5.264	9.000	28.000
EXTC	20.600	5.394	8.000	30.000
ATRIBSUM	69.400	32.982	11.000	126.000

Appendix BB: Means for All Variables in Study I for Success and Failure Groups

Means of All Variables in Study I for Success and Failure Groups

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- TASKGRP=FAIL ----------				
AGE	18.850	1.348	17.000	23.000
HEIGHT	65.100	1.781	62.000	68.000
LBS	131.550	18.715	105.000	190.000
EXPECTA	7.950	2.665	5.000	15.000
EXPECTB	12.500	3.620	6.000	18.000
EXPECTC	13.050	3.034	8.000	18.000
CERTAINA	8.250	2.789	2.000	14.000
CERTAINB	10.200	3.592	4.000	16.000

CERTAINC	8.850	4.368	2.000	16.000
EXPECTAB	-4.550	4.310	-10.000	8.000
EXPECTBC	-0.550	4.763	-8.000	9.000
EXPECTAC	-5.100	3.796	-12.000	0.000
CERTANAB	-1.950	4.084	-9.000	4.000
CERTANBC	1.350	4.880	-6.000	12.000
CERTANAC	-0.600	4.235	-10.000	5.000
SUMXPECT	60.800	9.512	42.000	77.000
ATEM1	6.450	1.959	3.000	9.000
AITEM2	6.900	2.174	2.000	9.000
AITEM3	4.500	2.115	1.000	8.000
AITEM4	5.150	2.059	1.000	9.000
AITEM5	6.100	1.518	3.000	9.000
AITEM6	4.550	1.959	1.000	8.000
AITEM7	5.100	2.024	1.000	9.000
AITEM8	5.950	1.791	1.000	9.000
AITEM9	4.600	2.162	1.000	9.000
AITEM10	6.450	1.731	3.000	9.000
ASUM	55.750	12.698	34.000	81.000
WTCNCERA	13.650	5.194	4.000	24.000
COPSTRSA	10.250	3.945	2.000	18.000
BITEM1	6.750	1.916	3.000	9.000
BITEM2	6.800	2.215	3.000	9.000
BITEM3	4.250	2.268	1.000	8.000
BITEM4	4.850	2.110	1.000	9.000
BITEM5	6.350	1.424	3.000	9.000
BITEM6	4.550	1.905	1.000	8.000
BITEM7	4.900	2.049	1.000	9.000

BITEM8	5.450	1.986	1.000	9.000
BITEM9	4.500	2.259	1.000	9.000
BITEM10	6.450	1.605	4.000	9.000
BSUM	54.850	13.319	32.000	81.000
WTCNCERB	13.300	5.555	3.000	24.000
COPSTRSB	9.750	3.754	4.000	18.000
CITEM1	6.600	2.037	3.000	9.000
CITEM2	7.000	2.271	3.000	9.000
CITEM3	4.350	2.231	1.000	8.000
CITEM4	5.150	2.323	1.000	9.000
CITEM5	6.300	1.490	3.000	9.000
CITEM6	4.500	2.115	1.000	8.000
CITEM7	5.050	2.012	1.000	9.000
CITEM8	5.700	1.922	1.000	8.000
CITEM9	4.450	2.259	1.000	9.000
CITEM10	6.500	1.670	4.000	9.000
CSUM	55.600	13.355	31.000	81.000

Means of All Variables in Study I for Success and Failure Groups

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- TASKGRP=FAIL ----------				
WTCNCERC	13.300	5.841	3.000	24.000
COPSTRSC	10.200	4.034	2.000	18.000
INT3B	8.600	3.315	2.000	18.000
EXT3B	8.950	2.874	3.000	14.000

GEN3B	4.550	2.305	1.000	9.000
CON3B	4.150	2.323	1.000	9.000
IMP3B	4.850	2.700	1.000	9.000
INT4B	9.900	3.538	5.000	18.000
EXT4B	9.250	3.291	2.000	13.000
GEN4B	3.850	2.207	1.000	8.000
CON4B	4.100	2.511	1.000	9.000
IMP4B	5.050	2.481	1.000	9.000
INT3C	7.100	2.827	2.000	14.000
EXT3C	9.550	2.625	5.000	15.000
GEN3C	4.550	2.523	1.000	9.000
CON3C	3.950	2.012	1.000	9.000
IMP3C	4.750	2.552	1.000	9.000
INT4C	7.950	3.300	2.000	16.000
EXT4C	9.100	3.042	3.000	15.000
GEN4C	3.900	2.100	1.000	7.000
CON4C	3.800	2.093	1.000	9.000
IMP4C	4.500	2.666	1.000	9.000
PERC1	15.050	3.471	8.000	23.000
PERC2	18.350	4.671	9.000	27.000
STABB	21.750	5.379	14.000	36.000
STABC	20.150	6.089	9.000	36.000
TRANB	14.950	7.294	4.000	28.000
TRANC	13.550	6.160	4.000	25.000
ACTUALWT	139.474	23.585	115.750	209.000
PERCTOL	33.400	7.007	21.000	50.000
SELFSUM	166.200	38.929	97.000	243.000
MEANSUM	55.400	12.976	32.333	81.000

SELFAB	0.900	2.673	-5.000	5.000
SELFAC	0.150	3.528	-9.000	4.000
SELFBC	-0.750	3.998	-14.000	6.000
WTCNCEAB	0.350	1.089	-2.000	2.000
WTCNCEAC	0.350	1.089	-2.000	2.000
WTCNCEBC	0.000	1.026	-2.000	2.000
COPSTRAB	0.500	1.606	-3.000	3.000
COPSTRAC	0.050	1.701	-3.000	3.000
COPSTRBC	-0.450	1.701	-5.000	3.000
INTB	18.500	6.253	9.000	36.000
INTC	15.050	5.808	4.000	28.000
IMPB	9.900	5.119	2.000	18.000
IMPC	9.250	5.190	2.000	18.000
GENB	8.400	3.831	2.000	16.000
GENC	8.450	3.748	2.000	14.000
EXTB	18.200	5.863	5.000	27.000
EXTC	18.650	5.499	8.000	30.000
ATRIBSUM	48.700	24.604	11.000	98.000

Means of All Variables in Study I for Success and Failure Groups

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- TASKGRP=SUCC ----------				
AGE	18.600	0.681	18.000	20.000
HEIGHT	65.200	3.058	58.000	70.000
LBS	134.500	19.229	103.000	175.000

EXPECTA	8.000	2.471	3.000	13.000
EXPECTB	7.900	3.354	3.000	14.000
EXPECTC	6.158	2.734	2.000	14.000
CERTAINA	8.500	3.940	2.000	15.000
CERTAINB	7.550	3.017	3.000	14.000
CERTAINC	6.211	2.200	2.000	10.000
EXPECTAB	0.100	2.511	-6.000	5.000
EXPECTBC	1.895	3.725	-8.000	10.000
EXPECTAC	2.105	3.035	-7.000	6.000
CERTANAB	0.950	3.137	-6.000	6.000
CERTANBC	1.526	2.480	-3.000	8.000
CERTANAC	2.526	3.186	-6.000	7.000
SUMXPECT	45.158	13.704	19.000	66.000
ATEM1	6.050	1.761	2.000	8.000
AITEM2	6.550	1.605	2.000	9.000
AITEM3	4.450	1.905	1.000	9.000
AITEM4	5.700	1.625	3.000	8.000
AITEM5	6.600	1.536	3.000	9.000
AITEM6	4.600	2.280	1.000	9.000
AITEM7	5.550	1.538	3.000	8.000
AITEM8	6.100	2.075	3.000	9.000
AITEM9	4.950	2.188	1.000	9.000
AITEM10	6.900	1.861	2.000	9.000
ASUM	57.450	10.495	37.000	73.000
WTCNCERA	14.000	4.484	5.000	22.000
COPSTRSA	11.250	2.573	7.000	16.000
BITEM1	6.300	1.559	3.000	8.000
BITEM2	6.550	1.605	2.000	9.000

BITEM3	5.000	2.103	1.000	9.000
BITEM4	6.250	1.251	3.000	8.000
BITEM5	6.800	1.322	5.000	9.000
BITEM6	4.800	2.118	1.000	9.000
BITEM7	5.750	1.773	3.000	8.000
BITEM8	6.150	1.872	3.000	9.000
BITEM9	5.200	2.142	1.000	9.000
BITEM10	6.750	1.943	2.000	9.000
BSUM	59.550	10.298	39.000	77.000
WTCNCERB	15.000	4.724	5.000	23.000
COPSTRSB	12.000	2.575	8.000	16.000
CITEM1	6.526	1.541	3.000	9.000
CITEM2	6.895	1.487	2.000	9.000
CITEM3	5.000	2.261	1.000	9.000
CITEM4	6.053	1.779	1.000	8.000
CITEM5	6.684	1.250	5.000	9.000
CITEM6	5.105	2.447	1.000	9.000
CITEM7	5.947	1.508	3.000	8.000
CITEM8	6.158	2.007	3.000	9.000
CITEM9	5.368	2.060	1.000	9.000
CITEM10	6.737	1.968	2.000	9.000
CSUM	60.474	10.951	35.000	77.000

Means of All Variables in Study I for Success and Failure Groups

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE

---------- TASKGRP=SUCC ----------

WTCNCERC	15.474	5.015	5.000	23.000
COPSTRSC	12.000	3.055	4.000	16.000
INT3B	12.400	2.415	8.000	16.000
EXT3B	9.150	2.796	5.000	14.000
GEN3B	5.950	1.504	2.000	8.000
CON3B	7.050	1.234	5.000	9.000
IMP3B	7.300	1.625	3.000	9.000
INT4B	13.450	2.502	8.000	18.000
EXT4B	9.250	3.193	2.000	15.000
GEN4B	6.050	1.701	3.000	9.000
CON4B	7.100	1.252	5.000	9.000
IMP4B	7.300	1.658	2.000	9.000
INT3C	13.368	3.022	7.000	18.000
EXT3C	9.684	2.083	7.000	14.000
GEN3C	6.842	0.958	4.000	8.000
CON3C	6.895	1.370	4.000	9.000
IMP3C	7.316	1.250	4.000	9.000
INT4C	13.737	2.725	8.000	18.000
EXT4C	10.000	2.625	6.000	16.000
GEN4C	7.000	0.882	5.000	9.000
CON4C	7.000	1.106	5.000	9.000
IMP4C	7.474	1.264	4.000	9.000
PERC1	2.750	2.359	1.000	10.000
PERC2	2.300	1.625	1.000	8.000
STABB	24.900	5.180	17.000	36.000
STABC	27.474	4.182	20.000	35.000
TRANB	19.350	6.335	6.000	31.000

TRANC	19.316	4.750	6.000	28.000
ACTUALWT	134.827	14.760	115.000	161.000
PERCTOL	5.050	2.373	3.000	11.000
SELFSUM	176.789	31.599	111.000	226.000
MEANSUM	58.930	10.533	37.000	75.333
SELFAB	-2.100	3.144	-7.000	5.000
SELFAC	-3.263	3.557	-11.000	2.000
SELFBC	-1.368	2.753	-7.000	4.000
WTCNCEAB	-1.000	1.451	-4.000	1.000
WTCNCEAC	-1.368	1.770	-6.000	1.000
WTCNCEBC	-0.526	1.124	-3.000	1.000
COPSTRAB	-0.750	1.209	-2.000	2.000
COPSTRAC	-0.684	1.455	-3.000	3.000
COPSTRBC	0.000	1.563	-2.000	4.000
INTB	25.850	4.344	18.000	33.000
INTC	27.105	5.466	16.000	36.000
IMPB	14.600	3.202	5.000	18.000
IMPC	14.789	2.485	8.000	18.000
GENB	12.000	2.772	7.000	16.000
GENC	13.842	1.772	9.000	17.000
EXTB	18.400	5.335	10.000	28.000
EXTC	19.684	4.460	13.000	28.000
ATRIBSUM	98.526	21.185	64.000	133.000

Appendix CC: Means for All Variables in Study I for Each Group

Means of All Variables in Study I for Each Group

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- DIAGNOSI=BU TASKGRP=FAIL ----------				
AGE	19.400	1.713	17.000	23.000
HEIGHT	64.850	1.454	63.000	67.000
LBS	125.200	11.755	105.000	145.000
EXPECTA	8.500	3.136	5.000	15.000
EXPECTB	12.000	3.590	7.000	17.000
EXPECTC	11.800	2.821	8.000	16.000
CERTAINA	7.500	3.536	2.000	14.000
CERTAINB	11.600	3.204	6.000	16.000

CERTAINC	9.300	4.084	2.000	15.000
EXPECTAB	-3.500	4.552	-8.000	8.000
EXPECTBC	0.200	4.237	-8.000	6.000
EXPECTAC	-3.300	2.830	-9.000	0.000
CERTANAB	-4.100	3.929	-9.000	4.000
CERTANBC	2.300	5.314	-6.000	12.000
CERTANAC	-1.800	4.367	-10.000	4.000
SUMXPECT	60.700	10.605	42.000	77.000
ATEM1	6.300	2.163	3.000	9.000
AITEM2	7.400	2.066	4.000	9.000
AITEM3	4.300	2.163	2.000	8.000
AITEM4	4.600	1.897	1.000	7.000
AITEM5	6.100	1.287	4.000	8.000
AITEM6	3.700	2.058	1.000	7.000
AITEM7	4.500	1.780	1.000	7.000
AITEM8	5.500	2.068	1.000	8.000
AITEM9	3.600	1.897	1.000	7.000
AITEM10	6.000	1.944	3.000	9.000
ASUM	52.000	12.684	34.000	70.000
WTCNCERA	11.600	5.038	4.000	20.000
COPSTRSA	9.100	3.573	2.000	13.000
BITEM1	6.700	2.263	3.000	9.000
BITEM2	7.300	2.263	3.000	9.000
BITEM3	3.900	2.331	1.000	8.000
BITEM4	4.400	1.713	2.000	7.000
BITEM5	6.400	1.265	4.000	8.000
BITEM6	3.900	2.025	1.000	7.000
BITEM7	4.500	1.716	1.000	7.000

BITEM8	5.200	2.394	1.000	9.000
BITEM9	3.600	2.011	1.000	7.000
BITEM10	6.100	1.792	4.000	9.000
BSUM	52.000	13.719	32.000	70.000
WTCNCERB	11.400	5.582	3.000	20.000
COPSTRSB	8.900	2.998	4.000	13.000
CITEM1	6.400	2.459	3.000	9.000
CITEM2	7.500	2.461	3.000	9.000
CITEM3	4.000	2.357	1.000	8.000
CITEM4	4.900	2.378	1.000	8.000
CITEM5	6.300	1.337	4.000	8.000
CITEM6	3.800	2.251	1.000	7.000
CITEM7	4.600	1.776	1.000	7.000
CITEM8	5.300	2.263	1.000	8.000
CITEM9	3.500	2.224	1.000	7.000
CITEM10	6.400	2.011	4.000	9.000
CSUM	52.700	14.384	31.000	76.000

Means of All Variables in Study I for Each Group

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- DIAGNOSI=BU TASKGRP=FAIL ----------				
WTCNCERC	11.300	6.038	3.000	22.000
COPSTRSC	9.500	3.894	2.000	14.000
INT3B	8.000	4.055	2.000	18.000
EXT3B	8.400	2.716	3.000	12.000

GEN3B	5.100	2.726	1.000	9.000
CON3B	5.000	2.449	2.000	9.000
IMP3B	4.600	2.989	1.000	9.000
INT4B	9.400	4.427	5.000	18.000
EXT4B	9.000	3.801	2.000	13.000
GEN4B	4.100	2.514	1.000	8.000
CON4B	4.100	2.767	1.000	9.000
IMP4B	4.900	2.470	1.000	9.000
INT3C	6.500	2.369	3.000	10.000
EXT3C	9.200	2.658	6.000	14.000
GEN3C	4.700	2.710	1.000	9.000
CON3C	4.200	2.044	2.000	9.000
IMP3C	5.100	2.558	2.000	9.000
INT4C	7.700	3.433	4.000	16.000
EXT4C	8.700	2.908	3.000	14.000
GEN4C	3.600	2.066	1.000	7.000
CON4C	4.100	2.025	2.000	9.000
IMP4C	4.900	2.601	2.000	9.000
PERC1	14.400	3.273	9.000	21.000
PERC2	16.600	4.377	9.000	24.000
STABB	19.500	2.369	16.000	23.000
STABC	19.000	7.008	9.000	36.000
TRANB	15.300	6.750	4.000	27.000
TRANC	13.100	5.216	4.000	25.000
ACTUALWT	129.438	9.837	115.750	138.500
PERCTOL	31.000	6.074	21.000	40.000
SELFSUM	156.700	40.092	97.000	216.000
MEANSUM	52.233	13.364	32.333	72.000

SELFAB	0.000	3.055	-5.000	5.000
SELFAC	-0.700	4.523	-9.000	4.000
SELFBC	-0.700	5.559	-14.000	6.000
WTCNCEAB	0.200	1.135	-2.000	1.000
WTCNCEAC	0.300	1.252	-2.000	2.000
WTCNCEBC	0.100	1.101	-2.000	2.000
COPSTRAB	0.200	1.989	-3.000	3.000
COPSTRAC	-0.400	2.066	-3.000	3.000
COPSTRBC	-0.600	2.271	-5.000	3.000
INTB	17.400	7.863	9.000	36.000
INTC	14.200	5.308	8.000	24.000
IMPB	9.500	5.380	2.000	18.000
IMPC	10.000	5.142	4.000	18.000
GENB	9.200	4.780	2.000	16.000
GENC	8.300	3.802	3.000	14.000
EXTB	17.400	6.150	5.000	25.000
EXTC	17.900	5.216	9.000	28.000
ATRIBSUM	50.700	25.608	16.000	98.000

Means of All Variables in Study I for Each Group

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- DIAGNOSI=BU TASKGRP=SUCC ----------				
AGE	18.800	0.789	18.000	20.000
HEIGHT	65.650	2.963	62.000	70.000
LBS	143.300	20.298	115.000	175.000

EXPECTA	7.300	3.234	3.000	13.000
EXPECTB	6.800	3.584	3.000	13.000
EXPECTC	5.333	2.179	2.000	8.000
CERTAINA	7.100	4.280	2.000	15.000
CERTAINB	6.400	3.340	3.000	12.000
CERTAINC	5.667	2.828	2.000	10.000
EXPECTAB	0.500	2.321	-2.000	5.000
EXPECTBC	1.667	2.291	-1.000	5.000
EXPECTAC	2.444	2.242	-1.000	6.000
CERTANAB	0.700	2.003	-2.000	3.000
CERTANBC	1.000	1.581	-1.000	4.000
CERTANAC	1.778	2.489	-1.000	7.000
SUMXPECT	39.889	18.045	19.000	66.000
ATEM1	6.600	1.713	3.000	8.000
AITEM2	5.700	1.767	2.000	8.000
AITEM3	4.200	2.394	1.000	9.000
AITEM4	5.000	1.826	3.000	8.000
AITEM5	6.600	1.838	3.000	9.000
AITEM6	3.100	1.524	1.000	6.000
AITEM7	4.800	1.398	3.000	8.000
AITEM8	5.000	1.826	3.000	8.000
AITEM9	3.600	1.578	1.000	6.000
AITEM10	6.800	1.751	4.000	9.000
ASUM	51.400	8.758	37.000	62.000
WTCNCERA	10.900	3.213	5.000	16.000
COPSTRSA	9.800	2.440	7.000	14.000
BITEM1	6.600	1.578	3.000	8.000
BITEM2	5.600	1.647	2.000	8.000

BITEM3	4.700	2.452	1.000	9.000
BITEM4	5.700	1.418	3.000	8.000
BITEM5	6.800	1.476	5.000	9.000
BITEM6	3.500	1.434	1.000	6.000
BITEM7	4.800	1.549	3.000	8.000
BITEM8	5.200	1.619	3.000	8.000
BITEM9	3.700	1.636	1.000	6.000
BITEM10	6.900	1.449	5.000	9.000
BSUM	53.500	8.196	39.000	68.000
WTCNCERB	11.900	3.725	5.000	16.000
COPSTRSB	10.500	2.321	8.000	14.000
CITEM1	7.000	1.323	5.000	9.000
CITEM2	6.000	1.658	2.000	7.000
CITEM3	4.556	2.603	1.000	9.000
CITEM4	5.222	2.048	1.000	8.000
CITEM5	6.556	1.236	5.000	8.000
CITEM6	3.778	1.986	1.000	8.000
CITEM7	5.000	1.118	3.000	7.000
CITEM8	4.889	1.616	3.000	7.000
CITEM9	3.889	1.537	1.000	6.000
CITEM10	6.889	1.453	5.000	9.000
CSUM	53.778	8.151	35.000	62.000

Means of All Variables in Study I for Each Group

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE

---------- DIAGNOSI = BU TASKGRP = SUCC ----------

WTCNCERC	12.222	3.993	5.000	19.000
COPSTRSC	10.222	2.991	4.000	14.000
INT3B	12.200	2.821	8.000	16.000
EXT3B	8.600	3.169	5.000	14.000
GEN3B	6.000	1.700	2.000	8.000
CON3B	7.200	0.919	6.000	9.000
IMP3B	7.000	2.108	3.000	9.000
INT4B	13.500	2.173	11.000	18.000
EXT4B	8.500	3.567	2.000	13.000
GEN4B	6.400	1.776	3.000	9.000
CON4B	7.200	1.135	5.000	9.000
IMP4B	7.100	2.079	2.000	9.000
INT3C	14.111	2.759	10.000	18.000
EXT3C	8.667	1.225	7.000	10.000
GEN3C	7.111	0.782	6.000	8.000
CON3C	7.222	0.972	6.000	9.000
IMP3C	7.333	1.581	4.000	9.000
INT4C	14.444	2.789	10.000	18.000
EXT4C	8.667	1.581	6.000	11.000
GEN4C	7.333	0.866	6.000	9.000
CON4C	7.444	0.882	6.000	9.000
IMP4C	7.556	1.667	4.000	9.000
PERC1	3.000	2.625	1.000	10.000
PERC2	2.600	2.011	1.000	8.000
STABB	25.200	5.051	18.000	36.000
STABC	28.111	4.343	22.000	35.000
TRANB	17.600	7.501	6.000	27.000

TRANC	17.778	5.696	6.000	24.000
ACTUALWT	138.900	16.437	121.000	161.000
PERCTOL	5.600	2.797	3.000	11.000
SELFSUM	155.889	22.480	111.000	186.000
MEANSUM	51.963	7.493	37.000	62.000
SELFAB	-2.100	3.695	-7.000	5.000
SELFAC	-3.556	4.558	-11.000	2.000
SELFBC	-1.889	3.333	-7.000	4.000
WTCNCEAB	-1.000	1.563	-4.000	1.000
WTCNCEAC	-1.444	1.424	-4.000	0.000
WTCNCEBC	-0.778	1.202	-3.000	1.000
COPSTRAB	-0.700	1.160	-2.000	2.000
COPSTRAC	-0.444	1.810	-3.000	3.000
COPSTRBC	0.111	2.028	-2.000	4.000
INTB	25.700	4.057	19.000	33.000
INTC	28.556	5.503	20.000	36.000
IMPB	14.100	4.095	5.000	18.000
IMPC	14.889	3.219	8.000	18.000
GENB	12.400	2.675	8.000	16.000
GENC	14.444	1.509	13.000	17.000
EXTB	17.100	5.607	10.000	27.000
EXTC	17.333	2.693	13.000	21.000
ATRIBSUM	105.667	17.190	75.000	133.000

Means of All Variables in Study I for Each Group

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE

---------- DIAGNOSI=NO TASKGRP=FAIL ----------

AGE	18.300	0.483	18.000	19.000
HEIGHT	65.350	2.109	62.000	68.000
LBS	137.900	22.620	111.000	190.000
EXPECTA	7.400	2.119	5.000	11.000
EXPECTB	13.000	3.771	6.000	18.000
EXPECTC	14.300	2.830	9.000	18.000
CERTAINA	9.000	1.633	6.000	11.000
CERTAINB	8.800	3.553	4.000	16.000
CERTAINC	8.400	4.812	2.000	16.000
EXPECTAB	-5.600	4.006	-10.000	1.000
EXPECTBC	-1.300	5.355	-8.000	9.000
EXPECTAC	-6.900	3.900	-12.000	0.000
CERTANAB	0.200	3.084	-6.000	4.000
CERTANBC	0.400	4.477	-6.000	10.000
CERTANAC	0.600	3.950	-6.000	5.000
SUMXPECT	60.900	8.863	45.000	74.000
ATEM1	6.600	1.838	3.000	9.000
AITEM2	6.400	2.271	2.000	9.000
AITEM3	4.700	2.163	1.000	8.000
AITEM4	5.700	2.163	3.000	9.000
AITEM5	6.100	1.792	3.000	9.000
AITEM6	5.400	1.506	3.000	8.000
AITEM7	5.700	2.163	2.000	9.000
AITEM8	6.400	1.430	4.000	9.000
AITEM9	5.600	2.011	3.000	9.000
AITEM10	6.900	1.449	4.000	8.000

ASUM	59.500	12.177	44.000	81.000
WTCNCERA	15.700	4.715	7.000	24.000
COPSTRSA	11.400	4.142	5.000	18.000
BITEM1	6.800	1.619	3.000	9.000
BITEM2	6.300	2.163	3.000	9.000
BITEM3	4.600	2.271	1.000	8.000
BITEM4	5.300	2.452	1.000	9.000
BITEM5	6.300	1.636	3.000	9.000
BITEM6	5.200	1.619	2.000	8.000
BITEM7	5.300	2.359	2.000	9.000
BITEM8	5.700	1.567	3.000	8.000
BITEM9	5.400	2.221	2.000	9.000
BITEM10	6.800	1.398	4.000	8.000
BSUM	57.700	12.970	41.000	81.000
WTCNCERB	15.200	5.095	6.000	24.000
COPSTRSB	10.600	4.377	6.000	18.000
CITEM1	6.800	1.619	3.000	9.000
CITEM2	6.500	2.068	3.000	9.000
CITEM3	4.700	2.163	1.000	8.000
CITEM4	5.400	2.366	2.000	9.000
CITEM5	6.300	1.703	3.000	9.000
CITEM6	5.200	1.814	1.000	8.000
CITEM7	5.500	2.224	2.000	9.000
CITEM8	6.100	1.524	3.000	8.000
CITEM9	5.400	1.955	3.000	9.000
CITEM10	6.600	1.350	4.000	8.000
CSUM	58.500	12.286	42.000	81.000

Means of All Variables in Study I for Each Group

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- DIAGNOSI=NO TASKGRP=FAIL ----------				
WTCNCERC	15.300	5.165	5.000	24.000
COPSTRSC	10.900	4.254	5.000	18.000
INT3B	9.200	2.440	5.000	13.000
EXT3B	9.500	3.064	5.000	14.000
GEN3B	4.000	1.764	1.000	7.000
CON3B	3.300	1.947	1.000	6.000
IMP3B	5.100	2.514	1.000	9.000
INT4B	10.400	2.503	5.000	14.000
EXT4B	9.500	2.877	4.000	13.000
GEN4B	3.600	1.955	1.000	7.000
CON4B	4.100	2.378	1.000	8.000
IMP4B	5.200	2.616	1.000	9.000
INT3C	7.700	3.234	2.000	14.000
EXT3C	9.900	2.685	5.000	15.000
GEN3C	4.400	2.459	1.000	7.000
CON3C	3.700	2.058	1.000	7.000
IMP3C	4.400	2.633	1.000	9.000
INT4C	8.200	3.327	2.000	14.000
EXT4C	9.500	3.274	3.000	15.000
GEN4C	4.200	2.201	1.000	7.000
CON4C	3.500	2.224	1.000	8.000
IMP4C	4.100	2.807	1.000	9.000

PERC1	15.700	3.713	8.000	23.000
PERC2	20.100	4.483	13.000	27.000
STABB	24.000	6.650	14.000	36.000
STABC	21.300	5.122	15.000	31.000
TRANB	14.600	8.154	4.000	28.000
TRANC	14.000	7.242	4.000	22.000
ACTUALWT	143.934	26.932	118.330	209.000
PERCTOL	35.800	7.345	24.000	50.000
SELFSUM	175.700	37.301	128.000	243.000
MEANSUM	58.567	12.434	42.667	81.000
SELFAB	1.800	1.989	-1.000	5.000
SELFAC	1.000	2.055	-3.000	4.000
SELFBC	-0.800	1.687	-4.000	2.000
WTCNCEAB	0.500	1.080	-1.000	2.000
WTCNCEAC	0.400	0.966	-1.000	2.000
WTCNCEBC	-0.100	0.994	-2.000	1.000
COPSTRAB	0.800	1.135	-1.000	3.000
COPSTRAC	0.500	1.179	-2.000	2.000
COPSTRBC	-0.300	0.949	-2.000	1.000
INTB	19.600	4.248	10.000	25.000
INTC	15.900	6.437	4.000	28.000
IMPB	10.300	5.100	2.000	18.000
IMPC	8.500	5.401	2.000	18.000
GENB	7.600	2.591	4.000	13.000
GENC	8.600	3.893	2.000	14.000
EXTB	19.000	5.774	9.000	27.000
EXTC	19.400	5.948	8.000	30.000
ATRIBSUM	46.700	24.766	11.000	84.000

Means of All Variables in Study I for Each Group

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- DIAGNOSI=NO TASKGRP=SUCC ----------				
AGE	18.400	0.516	18.000	19.000
HEIGHT	64.750	3.243	58.000	70.000
LBS	125.700	14.016	103.000	150.000
EXPECTA	8.700	1.160	7.000	10.000
EXPECTB	9.000	2.867	5.000	14.000
EXPECTC	6.900	3.071	3.000	14.000
CERTAINA	9.900	3.178	4.000	14.000
CERTAINB	8.700	2.263	6.000	14.000
CERTAINC	6.700	1.418	5.000	10.000
EXPECTAB	-0.300	2.751	-6.000	4.000
EXPECTBC	2.100	4.795	-8.000	10.000
EXPECTAC	1.800	3.706	-7.000	6.000
CERTANAB	1.200	4.077	-6.000	6.000
CERTANBC	2.000	3.091	-3.000	8.000
CERTANAC	3.200	3.706	-6.000	7.000
SUMXPECT	49.900	5.782	36.000	57.000
ATEM1	5.500	1.716	2.000	8.000
AITEM2	7.400	0.843	6.000	9.000
AITEM3	4.700	1.337	2.000	6.000
AITEM4	6.400	1.075	5.000	8.000
AITEM5	6.600	1.265	5.000	9.000

AITEM6	6.100	1.912	4.000	9.000
AITEM7	6.300	1.337	4.000	8.000
AITEM8	7.200	1.751	3.000	9.000
AITEM9	6.300	1.889	3.000	9.000
AITEM10	7.000	2.055	2.000	9.000
ASUM	63.500	8.631	46.000	73.000
WTCNCERA	17.100	3.281	11.000	22.000
COPSTRSA	12.700	1.829	10.000	16.000
BITEM1	6.000	1.563	3.000	8.000
BITEM2	7.500	0.850	6.000	9.000
BITEM3	5.300	1.767	2.000	7.000
BITEM4	6.800	0.789	5.000	8.000
BITEM5	6.800	1.229	5.000	9.000
BITEM6	6.100	1.912	3.000	9.000
BITEM7	6.700	1.494	4.000	8.000
BITEM8	7.100	1.663	3.000	9.000
BITEM9	6.700	1.418	4.000	9.000
BITEM10	6.600	2.413	2.000	9.000
BSUM	65.600	8.682	48.000	77.000
WTCNCERB	18.100	3.446	11.000	23.000
COPSTRSB	13.500	1.900	10.000	16.000
CITEM1	6.100	1.663	3.000	8.000
CITEM2	7.700	0.675	7.000	9.000
CITEM3	5.400	1.955	2.000	8.000
CITEM4	6.800	1.135	5.000	8.000
CITEM5	6.800	1.317	5.000	9.000
CITEM6	6.300	2.263	2.000	9.000
CITEM7	6.800	1.317	5.000	8.000

CITEM8	7.300	1.636	3.000	9.000
CITEM9	6.700	1.494	4.000	9.000
CITEM10	6.600	2.413	2.000	9.000
CSUM	66.500	9.778	45.000	77.000

Means of All Variables in Study I for Each Group

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- DIAGNOSI=NO TASKGRP=SUCC ----------				
WTCNCERC	18.400	4.006	10.000	23.000
COPSTRSC	13.600	2.171	10.000	16.000
INT3B	12.600	2.066	10.000	15.000
EXT3B	9.700	2.406	6.000	13.000
GEN3B	5.900	1.370	4.000	8.000
CON3B	6.900	1.524	5.000	9.000
IMP3B	7.600	0.966	6.000	9.000
INT4B	13.400	2.914	8.000	17.000
EXT4B	10.000	2.749	7.000	15.000
GEN4B	5.700	1.636	3.000	8.000
CON4B	7.000	1.414	5.000	9.000
IMP4B	7.500	1.179	5.000	9.000
INT3C	12.700	3.234	7.000	16.000
EXT3C	10.600	2.319	7.000	14.000
GEN3C	6.600	1.075	4.000	8.000
CON3C	6.600	1.647	4.000	9.000
IMP3C	7.300	0.949	6.000	9.000

INT4C	13.100	2.644	8.000	16.000
EXT4C	11.200	2.860	8.000	16.000
GEN4C	6.700	0.823	5.000	8.000
CON4C	6.600	1.174	5.000	8.000
IMP4C	7.400	0.843	6.000	9.000
PERC1	2.500	2.173	1.000	8.000
PERC2	2.000	1.155	1.000	4.000
STABB	24.600	5.562	17.000	31.000
STABC	26.900	4.175	20.000	32.000
TRANB	21.100	4.654	15.000	31.000
TRANC	20.700	3.433	16.000	28.000
ACTUALWT	132.281	14.137	115.000	152.250
PERCTOL	4.500	1.841	3.000	9.000
SELFSUM	195.600	26.792	139.000	226.000
MEANSUM	65.200	8.931	46.333	75.333
SELFAB	-2.100	2.685	-7.000	1.000
SELFAC	-3.000	2.582	-7.000	1.000
SELFBC	-0.900	2.183	-5.000	3.000
WTCNCEAB	-1.000	1.414	-4.000	0.000
WTCNCEAC	-1.300	2.111	-6.000	1.000
WTCNCEBC	-0.300	1.059	-2.000	1.000
COPSTRAB	-0.800	1.317	-2.000	2.000
COPSTRAC	-0.900	1.101	-2.000	1.000
COPSTRBC	-0.100	1.101	-2.000	2.000
INTB	26.000	4.830	18.000	32.000
INTC	25.800	5.371	16.000	32.000
IMPB	15.100	2.079	11.000	18.000
IMPC	14.700	1.767	12.000	18.000

GENB	11.600	2.951	7.000	16.000
GENC	13.300	1.889	9.000	16.000
EXTB	19.700	4.990	14.000	28.000
EXTC	21.800	4.780	16.000	28.000
ATRIBSUM	92.100	23.197	64.000	126.000

Appendix DD: Means for All Variables in Study II

Means of All Variables in Study II

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
AGE	18.731	0.952	18.000	22.000
HT	65.096	2.089	62.000	71.000
WRTRPTWT	133.154	17.962	100.000	178.000
TIME	16.990	2.890	9.000	21.000
XPECTA	3.904	1.706	1.000	9.000
XPECTB	5.577	2.042	1.000	8.000
XPECTC	5.962	2.351	1.000	9.000
XPECTD	4.635	2.931	1.000	9.000
TSKEFFA	3.923	1.713	1.000	9.000
TSKEFFB	5.481	2.034	1.000	9.000
TSKEFFC	5.827	2.463	1.000	9.000

TSKEFFD	4.423	2.919	1.000	9.000
SASONEA	6.596	2.260	1.000	9.000
SASTWOA	7.135	1.826	2.000	9.000
SASTHRA	4.846	2.173	1.000	9.000
SASFOUA	5.385	1.891	1.000	9.000
SASFIVA	5.769	1.767	2.000	9.000
SASSIXA	5.462	2.839	1.000	9.000
SASSEVA	5.519	1.935	1.000	9.000
SASEIGA	6.135	1.920	1.000	9.000
SASNINA	4.423	2.163	1.000	9.000
SASTENA	6.519	2.072	2.000	9.000
SASONEB	6.942	2.270	1.000	9.000
SASTWOB	7.058	1.984	3.000	9.000
SASTHRB	4.519	2.356	1.000	9.000
SASFOUB	5.442	2.372	1.000	9.000
SASFIVB	5.538	2.062	1.000	9.000
SASSIXB	5.058	2.817	1.000	9.000
SASSEVB	5.365	2.275	1.000	9.000
SASEIGB	5.788	2.013	1.000	9.000
SASNINB	4.269	2.458	1.000	9.000
SASTENB	6.673	2.264	1.000	9.000
TOTALXEF	4.966	1.820	1.125	8.500
XPECTBCD	5.391	2.112	1.000	8.667
TSKEFBCD	5.244	2.146	1.000	9.000
FIRSTSAS	57.788	14.924	25.000	86.000
SECNDSAS	56.654	16.728	21.000	86.000
AVGSAS	57.221	15.498	23.500	86.000
TOTALSAS	114.442	30.997	47.000	172.000

PREIMPA	6.308	1.698	1.000	9.000
PREIMPB	6.173	1.968	1.000	9.000
PREIMPC	6.135	2.096	1.000	9.000
PREIMPD	6.135	2.597	1.000	9.000
COLLEGE	8.135	0.793	7.000	9.000
FAMFRIEN	7.846	0.958	6.000	9.000
OPPOSEX	7.596	1.071	5.000	9.000
OVERTASK	6.635	1.910	2.000	9.000
GOODSTUD	3.154	1.420	1.000	7.000
CURRQCA	2.681	0.553	1.600	3.940
SATISQCA	1.365	0.486	1.000	2.000
IDEALQCA	3.291	0.310	2.700	3.900
EFFIIDLQ	6.346	2.104	1.000	9.000
POSTIMPB	6.385	1.932	1.000	9.000
POSTIMPC	6.500	2.110	1.000	9.000
POSTIMPD	6.712	2.163	1.000	9.000

Means of All Variables in Study II

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
TASKIMPO	6.373	1.764	1.500	9.000
OTHRIMPO	7.859	0.706	6.333	9.000
HOTSHOT	10.530	3.281	1.420	16.840
ANXIETYA	1.346	1.327	0.000	4.000
ANXIETYB	2.404	1.612	0.000	5.000
ANXIETYC	2.846	1.934	0.000	6.000
ANXIETYD	1.519	1.379	0.000	5.000

DEPRESSA	3.019	2.147	0.000	9.000
DEPRESSB	4.308	2.414	0.000	10.000
DEPRESSC	4.173	2.610	0.000	9.000
DEPRESSD	4.173	2.557	0.000	10.000
HOSTILEA	0.962	1.357	0.000	5.000
HOSTILEB	1.808	1.715	0.000	7.000
HOSTILEC	3.827	1.517	0.000	6.000
HOSTILED	1.808	1.633	0.000	7.000
FILLERA	1.404	1.089	0.000	4.000
FILLERB	0.981	0.852	0.000	3.000
FILLERC	1.038	0.907	0.000	3.000
FILLERD	1.346	0.764	0.000	3.000
BECK	9.365	8.402	0.000	35.000
AANXIETY	0.287	0.293	0.000	0.927
BANXIETY	0.579	0.470	0.000	1.571
CANXIETY	0.573	0.473	0.000	1.571
DANXIETY	0.335	0.339	0.000	1.571
ADEPRESS	0.319	0.245	0.000	1.120
BDEPRESS	0.472	0.305	0.000	1.571
CDEPRESS	0.456	0.313	0.000	1.120
DDEPRESS	0.460	0.325	0.000	1.571
AHOSTILE	0.144	0.211	0.000	0.796
BHOSTILE	0.282	0.305	0.000	1.571
CHOSTILE	0.602	0.267	0.000	1.030
DHOSTILE	0.279	0.289	0.000	1.571
BCDANX	0.496	0.368	0.000	1.571
BCDDEP	0.463	0.294	0.000	1.270
BCDHOS	0.388	0.259	0.048	1.390

AFILLER	0.294	0.237	0.000	0.927
BFILLER	0.166	0.147	0.000	0.524
CFILLER	0.214	0.192	0.000	0.644
DFILLER	0.276	0.160	0.000	0.644
BCDFILL	0.219	0.128	0.056	0.542
AFFECTOL	41.558	22.368	7.000	101.000
FIRSTA	2.904	3.680	0.000	14.000
SECONDA	5.423	6.949	0.000	28.000
THIRDA	5.077	6.541	0.000	32.000
FOURTHA	3.904	4.908	0.000	25.000
FIRSTD	6.192	3.850	1.000	16.000
SECONDD	6.481	4.109	1.000	18.000
TOTTRYS	29.981	26.450	3.000	127.000
DESTRYS	12.673	7.294	2.000	31.000
ABILITYB	4.846	2.682	1.000	9.000
ABILITYC	5.019	2.586	1.000	9.000
ABILITYD	5.135	2.751	1.000	9.000
TSKDIFFB	5.500	2.297	1.000	9.000
TSKDIFFC	5.481	2.100	1.000	9.000
TSKDIFFD	5.942	2.218	1.000	9.000

Means of All Variables in Study II

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
EFFORTB	5.442	2.109	1.000	9.000
EFFORTC	5.385	2.259	1.000	9.000
EFFORTD	5.577	2.404	1.000	9.000

LUCKB	3.269	2.386	1.000	8.000
LUCKC	3.250	2.231	1.000	8.000
LUCKD	3.385	2.435	1.000	8.000
GENERALB	6.250	2.195	1.000	9.000
GENERALC	6.865	1.760	2.000	9.000
GENERALD	6.500	2.137	2.000	9.000
CONTROLB	5.712	2.696	1.000	9.000
CONTROLC	5.692	2.860	1.000	9.000
CONTROLD	5.808	2.773	1.000	9.000
ABILTBCD	5.000	2.467	1.000	9.000
TSKDFBCD	5.641	1.941	1.000	9.000
LUCKBCD	3.301	2.229	1.000	7.333
EFFORBCD	5.468	2.000	1.000	9.000
CTRLBCD	5.737	2.646	1.000	9.000
GENBCD	6.538	1.792	1.667	9.000
DIFCULTB	4.635	2.904	1.000	9.000
DIFCULTC	5.154	3.226	1.000	9.000
DIFCULTD	4.577	3.038	1.000	9.000
HOWUDIDB	4.288	3.286	1.000	9.000
HOWUDIDC	4.712	3.539	1.000	9.000
HOWUDIDD	4.462	3.358	1.000	9.000
SATISFYB	4.538	3.363	1.000	9.000
SATISFYC	4.904	3.477	1.000	9.000
SATISFYD	4.712	3.420	1.000	9.000
SATISBCD	4.718	3.321	1.000	9.000
AVGSATIS	4.665	3.123	1.000	9.000
TRYHARD	5.654	2.566	1.000	9.000
IMSTUPID	5.346	2.700	1.000	9.000

WANNAEAT	1.462	1.275	1.000	7.000
COMPTENT	4.442	2.524	1.000	9.000
DOINWELL	4.231	2.928	1.000	9.000
FEELUGLY	2.365	2.049	1.000	8.000
LIKETHIS	3.827	2.792	1.000	9.000
FEELFAT	3.077	2.619	1.000	9.000
OTHERWAY	7.019	2.072	1.000	9.000
NOTLUKGD	2.808	2.401	1.000	9.000
MALDAPSS	15.058	7.818	5.000	33.000
SSMALDAP	0.349	0.194	0.111	0.823
BULIT1	2.098	1.171	1.000	5.000
BULIT2	3.686	1.319	1.000	5.000
BULIT3	2.020	1.104	1.000	5.000
BULIT4	2.235	1.450	1.000	5.000
BULIT5	2.176	1.596	1.000	5.000
BULIT6	2.392	1.328	1.000	5.000
BULIT7	1.333	0.792	1.000	5.000
BULIT8	1.529	0.758	1.000	3.000
BULIT9	2.804	1.637	1.000	5.000
BULIT10	2.686	1.516	1.000	5.000
BULIT11	2.922	1.598	1.000	5.000
BULIT12	2.373	1.296	1.000	5.000
BULIT13	2.020	1.257	1.000	5.000
BULIT14	3.765	1.491	1.000	5.000

Means of All Variables in Study II

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE

BULIT15	1.784	1.390	1.000	5.000
BULIT16	2.961	1.743	1.000	5.000
BULIT17	2.961	1.442	1.000	5.000
BULIT18	2.686	1.334	1.000	5.000
BULIT19	2.980	1.568	1.000	5.000
BULIT20	3.314	1.516	1.000	5.000
BULIT21	2.863	1.767	1.000	5.000
BULIT22	3.098	1.269	1.000	5.000
BULIT23	3.588	1.359	1.000	5.000
BULIT24	2.569	1.552	1.000	5.000
BULIT25	2.961	1.038	1.000	5.000
BULIT26	3.118	1.306	1.000	5.000
BULIT27	2.196	1.497	1.000	5.000
BULIT28	2.588	1.403	1.000	5.000
BULIT29	3.647	1.412	1.000	5.000
BULIT30	1.863	1.442	1.000	5.000
BULIT31	3.118	1.070	1.000	5.000
BULIT32	2.569	1.025	1.000	5.000
BULIT33	1.333	1.033	1.000	5.000
BULIT34	1.176	0.518	1.000	4.000
BULIT35	3.118	1.125	1.000	5.000
BULIT36	1.776	1.026	1.000	5.000
I	5.000	0.000	5.000	5.000
BULIT	87.385	31.748	40.000	145.000
A	1.333	0.792	1.000	5.000
B	1.333	1.033	1.000	5.000
C	1.176	0.518	1.000	4.000

D	1.776	1.026	1.000	5.000
ADAPTSS	17.250	3.994	8.000	27.000
ADAPATTR	39.712	26.208	3.000	81.000
ATTRADAP	0.706	0.225	0.111	1.298
MALATTR	26.115	16.479	3.000	63.000
ATTRMAL	0.497	0.205	0.111	0.891
SSADAPT	0.716	0.223	0.301	1.571

Appendix EE: Means for All Variables in Study II for Bulimics and Controls

Means for Bulimics and Controls in Study II

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- DX=1 ----------				
AGE	18.462	0.948	18.000	22.000
HT	65.115	2.065	62.000	71.000
WRTRPTWT	133.577	17.734	105.000	175.000
TIME	17.212	2.527	11.000	21.000
XPECTA	4.192	1.600	1.000	8.000
XPECTB	6.115	1.840	1.000	8.000
XPECTC	6.308	2.276	1.000	9.000

XPECTD	5.077	2.965	1.000	9.000
TSKEFFA	4.385	1.602	1.000	8.000
TSKEFFB	6.115	1.862	2.000	9.000
TSKEFFC	6.192	2.333	1.000	9.000
TSKEFFD	4.769	3.076	1.000	9.000
SASONEA	6.538	2.319	1.000	9.000
SASTWOA	6.962	2.068	2.000	9.000
SASTHRA	3.962	2.107	1.000	8.000
SASFOUA	4.346	1.696	1.000	8.000
SASFIVA	5.077	1.719	2.000	8.000
SASSIXA	3.385	2.228	1.000	9.000
SASSEVA	4.154	1.488	1.000	7.000
SASEIGA	5.038	1.843	1.000	9.000
SASNINA	3.038	1.536	1.000	6.000
SASTENA	5.923	2.134	2.000	9.000
SASONEB	7.038	2.181	2.000	9.000
SASTWOB	6.923	2.134	3.000	9.000
SASTHRB	3.615	2.246	1.000	8.000
SASFOUB	4.077	2.171	1.000	8.000
SASFIVB	4.692	1.738	2.000	7.000
SASSIXB	3.038	1.483	1.000	6.000
SASSEVB	3.846	1.642	1.000	7.000
SASEIGB	4.500	1.655	1.000	7.000
SASNINB	2.769	1.681	1.000	6.000
SASTENB	6.192	2.417	2.000	9.000
TOTALXEF	5.394	1.690	1.125	8.500
XPECTBCD	5.833	2.007	1.000	8.667
TSKEFBCD	5.692	2.059	1.333	9.000

FIRSTSAS	48.423	12.413	25.000	73.000
SECNDSAS	46.692	12.279	22.000	66.000
AVGSAS	47.558	12.036	23.500	68.000
TOTALSAS	95.115	24.072	47.000	136.000
PREIMPA	6.500	1.606	3.000	9.000
PREIMPB	6.423	1.724	3.000	9.000
PREIMPC	6.308	1.914	3.000	9.000
PREIMPD	6.577	2.386	1.000	9.000
COLLEGE	8.154	0.784	7.000	9.000
FAMFRIEN	8.269	0.778	6.000	9.000
OPPOSEX	8.000	0.938	6.000	9.000
OVERTASK	6.962	1.928	2.000	9.000
GOODSTUD	3.231	1.531	1.000	7.000
CURRQCA	2.727	0.526	1.980	3.810
SATISQCA	1.346	0.485	1.000	2.000
IDEALQCA	3.325	0.327	2.800	3.900
EFFIIDLQ	6.115	2.046	1.000	9.000
POSTIMPB	6.538	1.702	3.000	9.000

Means for Bulimics and Controls in Study II

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- DX=1 ----------				
POSTIMPC	6.769	1.840	3.000	9.000
POSTIMPD	7.077	1.896	3.000	9.000
TASKIMPO	6.644	1.462	3.875	9.000

OTHRIMPO	8.141	0.590	6.667	9.000
HOTSHOT	10.283	3.540	1.420	14.710
ANXIETYA	1.731	1.282	0.000	4.000
ANXIETYB	2.923	1.521	0.000	5.000
ANXIETYC	3.346	1.896	0.000	6.000
ANXIETYD	2.000	1.497	0.000	5.000
DEPRESSA	4.038	1.969	1.000	9.000
DEPRESSB	5.077	2.208	1.000	10.000
DEPRESSC	4.962	2.835	1.000	9.000
DEPRESSD	4.846	3.003	0.000	10.000
HOSTILEA	1.500	1.631	0.000	5.000
HOSTILEB	2.462	1.985	0.000	7.000
HOSTILEC	4.115	1.608	0.000	6.000
HOSTILED	2.154	1.736	0.000	7.000
FILLERA	1.308	1.158	0.000	3.000
FILLERB	0.846	0.784	0.000	3.000
FILLERC	0.962	0.720	0.000	3.000
FILLERD	1.269	0.827	0.000	3.000
BECK	13.731	9.058	2.000	35.000
AANXIETY	0.370	0.287	0.000	0.927
BANXIETY	0.732	0.496	0.000	1.571
CANXIETY	0.687	0.486	0.000	1.571
DANXIETY	0.452	0.387	0.000	1.571
ADEPRESS	0.431	0.241	0.100	1.120
BDEPRESS	0.566	0.310	0.100	1.571
CDEPRESS	0.557	0.352	0.100	1.120
DDEPRESS	0.556	0.397	0.000	1.571
AHOSTILE	0.226	0.257	0.000	0.796

BHOSTILE	0.395	0.371	0.000	1.571
CHOSTILE	0.657	0.288	0.000	1.030
DHOSTILE	0.341	0.334	0.000	1.571
BCDANX	0.624	0.400	0.067	1.571
BCDDEP	0.559	0.333	0.101	1.270
BCDHOS	0.465	0.302	0.097	1.390
AFILLER	0.274	0.248	0.000	0.644
BFILLER	0.143	0.135	0.000	0.524
CFILLER	0.196	0.151	0.000	0.644
DFILLER	0.260	0.173	0.000	0.644
BCDFILL	0.200	0.120	0.056	0.542
AFFECTOL	52.885	22.207	18.000	101.000
FIRSTA	2.769	3.713	0.000	12.000
SECONDA	4.692	5.829	0.000	22.000
THIRDA	4.346	5.027	0.000	17.000
FOURTHA	3.462	3.881	0.000	13.000
FIRSTD	6.077	3.058	1.000	13.000
SECONDD	5.846	3.484	1.000	13.000
TOTTRYS	27.192	20.787	8.000	81.000
DESTRYS	11.923	6.059	4.000	24.000
ABILITYB	4.615	2.334	1.000	9.000
ABILITYC	4.923	2.591	1.000	9.000

Means for Bulimics and Controls in Study II

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE

---------- DX = 1 ----------

ABILITYD	5.000	2.561	1.000	9.000
TSKDIFFB	5.231	2.026	1.000	9.000
TSKDIFFC	5.077	2.038	1.000	9.000
TSKDIFFD	5.192	2.263	1.000	9.000
EFFORTB	5.269	2.108	1.000	9.000
EFFORTC	5.192	2.245	2.000	9.000
EFFORTD	5.462	2.249	1.000	9.000
LUCKB	3.308	2.396	1.000	8.000
LUCKC	3.346	2.171	1.000	7.000
LUCKD	3.577	2.580	1.000	8.000
GENERALB	6.308	2.131	1.000	9.000
GENERALC	6.769	1.861	2.000	9.000
GENERALD	6.577	2.157	2.000	9.000
CONTROLB	5.808	2.577	1.000	9.000
CONTROLC	5.423	2.928	1.000	9.000
CONTROLD	6.077	2.529	1.000	9.000
ABILTBCD	4.846	2.191	1.000	9.000
TSKDFBCD	5.167	1.917	1.000	9.000
LUCKBCD	3.410	2.248	1.000	6.667
EFFORBCD	5.308	1.918	2.000	9.000
CTRLBCD	5.769	2.510	1.000	9.000
GENBCD	6.551	1.813	1.667	9.000
DIFCULTB	4.577	3.152	1.000	9.000
DIFCULTC	4.885	3.315	1.000	9.000
DIFCULTD	4.731	3.219	1.000	9.000
HOWUDIDB	4.115	3.315	1.000	9.000
HOWUDIDC	4.500	3.444	1.000	9.000

HOWUDIDD	4.654	3.463	1.000	9.000
SATISFYB	4.308	3.308	1.000	9.000
SATISFYC	4.615	3.359	1.000	9.000
SATISFYD	4.808	3.441	1.000	9.000
SATISBCD	4.577	3.272	1.000	9.000
AVGSATIS	4.577	3.177	1.000	9.000
TRYHARD	6.077	2.667	1.000	9.000
IMSTUPID	6.038	2.615	1.000	9.000
WANNAEAT	1.731	1.589	1.000	7.000
COMPTENT	3.808	2.333	1.000	9.000
DOINWELL	3.769	2.984	1.000	9.000
FEELUGLY	3.308	2.413	1.000	8.000
LIKETHIS	3.500	2.956	1.000	9.000
FEELFAT	4.500	2.832	1.000	9.000
OTHERWAY	6.731	2.342	1.000	9.000
NOTLUKGD	4.115	2.747	1.000	9.000
MALDAPSS	19.692	7.807	5.000	33.000
SSMALDAP	0.463	0.198	0.111	0.823
BULIT1	3.080	0.862	2.000	5.000
BULIT2	4.800	0.408	4.000	5.000
BULIT3	2.880	0.927	2.000	5.000
BULIT4	3.440	1.158	1.000	5.000
BULIT5	2.760	1.832	1.000	5.000
BULIT6	3.400	1.080	1.000	5.000
BULIT7	1.480	0.770	1.000	4.000
BULIT8	2.000	0.816	1.000	3.000

Means for Bulimics and Controls in Study II

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- DX = 1 ----------				
BULIT9	4.120	0.971	2.000	5.000
BULIT10	4.040	0.611	3.000	5.000
BULIT11	4.280	1.021	1.000	5.000
BULIT12	3.400	1.041	2.000	5.000
BULIT13	2.960	1.136	1.000	5.000
BULIT14	4.720	0.843	1.000	5.000
BULIT15	2.440	1.710	1.000	5.000
BULIT16	4.160	1.143	1.000	5.000
BULIT17	4.000	0.957	2.000	5.000
BULIT18	3.520	1.046	1.000	5.000
BULIT19	3.760	1.451	1.000	5.000
BULIT20	4.480	0.770	3.000	5.000
BULIT21	4.240	1.052	1.000	5.000
BULIT22	4.120	0.881	1.000	5.000
BULIT23	4.320	1.030	1.000	5.000
BULIT24	4.000	0.816	2.000	5.000
BULIT25	3.440	1.044	1.000	5.000
BULIT26	4.080	0.997	2.000	5.000
BULIT27	3.000	1.683	1.000	5.000
BULIT28	3.720	0.936	2.000	5.000
BULIT29	4.760	0.523	3.000	5.000
BULIT30	2.320	1.626	1.000	5.000
BULIT31	3.720	0.843	2.000	5.000

BULIT32	3.000	0.866	2.000	5.000
BULIT33	1.200	0.816	1.000	5.000
BULIT34	1.240	0.663	1.000	4.000
BULIT35	3.800	0.866	2.000	5.000
BULIT36	2.040	0.935	1.000	5.000
I	5.000	0.000	5.000	5.000
BULIT	117.000	9.269	105.000	145.000
A	1.480	0.770	1.000	4.000
B	1.200	0.816	1.000	5.000
C	1.240	0.663	1.000	4.000
D	2.040	0.935	1.000	5.000
ADAPTSS	16.808	3.720	8.000	27.000
ADAPATTR	37.077	25.208	3.000	81.000
ATTRADAP	0.659	0.233	0.111	1.298
MALATTR	28.462	17.402	3.000	63.000
ATTRMAL	0.542	0.185	0.111	0.891
SSADAPT	0.696	0.229	0.301	1.571

Means for Bulimics and Controls in Study II

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- DX=2 ----------				
AGE	19.000	0.894	18.000	20.000
HT	65.077	2.153	62.000	70.000
WRTRPTWT	132.731	18.529	100.000	178.000
TIME	16.769	3.248	9.000	21.000

XPECTA	3.615	1.791	1.000	9.000
XPECTB	5.038	2.126	1.000	8.000
XPECTC	5.615	2.418	1.000	9.000
XPECTD	4.192	2.885	1.000	9.000
TSKEFFA	3.462	1.726	1.000	9.000
TSKEFFB	4.846	2.034	1.000	9.000
TSKEFFC	5.462	2.580	1.000	9.000
TSKEFFD	4.077	2.770	1.000	9.000
SASONEA	6.654	2.244	1.000	9.000
SASTWOA	7.308	1.569	3.000	9.000
SASTHRA	5.731	1.888	2.000	9.000
SASFOUA	6.423	1.474	3.000	9.000
SASFIVA	6.462	1.555	2.000	9.000
SASSIXA	7.538	1.581	3.000	9.000
SASSEVA	6.885	1.243	4.000	9.000
SASEIGA	7.231	1.275	5.000	9.000
SASNINA	5.808	1.789	1.000	9.000
SASTENA	7.115	1.862	2.000	9.000
SASONEB	6.846	2.395	1.000	9.000
SASTWOB	7.192	1.855	3.000	9.000
SASTHRB	5.423	2.139	1.000	9.000
SASFOUB	6.808	1.698	2.000	9.000
SASFIVB	6.385	2.041	1.000	9.000
SASSIXB	7.077	2.348	1.000	9.000
SASSEVB	6.885	1.751	1.000	9.000
SASEIGB	7.077	1.440	4.000	9.000
SASNINB	5.769	2.197	1.000	9.000
SASTENB	7.154	2.034	1.000	9.000

TOTALXEF	4.538	1.876	1.250	8.375
XPECTBCD	4.949	2.160	1.000	8.000
TSKEFBCD	4.795	2.177	1.000	8.333
FIRSTSAS	67.154	10.854	39.000	86.000
SECNDSAS	66.615	14.618	21.000	86.000
AVGSAS	66.885	12.284	36.500	86.000
TOTALSAS	133.769	24.569	73.000	172.000
PREIMPA	6.115	1.796	1.000	9.000
PREIMPB	5.923	2.189	1.000	9.000
PREIMPC	5.962	2.289	1.000	9.000
PREIMPD	5.692	2.768	1.000	9.000
COLLEGE	8.115	0.816	7.000	9.000
FAMFRIEN	7.423	0.945	6.000	9.000
OPPOSEX	7.192	1.059	5.000	9.000
OVERTASK	6.308	1.871	2.000	9.000
GOODSTUD	3.077	1.324	1.000	6.000
CURRQCA	2.635	0.586	1.600	3.940
SATISQCA	1.385	0.496	1.000	2.000
IDEALQCA	3.257	0.294	2.700	3.900
EFFIIDLQ	6.577	2.176	1.000	9.000
POSTIMPB	6.231	2.160	1.000	9.000

Means for Bulimics and Controls in Study II

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE

---------- DX=2 ----------

POSTIMPC	6.231	2.355	1.000	9.000
POSTIMPD	6.346	2.382	1.000	9.000
TASKIMPO	6.101	2.013	1.500	8.875
OTHRIMPO	7.577	0.709	6.333	9.000
HOTSHOT	10.776	3.050	5.480	16.840
ANXIETYA	0.962	1.280	0.000	4.000
ANXIETYB	1.885	1.558	0.000	5.000
ANXIETYC	2.346	1.875	0.000	6.000
ANXIETYD	1.038	1.076	0.000	4.000
DEPRESSA	2.000	1.833	0.000	7.000
DEPRESSB	3.538	2.404	0.000	8.000
DEPRESSC	3.385	2.137	0.000	8.000
DEPRESSD	3.500	1.838	0.000	7.000
HOSTILEA	0.423	0.703	0.000	2.000
HOSTILEB	1.154	1.084	0.000	3.000
HOSTILEC	3.538	1.392	1.000	6.000
HOSTILED	1.462	1.476	0.000	5.000
FILLERA	1.500	1.030	0.000	4.000
FILLERB	1.115	0.909	0.000	3.000
FILLERC	1.115	1.071	0.000	3.000
FILLERD	1.423	0.703	0.000	3.000
BECK	5.000	4.724	0.000	18.000
AANXIETY	0.205	0.280	0.000	0.927
BANXIETY	0.426	0.395	0.000	1.571
CANXIETY	0.460	0.440	0.000	1.571
DANXIETY	0.217	0.235	0.000	0.927
ADEPRESS	0.207	0.196	0.000	0.775
BDEPRESS	0.377	0.274	0.000	0.927

CDEPRESS	0.355	0.235	0.000	0.927
DDEPRESS	0.364	0.198	0.000	0.775
AHOSTILE	0.061	0.102	0.000	0.290
BHOSTILE	0.168	0.159	0.000	0.443
CHOSTILE	0.546	0.238	0.143	1.030
DHOSTILE	0.217	0.226	0.000	0.796
BCDANX	0.368	0.288	0.000	0.989
BCDDEP	0.366	0.215	0.000	0.826
BCDHOS	0.311	0.182	0.048	0.627
AFILLER	0.314	0.228	0.000	0.927
BFILLER	0.190	0.157	0.000	0.524
CFILLER	0.232	0.228	0.000	0.644
DFILLER	0.292	0.148	0.000	0.644
BCDFILL	0.238	0.134	0.056	0.542
AFFECTOL	30.231	16.145	7.000	66.000
FIRSTA	3.038	3.715	0.000	14.000
SECONDA	6.154	7.963	0.000	28.000
THIRDA	5.808	7.803	0.000	32.000
FOURTHA	4.346	5.803	0.000	25.000
FIRSTD	6.308	4.567	1.000	16.000
SECONDD	7.115	4.633	1.000	18.000
TOTTRYS	32.769	31.287	3.000	127.000
DESTRYS	13.423	8.406	2.000	31.000
ABILITYB	5.077	3.019	1.000	9.000
ABILITYC	5.115	2.628	1.000	9.000

Means for Bulimics and Controls in Study II

VARIABLE	MEAN	STANDARD	MINIMUM	MAXIMUM

		DEVIATION	VALUE	VALUE
DX=2				
ABILITYD	5.269	2.974	1.000	9.000
TSKDIFFB	5.769	2.550	1.000	9.000
TSKDIFFC	5.885	2.123	1.000	9.000
TSKDIFFD	6.692	1.934	1.000	9.000
EFFORTB	5.615	2.137	1.000	9.000
EFFORTC	5.577	2.301	1.000	9.000
EFFORTD	5.692	2.589	1.000	9.000
LUCKB	3.231	2.422	1.000	8.000
LUCKC	3.154	2.327	1.000	8.000
LUCKD	3.192	2.315	1.000	7.000
GENERALB	6.192	2.298	1.000	9.000
GENERALC	6.962	1.685	2.000	9.000
GENERALD	6.423	2.157	2.000	9.000
CONTROLB	5.615	2.858	1.000	9.000
CONTROLC	5.962	2.821	1.000	9.000
CONTROLD	5.538	3.023	1.000	9.000
ABILTBCD	5.154	2.751	1.000	9.000
TSKDFBCD	6.115	1.883	1.000	8.667
LUCKBCD	3.192	2.249	1.000	7.333
EFFORBCD	5.628	2.105	1.000	9.000
CTRLBCD	5.705	2.824	1.000	9.000
GENBCD	6.526	1.807	2.333	9.000
DIFCULTB	4.692	2.695	1.000	9.000
DIFCULTC	5.423	3.177	1.000	9.000

DIFCULTD	4.423	2.901	1.000	9.000
HOWUDIDB	4.462	3.313	1.000	9.000
HOWUDIDC	4.923	3.687	1.000	9.000
HOWUDIDD	4.269	3.305	1.000	9.000
SATISFYB	4.769	3.468	1.000	9.000
SATISFYC	5.192	3.633	1.000	9.000
SATISFYD	4.615	3.465	1.000	9.000
SATISBCD	4.859	3.428	1.000	9.000
AVGSATIS	4.752	3.129	1.000	9.000
TRYHARD	5.231	2.438	1.000	9.000
IMSTUPID	4.654	2.652	1.000	9.000
WANNAEAT	1.192	0.801	1.000	5.000
COMPTENT	5.077	2.591	1.000	9.000
DOINWELL	4.692	2.853	1.000	9.000
FEELUGLY	1.423	0.945	1.000	5.000
LIKETHIS	4.154	2.634	1.000	9.000
FEELFAT	1.654	1.325	1.000	5.000
OTHERWAY	7.308	1.761	2.000	9.000
NOTLUKGD	1.500	0.812	1.000	3.000
MALDAPSS	10.423	4.365	5.000	23.000
SSMALDAP	0.235	0.102	0.111	0.536
BULIT1	1.154	0.368	1.000	2.000
BULIT2	2.615	0.941	1.000	4.000
BULIT3	1.192	0.402	1.000	2.000
BULIT4	1.077	0.272	1.000	2.000
BULIT5	1.615	1.098	1.000	4.000
BULIT6	1.423	0.643	1.000	3.000
BULIT7	1.192	0.801	1.000	5.000

BULIT8	1.077	0.272	1.000	2.000

Means for Bulimics and Controls in Study II

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- DX=2 ----------				
BULIT9	1.538	1.029	1.000	5.000
BULIT10	1.385	0.804	1.000	4.000
BULIT11	1.615	0.697	1.000	3.000
BULIT12	1.385	0.496	1.000	2.000
BULIT13	1.115	0.431	1.000	3.000
BULIT14	2.846	1.405	1.000	5.000
BULIT15	1.154	0.464	1.000	3.000
BULIT16	1.808	1.415	1.000	5.000
BULIT17	1.962	1.076	1.000	5.000
BULIT18	1.885	1.071	1.000	5.000
BULIT19	2.231	1.306	1.000	5.000
BULIT20	2.192	1.167	1.000	5.000
BULIT21	1.538	1.208	1.000	5.000
BULIT22	2.115	0.653	1.000	4.000
BULIT23	2.885	1.275	1.000	5.000
BULIT24	1.192	0.402	1.000	2.000
BULIT25	2.500	0.812	1.000	4.000
BULIT26	2.192	0.801	1.000	4.000
BULIT27	1.423	0.703	1.000	3.000
BULIT28	1.500	0.762	1.000	3.000

BULIT29	2.577	1.137	1.000	5.000
BULIT30	1.423	1.102	1.000	5.000
BULIT31	2.538	0.948	1.000	5.000
BULIT32	2.154	1.008	1.000	5.000
BULIT33	1.462	1.208	1.000	5.000
BULIT34	1.115	0.326	1.000	2.000
BULIT35	2.462	0.948	1.000	5.000
BULIT36	1.500	1.063	1.000	5.000
I	5.000	0.000	5.000	5.000
BULIT	57.769	12.084	40.000	81.000
A	1.192	0.801	1.000	5.000
B	1.462	1.208	1.000	5.000
C	1.115	0.326	1.000	2.000
D	1.500	1.063	1.000	5.000
ADAPTSS	17.692	4.278	8.000	25.000
ADAPATTR	42.346	27.411	3.000	81.000
ATTRADAP	0.754	0.211	0.111	1.095
MALATTR	23.769	15.482	3.000	57.000
ATTRMAL	0.451	0.217	0.111	0.815
SSADAPT	0.735	0.220	0.301	1.183

Appendix FF: Means for All Variables in Study II for Success and Failure Groups

Means for Success and Failure Groups in Study II

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- TASKGRP = 1 ----------				
AGE	18.808	0.895	18.000	20.000
HT	65.346	2.331	62.000	71.000
WRTRPTWT	132.923	19.171	100.000	175.000
TIME	16.615	3.083	9.000	21.000
XPECTA	4.115	1.986	1.000	9.000
XPECTB	6.500	1.334	4.000	8.000
XPECTC	7.462	1.029	5.000	9.000

XPECTD	6.769	2.286	1.000	9.000
TSKEFFA	4.192	1.919	1.000	9.000
TSKEFFB	6.577	1.528	4.000	9.000
TSKEFFC	7.385	1.203	4.000	9.000
TSKEFFD	6.538	2.370	1.000	9.000
SASONEA	6.577	2.120	1.000	9.000
SASTWOA	7.346	1.788	2.000	9.000
SASTHRA	4.577	2.301	1.000	9.000
SASFOUA	5.346	1.958	1.000	9.000
SASFIVA	5.615	1.675	3.000	8.000
SASSIXA	5.231	2.971	1.000	9.000
SASSEVA	5.538	2.005	1.000	9.000
SASEIGA	6.385	1.941	3.000	9.000
SASNINA	4.038	1.886	1.000	8.000
SASTENA	6.346	2.153	2.000	9.000
SASONEB	6.808	2.263	1.000	9.000
SASTWOB	7.154	1.953	3.000	9.000
SASTHRB	4.423	2.452	1.000	9.000
SASFOUB	4.808	2.433	1.000	8.000
SASFIVB	5.154	2.092	1.000	9.000
SASSIXB	4.538	2.803	1.000	9.000
SASSEVB	4.962	2.375	1.000	9.000
SASEIGB	5.423	2.230	1.000	9.000
SASNINB	3.500	2.140	1.000	8.000
SASTENB	6.577	2.283	1.000	9.000
TOTALXEF	6.192	1.281	3.750	8.500
XPECTBCD	6.910	1.231	4.333	8.667
TSKEFBCD	6.833	1.259	4.667	9.000

FIRSTSAS	57.000	14.353	33.000	80.000
SECNDSAS	53.346	16.055	21.000	81.000
AVGSAS	55.173	14.746	31.500	80.500
TOTALSAS	110.346	29.492	63.000	161.000
PREIMPA	6.000	1.980	1.000	9.000
PREIMPB	5.462	2.064	1.000	9.000
PREIMPC	5.346	2.116	1.000	9.000
PREIMPD	5.538	2.760	1.000	9.000
COLLEGE	8.115	0.766	7.000	9.000
FAMFRIEN	7.731	1.002	6.000	9.000
OPPOSEX	7.731	1.151	6.000	9.000
OVERTASK	6.500	1.944	2.000	9.000
GOODSTUD	2.808	1.201	1.000	6.000
CURRQCA	2.740	0.505	1.600	3.940
SATISQCA	1.385	0.496	1.000	2.000
IDEALQCA	3.346	0.270	2.800	3.900
EFFIIDLQ	6.308	2.223	1.000	9.000
POSTIMPB	5.654	2.116	1.000	9.000

Means for Success and Failure Groups in Study II

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- TASKGRP=1 ----------				
POSTIMPC	5.538	2.387	1.000	9.000
POSTIMPD	5.692	2.413	1.000	9.000
TASKIMPO	5.716	1.930	1.500	9.000

OTHRIMPO	7.859	0.731	6.333	9.000
HOTSHOT	10.971	3.236	1.420	16.840
ANXIETYA	1.577	1.419	0.000	4.000
ANXIETYB	3.269	1.343	0.000	5.000
ANXIETYC	4.077	1.440	1.000	6.000
ANXIETYD	2.115	1.479	0.000	5.000
DEPRESSA	3.154	2.257	0.000	9.000
DEPRESSB	5.769	2.160	2.000	10.000
DEPRESSC	6.115	1.925	3.000	9.000
DEPRESSD	5.923	2.038	2.000	10.000
HOSTILEA	1.154	1.567	0.000	5.000
HOSTILEB	2.846	1.690	1.000	7.000
HOSTILEC	4.923	0.977	2.000	6.000
HOSTILED	2.885	1.532	0.000	7.000
FILLERA	1.308	1.087	0.000	3.000
FILLERB	1.308	0.838	0.000	3.000
FILLERC	1.000	0.800	0.000	3.000
FILLERD	1.500	0.707	0.000	2.000
BECK	9.385	7.818	0.000	30.000
AANXIETY	0.339	0.314	0.000	0.927
BANXIETY	0.814	0.453	0.000	1.571
CANXIETY	0.843	0.426	0.167	1.571
DANXIETY	0.478	0.382	0.000	1.571
ADEPRESS	0.336	0.264	0.000	1.120
BDEPRESS	0.650	0.303	0.201	1.571
CDEPRESS	0.684	0.258	0.305	1.120
DDEPRESS	0.672	0.304	0.201	1.571
AHOSTILE	0.174	0.243	0.000	0.796

BHOSTILE	0.452	0.333	0.143	1.571
CHOSTILE	0.797	0.190	0.290	1.030
DHOSTILE	0.453	0.305	0.000	1.571
BCDANX	0.711	0.350	0.180	1.571
BCDDEP	0.669	0.258	0.270	1.270
BCDHOS	0.567	0.236	0.241	1.390
AFILLER	0.273	0.234	0.000	0.644
BFILLER	0.222	0.146	0.000	0.524
CFILLER	0.205	0.167	0.000	0.644
DFILLER	0.307	0.146	0.000	0.412
BCDFILL	0.245	0.105	0.056	0.449
AFFECTOL	53.192	21.026	25.000	101.000
FIRSTA	4.385	4.500	0.000	14.000
SECONDA	9.346	7.904	0.000	28.000
THIRDA	9.192	7.211	0.000	32.000
FOURTHA	6.846	5.576	0.000	25.000
FIRSTD	8.654	3.085	5.000	16.000
SECONDD	9.038	3.092	5.000	18.000
TOTTRYS	47.462	27.516	13.000	127.000
DESTRYS	17.692	5.829	10.000	31.000
ABILITYB	3.308	2.150	1.000	7.000
ABILITYC	3.769	2.338	1.000	8.000

Means for Success and Failure Groups in Study II

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE

---------- TASKGRP = 1 ----------

ABILITYD	3.654	2.279	1.000	8.000
TSKDIFFB	4.808	2.117	1.000	8.000
TSKDIFFC	5.000	1.960	1.000	9.000
TSKDIFFD	5.308	2.276	1.000	9.000
EFFORTB	4.808	1.898	1.000	8.000
EFFORTC	4.615	1.745	2.000	9.000
EFFORTD	4.500	1.749	1.000	7.000
LUCKB	2.423	2.101	1.000	7.000
LUCKC	2.231	2.006	1.000	7.000
LUCKD	2.269	1.971	1.000	7.000
GENERALB	5.308	2.379	1.000	9.000
GENERALC	6.538	1.881	2.000	9.000
GENERALD	5.692	2.294	2.000	9.000
CONTROLB	3.692	2.168	1.000	8.000
CONTROLC	3.615	2.483	1.000	8.000
CONTROLD	3.769	2.320	1.000	8.000
ABILTBCD	3.577	1.990	1.000	7.667
TSKDFBCD	5.038	1.824	1.000	8.667
LUCKBCD	2.308	1.953	1.000	6.667
EFFORBCD	4.641	1.320	2.333	7.333
CTRLBCD	3.692	2.044	1.000	8.000
GENBCD	5.846	1.836	2.333	9.000
DIFCULTB	2.231	1.423	1.000	6.000
DIFCULTC	2.385	1.791	1.000	7.000
DIFCULTD	2.077	1.521	1.000	6.000
HOWUDIDB	1.308	0.618	1.000	3.000
HOWUDIDC	1.308	0.736	1.000	4.000

HOWUDIDD	1.462	0.948	1.000	5.000
SATISFYB	1.615	1.359	1.000	7.000
SATISFYC	1.654	1.355	1.000	7.000
SATISFYD	1.692	1.379	1.000	7.000
SATISBCD	1.654	1.328	1.000	7.000
AVGSATIS	1.748	1.012	1.000	4.778
TRYHARD	6.846	1.933	2.000	9.000
IMSTUPID	7.231	1.728	4.000	9.000
WANNAEAT	1.500	1.421	1.000	7.000
COMPTENT	3.154	2.073	1.000	9.000
DOINWELL	1.615	0.983	1.000	4.000
FEELUGLY	2.308	2.131	1.000	8.000
LIKETHIS	2.000	1.833	1.000	9.000
FEELFAT	2.692	2.259	1.000	9.000
OTHERWAY	7.423	1.579	2.000	9.000
NOTLUKGD	2.923	2.296	1.000	8.000
MALDAPSS	16.654	7.025	8.000	32.000
SSMALDAP	0.386	0.177	0.179	0.791
BULIT1	1.920	1.077	1.000	4.000
BULIT2	3.600	1.414	1.000	5.000
BULIT3	1.840	0.898	1.000	4.000
BULIT4	2.080	1.288	1.000	4.000
BULIT5	2.120	1.453	1.000	5.000
BULIT6	2.520	1.418	1.000	5.000
BULIT7	1.360	0.995	1.000	5.000
BULIT8	1.440	0.712	1.000	3.000

Means for Success and Failure Groups in Study II

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- TASKGRP = 1 ----------				
BULIT9	2.600	1.633	1.000	5.000
BULIT10	2.520	1.475	1.000	5.000
BULIT11	3.120	1.563	1.000	5.000
BULIT12	2.360	1.287	1.000	5.000
BULIT13	2.040	1.369	1.000	5.000
BULIT14	3.800	1.472	1.000	5.000
BULIT15	1.480	1.085	1.000	5.000
BULIT16	2.720	1.792	1.000	5.000
BULIT17	2.920	1.470	1.000	5.000
BULIT18	2.720	1.400	1.000	5.000
BULIT19	2.840	1.650	1.000	5.000
BULIT20	3.400	1.581	1.000	5.000
BULIT21	2.760	1.899	1.000	5.000
BULIT22	3.120	1.301	1.000	5.000
BULIT23	3.640	1.350	1.000	5.000
BULIT24	2.440	1.530	1.000	5.000
BULIT25	3.040	1.060	1.000	5.000
BULIT26	3.080	1.222	1.000	5.000
BULIT27	2.040	1.428	1.000	5.000
BULIT28	2.520	1.358	1.000	5.000
BULIT29	3.680	1.314	2.000	5.000
BULIT30	1.600	1.190	1.000	5.000
BULIT31	3.200	1.041	1.000	5.000

BULIT32	2.680	1.069	1.000	5.000
BULIT33	1.160	0.624	1.000	4.000
BULIT34	1.120	0.332	1.000	2.000
BULIT35	3.160	1.068	1.000	5.000
BULIT36	1.792	1.021	1.000	5.000
I	5.000	0.000	5.000	5.000
BULIT	86.462	30.307	42.000	126.000
A	1.360	0.995	1.000	5.000
B	1.160	0.624	1.000	4.000
C	1.120	0.332	1.000	2.000
D	1.792	1.021	1.000	5.000
ADAPTSS	16.269	3.080	8.000	24.000
ADAPATTR	15.115	5.472	3.000	26.000
ATTRADAP	0.619	0.266	0.111	1.298
MALATTR	39.346	12.306	20.000	63.000
ATTRMAL	0.516	0.179	0.249	0.891
SSADAPT	0.655	0.148	0.301	1.095

Means for Success and Failure Groups in Study II

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- TASKGRP=2 ----------				
AGE	18.654	1.018	18.000	22.000
HT	64.846	1.826	62.000	70.000
WRTRPTWT	133.385	17.046	118.000	178.000
TIME	17.365	2.690	9.000	21.000

XPECTA	3.692	1.379	1.000	7.000
XPECTB	4.654	2.226	1.000	8.000
XPECTC	4.462	2.353	1.000	8.000
XPECTD	2.500	1.679	1.000	8.000
TSKEFFA	3.654	1.468	1.000	7.000
TSKEFFB	4.385	1.899	1.000	8.000
TSKEFFC	4.269	2.426	1.000	8.000
TSKEFFD	2.308	1.569	1.000	8.000
SASONEA	6.615	2.434	1.000	9.000
SASTWOA	6.923	1.875	3.000	9.000
SASTHRA	5.115	2.046	1.000	8.000
SASFOUA	5.423	1.858	3.000	9.000
SASFIVA	5.923	1.875	2.000	9.000
SASSIXA	5.692	2.739	1.000	9.000
SASSEVA	5.500	1.903	2.000	9.000
SASEIGA	5.885	1.904	1.000	8.000
SASNINA	4.808	2.384	1.000	9.000
SASTENA	6.692	2.015	2.000	9.000
SASONEB	7.077	2.314	1.000	9.000
SASTWOB	6.962	2.049	3.000	9.000
SASTHRB	4.615	2.299	1.000	9.000
SASFOUB	6.077	2.171	2.000	9.000
SASFIVB	5.923	1.998	2.000	9.000
SASSIXB	5.577	2.788	1.000	9.000
SASSEVB	5.769	2.141	2.000	9.000
SASEIGB	6.154	1.736	2.000	9.000
SASNINB	5.038	2.553	1.000	9.000
SASTENB	6.769	2.286	2.000	9.000

TOTALXEF	3.740	1.411	1.125	5.625
XPECTBCD	3.872	1.668	1.000	6.333
TSKEFBCD	3.654	1.599	1.000	6.000
FIRSTSAS	58.577	15.718	25.000	86.000
SECNDSAS	59.962	17.040	22.000	86.000
AVGSAS	59.269	16.243	23.500	86.000
TOTALSAS	118.538	32.487	47.000	172.000
PREIMPA	6.615	1.329	4.000	9.000
PREIMPB	6.885	1.608	3.000	9.000
PREIMPC	6.923	1.787	3.000	9.000
PREIMPD	6.731	2.325	2.000	9.000
COLLEGE	8.154	0.834	7.000	9.000
FAMFRIEN	7.962	0.916	6.000	9.000
OPPOSEX	7.462	0.989	5.000	9.000
OVERTASK	6.769	1.904	2.000	9.000
GOODSTUD	3.500	1.556	1.000	7.000
CURRQCA	2.622	0.602	1.740	3.810
SATISQCA	1.346	0.485	1.000	2.000
IDEALQCA	3.236	0.341	2.700	3.900
EFFIIDLQ	6.385	2.021	1.000	9.000
POSTIMPB	7.115	1.423	4.000	9.000

Means for Success and Failure Groups in Study II

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE

---------- TASKGRP=2 ----------

POSTIMPC	7.462	1.208	4.000	9.000
POSTIMPD	7.731	1.251	4.000	9.000
TASKIMPO	7.029	1.313	3.875	8.875
OTHRIMPO	7.859	0.694	6.333	9.000
HOTSHOT	10.088	3.328	2.500	14.710
ANXIETYA	1.115	1.211	0.000	4.000
ANXIETYB	1.538	1.392	0.000	5.000
ANXIETYC	1.615	1.551	0.000	6.000
ANXIETYD	0.923	0.977	0.000	4.000
DEPRESSA	2.885	2.065	0.000	8.000
DEPRESSB	2.846	1.666	0.000	6.000
DEPRESSC	2.231	1.531	0.000	5.000
DEPRESSD	2.423	1.677	0.000	5.000
HOSTILEA	0.769	1.107	0.000	5.000
HOSTILEB	0.769	0.951	0.000	3.000
HOSTILEC	2.731	1.116	0.000	5.000
HOSTILED	0.731	0.827	0.000	3.000
FILLERA	1.500	1.105	0.000	4.000
FILLERB	0.654	0.745	0.000	2.000
FILLERC	1.077	1.017	0.000	3.000
FILLERD	1.192	0.801	0.000	3.000
BECK	9.346	9.104	0.000	35.000
AANXIETY	0.236	0.266	0.000	0.927
BANXIETY	0.345	0.362	0.000	1.571
CANXIETY	0.303	0.351	0.000	1.571
DANXIETY	0.192	0.215	0.000	0.927
ADEPRESS	0.302	0.229	0.000	0.927
BDEPRESS	0.293	0.177	0.000	0.644

CDEPRESS	0.228	0.160	0.000	0.524
DDEPRESS	0.248	0.175	0.000	0.524
AHOSTILE	0.114	0.172	0.000	0.796
BHOSTILE	0.112	0.139	0.000	0.443
CHOSTILE	0.407	0.175	0.000	0.796
DHOSTILE	0.106	0.121	0.000	0.443
BCDANX	0.280	0.239	0.000	0.904
BCDDEP	0.257	0.147	0.000	0.564
BCDHOS	0.208	0.117	0.048	0.509
AFILLER	0.315	0.242	0.000	0.927
BFILLER	0.110	0.126	0.000	0.340
CFILLER	0.224	0.217	0.000	0.644
DFILLER	0.245	0.170	0.000	0.644
BCDFILL	0.193	0.144	0.056	0.542
AFFECTOL	29.923	17.235	7.000	76.000
FIRSTA	1.423	1.677	0.000	9.000
SECONDA	1.500	2.005	0.000	10.000
THIRDA	0.962	0.196	0.000	1.000
FOURTHA	0.962	0.196	0.000	1.000
FIRSTD	3.731	2.850	1.000	10.000
SECONDD	3.923	3.358	1.000	12.000
TOTTRYS	12.500	5.867	3.000	29.000
DESTRYS	7.654	4.707	2.000	17.000
ABILITYB	6.385	2.264	1.000	9.000
ABILITYC	6.269	2.219	1.000	9.000

Means for Success and Failure Groups in Study II

VARIABLE	MEAN	STANDARD	MINIMUM	MAXIMUM

		DEVIATION	VALUE	VALUE
---------- TASKGRP=2 ----------				
ABILITYD	6.615	2.385	1.000	9.000
TSKDIFFB	6.192	2.298	1.000	9.000
TSKDIFFC	5.962	2.163	1.000	9.000
TSKDIFFD	6.577	2.003	2.000	9.000
EFFORTB	6.077	2.153	1.000	9.000
EFFORTC	6.154	2.477	1.000	9.000
EFFORTD	6.654	2.513	1.000	9.000
LUCKB	4.115	2.389	1.000	8.000
LUCKC	4.269	1.991	1.000	8.000
LUCKD	4.500	2.371	1.000	8.000
GENERALB	7.192	1.524	1.000	9.000
GENERALC	7.192	1.600	2.000	9.000
GENERALD	7.308	1.644	2.000	9.000
CONTROLB	7.731	1.282	4.000	9.000
CONTROLC	7.769	1.243	4.000	9.000
CONTROLD	7.846	1.287	4.000	9.000
ABILTBCD	6.423	2.060	1.000	9.000
TSKDFBCD	6.244	1.899	2.000	9.000
LUCKBCD	4.295	2.066	1.000	7.333
EFFORBCD	6.295	2.236	1.000	9.000
CTRLBCD	7.782	1.185	4.000	9.000
GENBCD	7.231	1.478	1.667	9.000
DIFCULTB	7.038	1.777	3.000	9.000
DIFCULTC	7.923	1.440	4.000	9.000

DIFCULTD	7.077	1.875	3.000	9.000
HOWUDIDB	7.269	1.779	3.000	9.000
HOWUDIDC	8.115	0.952	6.000	9.000
HOWUDIDD	7.462	1.838	3.000	9.000
SATISFYB	7.462	1.860	3.000	9.000
SATISFYC	8.154	0.925	6.000	9.000
SATISFYD	7.731	1.733	2.000	9.000
SATISBCD	7.782	1.099	5.333	9.000
AVGSATIS	7.581	1.086	5.111	9.000
TRYHARD	4.462	2.596	1.000	9.000
IMSTUPID	3.462	2.121	1.000	9.000
WANNAEAT	1.423	1.137	1.000	5.000
COMPTENT	5.731	2.290	1.000	9.000
DOINWELL	6.846	1.515	3.000	9.000
FEELUGLY	2.423	2.003	1.000	8.000
LIKETHIS	5.654	2.365	1.000	9.000
FEELFAT	3.462	2.929	1.000	8.000
OTHERWAY	6.615	2.434	1.000	9.000
NOTLUKGD	2.692	2.542	1.000	9.000
MALDAPSS	13.462	8.368	5.000	33.000
SSMALDAP	0.312	0.206	0.111	0.823
BULIT1	2.269	1.251	1.000	5.000
BULIT2	3.769	1.243	1.000	5.000
BULIT3	2.192	1.266	1.000	5.000
BULIT4	2.385	1.602	1.000	5.000
BULIT5	2.231	1.751	1.000	5.000
BULIT6	2.269	1.251	1.000	4.000
BULIT7	1.308	0.549	1.000	3.000

BULIT8	1.615	0.804	1.000	3.000

Means for Success and Failure Groups in Study II

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- TASKGRP=2 ----------				
BULIT9	3.000	1.649	1.000	5.000
BULIT10	2.846	1.567	1.000	5.000
BULIT11	2.731	1.638	1.000	5.000
BULIT12	2.385	1.329	1.000	5.000
BULIT13	2.000	1.166	1.000	5.000
BULIT14	3.731	1.538	1.000	5.000
BULIT15	2.077	1.598	1.000	5.000
BULIT16	3.192	1.698	1.000	5.000
BULIT17	3.000	1.442	1.000	5.000
BULIT18	2.654	1.294	1.000	5.000
BULIT19	3.115	1.505	1.000	5.000
BULIT20	3.231	1.478	1.000	5.000
BULIT21	2.962	1.661	1.000	5.000
BULIT22	3.077	1.262	1.000	5.000
BULIT23	3.538	1.392	1.000	5.000
BULIT24	2.692	1.594	1.000	5.000
BULIT25	2.885	1.033	1.000	5.000
BULIT26	3.154	1.405	1.000	5.000
BULIT27	2.346	1.573	1.000	5.000
BULIT28	2.654	1.468	1.000	5.000

BULIT29	3.615	1.525	1.000	5.000
BULIT30	2.115	1.633	1.000	5.000
BULIT31	3.038	1.113	1.000	5.000
BULIT32	2.462	0.989	1.000	5.000
BULIT33	1.500	1.304	1.000	5.000
BULIT34	1.231	0.652	1.000	4.000
BULIT35	3.077	1.197	1.000	5.000
BULIT36	1.760	1.052	1.000	5.000
I	5.000	0.000	5.000	5.000
BULIT	88.308	33.704	40.000	145.000
A	1.308	0.549	1.000	3.000
B	1.500	1.304	1.000	5.000
C	1.231	0.652	1.000	4.000
D	1.760	1.052	1.000	5.000
ADAPTSS	18.231	4.590	8.000	27.000
ADAPATTR	64.308	10.627	35.000	81.000
ATTRADAP	0.794	0.131	0.432	1.000
MALATTR	12.885	6.199	3.000	22.000
ATTRMAL	0.477	0.230	0.111	0.815
SSADAPT	0.776	0.269	0.301	1.571

Appendix GG: Means for All Variables in Study II for Each Group

Means of All Variables in Study II for Each Group

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- DIAGNOSI=BU TASKGRP=FAIL ----------				
TOTALXEF	6.529	1.214	3.750	8.500
AVGSAS	47.577	11.830	31.500	65.000
TASKIMPO	6.452	1.332	4.250	9.000
AFFECTOL	65.077	20.855	29.000	101.000
TOTTRYS	40.923	21.333	15.000	81.000
ATTRADAP	0.576	0.273	0.111	1.298
ATTRMAL	0.569	0.177	0.249	0.891
AVGSATIS	1.615	0.926	1.000	3.778

SSMALDAP	0.483	0.188	0.247	0.791
SSADAPT	0.668	0.064	0.589	0.834

---------- DIAGNOSI = BU TASKGRP = SUCC ----------

TOTALXEF	4.260	1.300	1.125	5.625
AVGSAS	47.538	12.722	23.500	68.000
TASKIMPO	6.837	1.612	3.875	8.875
AFFECTOL	40.692	16.444	18.000	76.000
TOTTRYS	13.462	6.050	8.000	29.000
ATTRADAP	0.741	0.154	0.432	1.000
ATTRMAL	0.516	0.196	0.111	0.704
AVGSATIS	7.538	1.080	5.111	9.000
SSMALDAP	0.442	0.213	0.111	0.823
SSADAPT	0.723	0.322	0.301	1.571

---------- DIAGNOSI = NO TASKGRP = FAIL ----------

TOTALXEF	5.856	1.304	4.125	8.375
AVGSAS	62.769	13.712	36.500	80.500
TASKIMPO	4.981	2.194	1.500	8.250
AFFECTOL	41.308	13.419	25.000	66.000
TOTTRYS	54.000	32.088	13.000	127.000
ATTRADAP	0.661	0.262	0.111	1.095
ATTRMAL	0.463	0.170	0.288	0.781
AVGSATIS	1.880	1.112	1.000	4.778
SSMALDAP	0.289	0.098	0.179	0.536
SSADAPT	0.642	0.203	0.301	1.095

---------- DIAGNOSI = NO TASKGRP = SUCC ----------

TOTALXEF	3.221	1.369	1.250	5.250
AVGSAS	71.000	9.469	53.000	86.000
TASKIMPO	7.221	0.955	5.500	8.875
AFFECTOL	19.154	9.856	7.000	45.000
TOTTRYS	11.538	5.753	3.000	21.000
ATTRADAP	0.847	0.077	0.716	1.000
ATTRMAL	0.439	0.261	0.111	0.815
AVGSATIS	7.624	1.134	5.222	9.000
SSMALDAP	0.181	0.074	0.111	0.364
SSADAPT	0.829	0.201	0.545	1.183

Means of All Variables in Study II for Each Group

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE

---------- DIAGNOSI = BU TASKGRP = FAIL ----------

AGE	18.308	0.630	18.000	20.000
HT	64.923	2.660	62.000	71.000
WRTRPTWT	131.538	19.007	105.000	175.000
TIME	16.615	3.036	11.000	21.000
XPECTA	4.462	1.854	1.000	8.000
XPECTB	7.000	1.080	5.000	8.000
XPECTC	7.692	0.947	6.000	9.000
XPECTD	7.077	2.253	1.000	9.000

TSKEFFA	4.538	1.664	2.000	8.000
TSKEFFB	7.077	1.320	5.000	9.000
TSKEFFC	7.615	1.044	6.000	9.000
TSKEFFD	6.769	2.651	1.000	9.000
SASONEA	6.692	2.250	3.000	9.000
SASTWOA	7.308	1.974	2.000	9.000
SASTHRA	4.077	2.290	1.000	8.000
SASFOUA	4.385	1.895	1.000	8.000
SASFIVA	4.923	1.801	3.000	7.000
SASSIXA	3.154	2.444	1.000	9.000
SASSEVA	4.231	1.787	1.000	7.000
SASEIGA	5.538	1.984	3.000	9.000
SASNINA	2.923	1.256	1.000	5.000
SASTENA	6.308	2.136	3.000	9.000
SASONEB	6.923	2.290	2.000	9.000
SASTWOB	7.385	1.850	3.000	9.000
SASTHRB	4.231	2.619	1.000	8.000
SASFOUB	3.538	2.402	1.000	8.000
SASFIVB	4.385	1.710	3.000	7.000
SASSIXB	2.615	1.261	1.000	5.000
SASSEVB	3.538	1.713	1.000	7.000
SASEIGB	4.000	1.732	1.000	7.000
SASNINB	2.308	1.251	1.000	5.000
SASTENB	6.692	2.136	3.000	9.000
TOTALXEF	6.529	1.214	3.750	8.500
XPECTBCD	7.256	1.188	4.333	8.667
TSKEFBCD	7.154	1.358	4.667	9.000
FIRSTSAS	49.538	12.953	33.000	73.000

SECNDSAS	45.615	11.515	30.000	63.000
AVGSAS	47.577	11.830	31.500	65.000
TOTALSAS	95.154	23.660	63.000	130.000
PREIMPA	6.615	1.609	3.000	9.000
PREIMPB	6.308	1.653	4.000	9.000
PREIMPC	5.923	1.847	3.000	9.000
PREIMPD	6.154	2.512	1.000	9.000
COLLEGE	8.077	0.760	7.000	9.000
FAMFRIEN	8.385	0.650	7.000	9.000
OPPOSEX	8.308	0.947	6.000	9.000
OVERTASK	7.538	1.330	4.000	9.000
GOODSTUD	2.923	1.256	1.000	6.000
CURRQCA	2.792	0.353	2.220	3.400
SATISQCA	1.462	0.519	1.000	2.000
IDEALQCA	3.331	0.293	2.800	3.900
EFFIIDLQ	6.000	2.160	1.000	9.000
POSTIMPB	6.231	1.739	3.000	9.000

Means of All Variables in Study II for Each Group

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- DIAGNOSI=BU TASKGRP=FAIL ----------				
POSTIMPC	6.385	2.142	3.000	9.000
POSTIMPD	6.462	2.025	3.000	9.000
TASKIMPO	6.452	1.332	4.250	9.000
OTHRIMPO	8.256	0.564	7.000	9.000

HOTSHOT	10.662	3.406	1.420	14.400
ANXIETYA	1.846	1.345	0.000	4.000
ANXIETYB	3.538	1.613	0.000	5.000
ANXIETYC	4.385	1.325	2.000	6.000
ANXIETYD	3.000	1.354	0.000	5.000
DEPRESSA	4.154	2.375	1.000	9.000
DEPRESSB	6.462	1.941	2.000	10.000
DEPRESSC	7.308	1.702	3.000	9.000
DEPRESSD	7.231	1.833	3.000	10.000
HOSTILEA	1.846	1.819	0.000	5.000
HOSTILEB	3.769	1.833	1.000	7.000
HOSTILEC	5.308	0.751	4.000	6.000
HOSTILED	3.231	1.739	0.000	7.000
FILLERA	1.231	1.301	0.000	3.000
FILLERB	1.077	0.862	0.000	3.000
FILLERC	1.077	0.641	0.000	2.000
FILLERD	1.462	0.776	0.000	2.000
BECK	13.000	8.583	2.000	30.000
AANXIETY	0.395	0.299	0.000	0.927
BANXIETY	0.937	0.531	0.000	1.571
CANXIETY	0.923	0.422	0.340	1.571
DANXIETY	0.701	0.388	0.000	1.571
ADEPRESS	0.450	0.292	0.100	1.120
BDEPRESS	0.748	0.319	0.201	1.571
CDEPRESS	0.846	0.236	0.305	1.120
DDEPRESS	0.859	0.310	0.305	1.571
AHOSTILE	0.280	0.287	0.000	0.796
BHOSTILE	0.623	0.388	0.143	1.571

CHOSTILE	0.875	0.163	0.608	1.030
DHOSTILE	0.526	0.376	0.000	1.571
BCDANX	0.853	0.383	0.180	1.571
BCDDEP	0.818	0.258	0.270	1.270
BCDHOS	0.675	0.278	0.298	1.390
AFILLER	0.260	0.280	0.000	0.644
BFILLER	0.183	0.149	0.000	0.524
CFILLER	0.219	0.132	0.000	0.412
DFILLER	0.300	0.160	0.000	0.412
BCDFILL	0.234	0.110	0.067	0.388
AFFECTOL	65.077	20.855	29.000	101.000
FIRSTA	3.692	4.644	0.000	12.000
SECONDA	7.308	6.957	0.000	22.000
THIRDA	7.692	5.329	0.000	17.000
FOURTHA	5.923	4.271	0.000	13.000
FIRSTD	7.846	2.375	5.000	13.000
SECONDD	8.462	2.222	6.000	13.000
TOTTRYS	40.923	21.333	15.000	81.000
DESTRYS	16.308	4.270	12.000	24.000
ABILITYB	3.769	2.048	1.000	7.000
ABILITYC	3.923	2.629	1.000	8.000

Means of All Variables in Study II for Each Group

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE

---------- DIAGNOSI=BU TASKGRP=FAIL ----------

ABILITYD	3.923	2.397	1.000	8.000
TSKDIFFB	5.077	1.935	1.000	8.000
TSKDIFFC	4.385	1.938	1.000	9.000
TSKDIFFD	4.692	2.287	1.000	9.000
EFFORTB	4.615	2.103	1.000	8.000
EFFORTC	4.769	2.127	2.000	9.000
EFFORTD	4.615	1.850	1.000	7.000
LUCKB	2.154	2.035	1.000	7.000
LUCKC	2.231	2.048	1.000	7.000
LUCKD	2.154	2.075	1.000	7.000
GENERALB	5.846	2.267	1.000	9.000
GENERALC	6.923	1.847	4.000	9.000
GENERALD	6.308	2.287	3.000	9.000
CONTROLB	4.231	2.488	1.000	8.000
CONTROLC	3.462	2.634	1.000	8.000
CONTROLD	4.615	2.468	1.000	8.000
ABILTBCD	3.872	2.007	1.000	6.667
TSKDFBCD	4.718	1.799	1.000	8.667
LUCKBCD	2.179	2.035	1.000	6.667
EFFORBCD	4.667	1.528	2.333	7.333
CTRLBCD	4.103	2.192	1.000	8.000
GENBCD	6.359	1.823	3.333	9.000
DIFCULTB	1.923	1.382	1.000	5.000
DIFCULTC	2.231	2.088	1.000	7.000
DIFCULTD	1.923	1.605	1.000	5.000
HOWUDIDB	1.154	0.555	1.000	3.000
HOWUDIDC	1.231	0.599	1.000	3.000
HOWUDIDD	1.538	1.198	1.000	5.000

SATISFYB	1.462	0.967	1.000	4.000
SATISFYC	1.462	0.967	1.000	4.000
SATISFYD	1.615	1.044	1.000	4.000
SATISBCD	1.513	0.899	1.000	3.667
AVGSATIS	1.615	0.926	1.000	3.778
TRYHARD	7.385	1.805	5.000	9.000
IMSTUPID	7.846	1.519	5.000	9.000
WANNAEAT	1.692	1.702	1.000	7.000
COMPTENT	2.538	1.450	1.000	5.000
DOINWELL	1.077	0.277	1.000	2.000
FEELUGLY	3.154	2.577	1.000	8.000
LIKETHIS	1.615	1.261	1.000	5.000
FEELFAT	3.615	2.534	1.000	9.000
OTHERWAY	7.692	1.032	6.000	9.000
NOTLUKGD	4.231	2.555	1.000	8.000
MALDAPSS	20.538	7.276	11.000	32.000
SSMALDAP	0.483	0.188	0.247	0.791
BULIT1	2.833	0.835	2.000	4.000
BULIT2	4.750	0.452	4.000	5.000
BULIT3	2.500	0.798	2.000	4.000
BULIT4	3.167	1.030	1.000	4.000
BULIT5	2.500	1.732	1.000	5.000
BULIT6	3.583	1.165	1.000	5.000
BULIT7	1.417	0.900	1.000	4.000
BULIT8	1.833	0.835	1.000	3.000

Means of All Variables in Study II for Each Group

VARIABLE	MEAN	STANDARD	MINIMUM	MAXIMUM

		DEVIATION	VALUE	VALUE
---------- DIAGNOSI = BU TASKGRP = FAIL ----------				
BULIT9	4.000	1.128	2.000	5.000
BULIT10	3.917	0.515	3.000	5.000
BULIT11	4.500	0.798	3.000	5.000
BULIT12	3.333	1.155	2.000	5.000
BULIT13	3.083	1.311	2.000	5.000
BULIT14	4.500	1.168	1.000	5.000
BULIT15	1.917	1.443	1.000	5.000
BULIT16	4.083	1.311	1.000	5.000
BULIT17	4.000	1.044	2.000	5.000
BULIT18	3.417	1.165	1.000	5.000
BULIT19	3.917	1.379	1.000	5.000
BULIT20	4.583	0.669	3.000	5.000
BULIT21	4.417	1.165	1.000	5.000
BULIT22	4.000	1.128	1.000	5.000
BULIT23	4.250	1.138	1.000	5.000
BULIT24	3.833	0.937	2.000	5.000
BULIT25	3.583	0.996	2.000	5.000
BULIT26	4.000	0.953	2.000	5.000
BULIT27	2.750	1.658	1.000	5.000
BULIT28	3.667	0.888	2.000	5.000
BULIT29	4.667	0.651	3.000	5.000
BULIT30	1.917	1.443	1.000	5.000
BULIT31	3.917	0.669	3.000	5.000
BULIT32	3.083	0.996	2.000	5.000

BULIT33	1.000	0.000	1.000	1.000
BULIT34	1.083	0.289	1.000	2.000
BULIT35	3.667	0.888	2.000	5.000
BULIT36	2.333	1.073	1.000	5.000
I	5.000	0.000	5.000	5.000
BULIT	114.846	6.466	105.000	126.000
A	1.417	0.900	1.000	4.000
B	1.000	0.000	1.000	1.000
C	1.083	0.289	1.000	2.000
D	2.333	1.073	1.000	5.000
ADAPTSS	16.692	1.316	15.000	20.000
ADAPATTR	14.154	5.398	3.000	26.000
ATTRADAP	0.576	0.273	0.111	1.298
MALATTR	43.000	12.042	20.000	63.000
ATTRMAL	0.569	0.177	0.249	0.891
SSADAPT	0.668	0.064	0.589	0.834

Means of All Variables in Study II for Each Group

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- DIAGNOSI=BU TASKGRP=SUCC ----------				
AGE	18.615	1.193	18.000	22.000
HT	65.308	1.316	63.000	68.000
WRTRPTWT	135.615	16.880	120.000	171.000
TIME	17.808	1.820	15.000	21.000
XPECTA	3.923	1.320	1.000	6.000

XPECTB	5.231	2.048	1.000	8.000
XPECTC	4.923	2.397	1.000	8.000
XPECTD	3.077	2.139	1.000	8.000
TSKEFFA	4.231	1.589	1.000	7.000
TSKEFFB	5.154	1.864	2.000	8.000
TSKEFFC	4.769	2.421	1.000	8.000
TSKEFFD	2.769	2.006	1.000	8.000
SASONEA	6.385	2.468	1.000	9.000
SASTWOA	6.615	2.181	3.000	9.000
SASTHRA	3.846	1.994	1.000	7.000
SASFOUA	4.308	1.548	3.000	7.000
SASFIVA	5.231	1.691	2.000	8.000
SASSIXA	3.615	2.063	1.000	8.000
SASSEVA	4.077	1.188	2.000	6.000
SASEIGA	4.538	1.613	1.000	7.000
SASNINA	3.154	1.819	1.000	6.000
SASTENA	5.538	2.145	2.000	9.000
SASONEB	7.154	2.154	2.000	9.000
SASTWOB	6.462	2.367	3.000	9.000
SASTHRB	3.000	1.683	1.000	6.000
SASFOUB	4.615	1.850	2.000	7.000
SASFIVB	5.000	1.780	2.000	7.000
SASSIXB	3.462	1.613	1.000	6.000
SASSEVB	4.154	1.573	2.000	7.000
SASEIGB	5.000	1.472	2.000	7.000
SASNINB	3.231	1.964	1.000	6.000
SASTENB	5.692	2.658	2.000	9.000
TOTALXEF	4.260	1.300	1.125	5.625

XPECTBCD	4.410	1.611	1.000	6.333
TSKEFBCD	4.231	1.536	1.333	6.000
FIRSTSAS	47.308	12.270	25.000	70.000
SECNDSAS	47.769	13.380	22.000	66.000
AVGSAS	47.538	12.722	23.500	68.000
TOTALSAS	95.077	25.444	47.000	136.000
PREIMPA	6.385	1.660	4.000	9.000
PREIMPB	6.538	1.854	3.000	9.000
PREIMPC	6.692	1.974	4.000	9.000
PREIMPD	7.000	2.273	3.000	9.000
COLLEGE	8.231	0.832	7.000	9.000
FAMFRIEN	8.154	0.899	6.000	9.000
OPPOSEX	7.692	0.855	6.000	9.000
OVERTASK	6.385	2.293	2.000	9.000
GOODSTUD	3.538	1.761	1.000	7.000
CURRQCA	2.662	0.664	1.980	3.810
SATISQCA	1.231	0.439	1.000	2.000
IDEALQCA	3.319	0.371	2.900	3.900
EFFIIDLQ	6.231	2.006	1.000	9.000
POSTIMPB	6.846	1.676	4.000	9.000

Means of All Variables in Study II for Each Group

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- DIAGNOSI=BU TASKGRP=SUCC ----------				
POSTIMPC	7.154	1.463	4.000	9.000

POSTIMPD	7.692	1.601	4.000	9.000
TASKIMPO	6.837	1.612	3.875	8.875
OTHRIMPO	8.026	0.616	6.667	8.667
HOTSHOT	9.905	3.767	2.500	14.710
ANXIETYA	1.615	1.261	0.000	4.000
ANXIETYB	2.308	1.182	1.000	5.000
ANXIETYC	2.308	1.843	0.000	6.000
ANXIETYD	1.000	0.816	0.000	2.000
DEPRESSA	3.923	1.553	2.000	8.000
DEPRESSB	3.692	1.494	1.000	6.000
DEPRESSC	2.615	1.387	1.000	5.000
DEPRESSD	2.462	1.761	0.000	5.000
HOSTILEA	1.154	1.405	0.000	5.000
HOSTILEB	1.154	1.068	0.000	3.000
HOSTILEC	2.923	1.320	0.000	5.000
HOSTILED	1.077	0.862	0.000	3.000
FILLERA	1.385	1.044	0.000	3.000
FILLERB	0.615	0.650	0.000	2.000
FILLERC	0.846	0.801	0.000	3.000
FILLERD	1.077	0.862	0.000	3.000
BECK	14.462	9.803	2.000	35.000
AANXIETY	0.344	0.285	0.000	0.927
BANXIETY	0.528	0.374	0.201	1.571
CANXIETY	0.450	0.439	0.000	1.571
DANXIETY	0.204	0.168	0.000	0.412
ADEPRESS	0.412	0.186	0.201	0.927
BDEPRESS	0.383	0.163	0.100	0.644
CDEPRESS	0.268	0.147	0.100	0.524

DDEPRESS	0.253	0.184	0.000	0.524
AHOSTILE	0.172	0.221	0.000	0.796
BHOSTILE	0.168	0.157	0.000	0.443
CHOSTILE	0.440	0.209	0.000	0.796
DHOSTILE	0.156	0.127	0.000	0.443
BCDANX	0.394	0.268	0.067	0.904
BCDDEP	0.301	0.143	0.101	0.564
BCDHOS	0.254	0.128	0.097	0.509
AFILLER	0.288	0.222	0.000	0.644
BFILLER	0.103	0.110	0.000	0.340
CFILLER	0.173	0.170	0.000	0.644
DFILLER	0.221	0.183	0.000	0.644
BCDFILL	0.166	0.124	0.056	0.542
AFFECTOL	40.692	16.444	18.000	76.000
FIRSTA	1.846	2.304	1.000	9.000
SECONDA	2.077	2.753	1.000	10.000
THIRDA	1.000	0.000	1.000	1.000
FOURTHA	1.000	0.000	1.000	1.000
FIRSTD	4.308	2.658	1.000	9.000
SECONDD	3.231	2.351	1.000	8.000
TOTTRYS	13.462	6.050	8.000	29.000
DESTRYS	7.538	4.075	4.000	16.000
ABILITYB	5.462	2.367	1.000	9.000
ABILITYC	5.923	2.216	1.000	9.000

Means of All Variables in Study II for Each Group

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE

---------- DIAGNOSI=BU TASKGRP=SUCC ----------

ABILITYD	6.077	2.326	1.000	9.000
TSKDIFFB	5.385	2.181	2.000	9.000
TSKDIFFC	5.769	1.964	2.000	9.000
TSKDIFFD	5.692	2.213	2.000	9.000
EFFORTB	5.923	1.977	2.000	9.000
EFFORTC	5.615	2.364	2.000	9.000
EFFORTD	6.308	2.359	2.000	9.000
LUCKB	4.462	2.222	1.000	8.000
LUCKC	4.462	1.713	1.000	6.000
LUCKD	5.000	2.273	1.000	8.000
GENERALB	6.769	1.964	1.000	9.000
GENERALC	6.615	1.938	2.000	9.000
GENERALD	6.846	2.075	2.000	9.000
CONTROLB	7.385	1.502	4.000	9.000
CONTROLC	7.385	1.609	4.000	9.000
CONTROLD	7.538	1.613	4.000	9.000
ABILTBCD	5.821	1.980	1.000	9.000
TSKDFBCD	5.615	1.995	2.000	9.000
LUCKBCD	4.641	1.761	1.000	6.333
EFFORBCD	5.949	2.108	2.000	9.000
CTRLBCD	7.436	1.518	4.000	9.000
GENBCD	6.744	1.857	1.667	9.000
DIFCULTB	7.231	1.878	3.000	9.000
DIFCULTC	7.538	1.808	4.000	9.000
DIFCULTD	7.538	1.391	5.000	9.000

HOWUDIDB	7.077	1.891	4.000	9.000
HOWUDIDC	7.769	1.092	6.000	9.000
HOWUDIDD	7.769	1.589	4.000	9.000
SATISFYB	7.154	2.075	3.000	9.000
SATISFYC	7.769	1.013	6.000	9.000
SATISFYD	8.000	1.225	5.000	9.000
SATISBCD	7.641	1.075	5.333	9.000
AVGSATIS	7.538	1.080	5.111	9.000
TRYHARD	4.769	2.803	1.000	9.000
IMSTUPID	4.231	2.204	1.000	9.000
WANNAEAT	1.769	1.536	1.000	5.000
COMPTENT	5.077	2.397	1.000	9.000
DOINWELL	6.462	1.664	3.000	9.000
FEELUGLY	3.462	2.332	1.000	8.000
LIKETHIS	5.385	2.987	1.000	9.000
FEELFAT	5.385	2.931	1.000	8.000
OTHERWAY	5.769	2.891	1.000	9.000
NOTLUKGD	4.000	3.028	1.000	9.000
MALDAPSS	18.846	8.513	5.000	33.000
SSMALDAP	0.442	0.213	0.111	0.823
BULIT1	3.308	0.855	2.000	5.000
BULIT2	4.846	0.376	4.000	5.000
BULIT3	3.231	0.927	2.000	5.000
BULIT4	3.692	1.251	2.000	5.000
BULIT5	3.000	1.958	1.000	5.000
BULIT6	3.231	1.013	1.000	4.000
BULIT7	1.538	0.660	1.000	3.000
BULIT8	2.154	0.801	1.000	3.000

Means of All Variables in Study II for Each Group

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- DIAGNOSI = BU TASKGRP = SUCC ----------				
BULIT9	4.231	0.832	3.000	5.000
BULIT10	4.154	0.689	3.000	5.000
BULIT11	4.077	1.188	1.000	5.000
BULIT12	3.462	0.967	2.000	5.000
BULIT13	2.846	0.987	1.000	5.000
BULIT14	4.923	0.277	4.000	5.000
BULIT15	2.923	1.847	1.000	5.000
BULIT16	4.231	1.013	2.000	5.000
BULIT17	4.000	0.913	2.000	5.000
BULIT18	3.615	0.961	2.000	5.000
BULIT19	3.615	1.557	1.000	5.000
BULIT20	4.385	0.870	3.000	5.000
BULIT21	4.077	0.954	2.000	5.000
BULIT22	4.231	0.599	3.000	5.000
BULIT23	4.385	0.961	2.000	5.000
BULIT24	4.154	0.689	3.000	5.000
BULIT25	3.308	1.109	1.000	5.000
BULIT26	4.154	1.068	2.000	5.000
BULIT27	3.231	1.739	1.000	5.000
BULIT28	3.769	1.013	2.000	5.000
BULIT29	4.846	0.376	4.000	5.000

BULIT30	2.692	1.750	1.000	5.000
BULIT31	3.538	0.967	2.000	5.000
BULIT32	2.923	0.760	2.000	4.000
BULIT33	1.385	1.121	1.000	5.000
BULIT34	1.385	0.870	1.000	4.000
BULIT35	3.923	0.862	2.000	5.000
BULIT36	1.769	0.725	1.000	3.000
I	5.000	0.000	5.000	5.000
BULIT	119.154	11.276	105.000	145.000
A	1.538	0.660	1.000	3.000
B	1.385	1.121	1.000	5.000
C	1.385	0.870	1.000	4.000
D	1.769	0.725	1.000	3.000
ADAPTSS	16.923	5.204	8.000	27.000
ADAPATTR	60.000	12.497	35.000	81.000
ATTRADAP	0.741	0.154	0.432	1.000
MALATTR	13.923	5.283	3.000	19.000
ATTRMAL	0.516	0.196	0.111	0.704
SSADAPT	0.723	0.322	0.301	1.571

Means of All Variables in Study II for Each Group

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- DIAGNOSI=NO TASKGRP=FAIL ----------				
AGE	19.308	0.855	18.000	20.000
HT	65.769	1.964	62.000	70.000

WRTRPTWT	134.308	20.006	100.000	175.000
TIME	16.615	3.254	9.000	21.000
XPECTA	3.769	2.127	1.000	9.000
XPECTB	6.000	1.414	4.000	8.000
XPECTC	7.231	1.092	5.000	9.000
XPECTD	6.462	2.367	3.000	9.000
TSKEFFA	3.846	2.154	1.000	9.000
TSKEFFB	6.077	1.605	4.000	9.000
TSKEFFC	7.154	1.345	4.000	9.000
TSKEFFD	6.308	2.136	2.000	9.000
SASONEA	6.462	2.066	1.000	9.000
SASTWOA	7.385	1.660	3.000	9.000
SASTHRA	5.077	2.290	2.000	9.000
SASFOUA	6.308	1.548	3.000	9.000
SASFIVA	6.308	1.251	4.000	8.000
SASSIXA	7.308	1.750	3.000	9.000
SASSEVA	6.846	1.214	4.000	9.000
SASEIGA	7.231	1.536	5.000	9.000
SASNINA	5.154	1.772	1.000	8.000
SASTENA	6.385	2.256	2.000	9.000
SASONEB	6.692	2.323	1.000	9.000
SASTWOB	6.923	2.100	3.000	9.000
SASTHRB	4.615	2.364	1.000	9.000
SASFOUB	6.077	1.754	2.000	8.000
SASFIVB	5.923	2.216	1.000	9.000
SASSIXB	6.462	2.602	1.000	9.000
SASSEVB	6.385	2.103	1.000	9.000
SASEIGB	6.846	1.725	4.000	9.000

SASNINB	4.692	2.213	1.000	8.000
SASTENB	6.462	2.504	1.000	9.000
TOTALXEF	5.856	1.304	4.125	8.375
XPECTBCD	6.564	1.220	5.000	8.000
TSKEFBCD	6.513	1.111	4.667	8.333
FIRSTSAS	64.462	11.865	39.000	80.000
SECNDSAS	61.077	16.580	21.000	81.000
AVGSAS	62.769	13.712	36.500	80.500
TOTALSAS	125.538	27.424	73.000	161.000
PREIMPA	5.385	2.181	1.000	9.000
PREIMPB	4.615	2.142	1.000	7.000
PREIMPC	4.769	2.279	1.000	8.000
PREIMPD	4.923	2.957	1.000	9.000
COLLEGE	8.154	0.801	7.000	9.000
FAMFRIEN	7.077	0.862	6.000	9.000
OPPOSEX	7.154	1.068	6.000	9.000
OVERTASK	5.462	1.941	2.000	9.000
GOODSTUD	2.692	1.182	1.000	5.000
CURRQCA	2.688	0.632	1.600	3.940
SATISQCA	1.308	0.480	1.000	2.000
IDEALQCA	3.362	0.257	3.000	3.900
EFFIIDLQ	6.615	2.329	1.000	9.000
POSTIMPB	5.077	2.362	1.000	9.000

Means of All Variables in Study II for Each Group

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE

---------- DIAGNOSI = NO TASKGRP = FAIL ----------

POSTIMPC	4.692	2.394	1.000	8.000
POSTIMPD	4.923	2.597	1.000	8.000
TASKIMPO	4.981	2.194	1.500	8.250
OTHRIMPO	7.462	0.674	6.333	8.333
HOTSHOT	11.281	3.164	6.500	16.840
ANXIETYA	1.308	1.494	0.000	4.000
ANXIETYB	3.000	1.000	2.000	5.000
ANXIETYC	3.769	1.536	1.000	6.000
ANXIETYD	1.231	1.013	0.000	3.000
DEPRESSA	2.154	1.676	0.000	5.000
DEPRESSB	5.077	2.216	2.000	8.000
DEPRESSC	4.923	1.320	3.000	8.000
DEPRESSD	4.615	1.261	2.000	7.000
HOSTILEA	0.462	0.877	0.000	2.000
HOSTILEB	1.923	0.862	1.000	3.000
HOSTILEC	4.538	1.050	2.000	6.000
HOSTILED	2.538	1.266	1.000	5.000
FILLERA	1.385	0.870	0.000	3.000
FILLERB	1.538	0.776	1.000	3.000
FILLERC	0.923	0.954	0.000	3.000
FILLERD	1.538	0.660	0.000	2.000
BECK	5.769	5.036	0.000	18.000
AANXIETY	0.282	0.331	0.000	0.927
BANXIETY	0.691	0.334	0.412	1.571
CANXIETY	0.763	0.432	0.167	1.571
DANXIETY	0.254	0.213	0.000	0.644

ADEPRESS	0.221	0.176	0.000	0.524
BDEPRESS	0.552	0.263	0.201	0.927
CDEPRESS	0.522	0.161	0.305	0.927
DDEPRESS	0.485	0.144	0.201	0.775
AHOSTILE	0.067	0.127	0.000	0.290
BHOSTILE	0.281	0.129	0.143	0.443
CHOSTILE	0.719	0.189	0.290	1.030
DHOSTILE	0.379	0.202	0.143	0.796
BCDANX	0.570	0.255	0.193	0.989
BCDDEP	0.520	0.156	0.271	0.826
BCDHOS	0.460	0.117	0.241	0.627
AFILLER	0.286	0.188	0.000	0.644
BFILLER	0.262	0.137	0.167	0.524
CFILLER	0.190	0.201	0.000	0.644
DFILLER	0.315	0.137	0.000	0.412
BCDFILL	0.256	0.104	0.056	0.449
AFFECTOL	41.308	13.419	25.000	66.000
FIRSTA	5.077	4.425	0.000	14.000
SECONDA	11.385	8.530	0.000	28.000
THIRDA	10.692	8.664	0.000	32.000
FOURTHA	7.769	6.685	0.000	25.000
FIRSTD	9.462	3.573	5.000	16.000
SECONDD	9.615	3.776	5.000	18.000
TOTTRYS	54.000	32.088	13.000	127.000
DESTRYS	19.077	6.958	10.000	31.000
ABILITYB	2.846	2.230	1.000	7.000
ABILITYC	3.615	2.103	1.000	8.000

Means of All Variables in Study II for Each Group

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- DIAGNOSI = NO TASKGRP = FAIL ----------				
ABILITYD	3.385	2.219	1.000	8.000
TSKDIFFB	4.538	2.332	1.000	8.000
TSKDIFFC	5.615	1.850	1.000	8.000
TSKDIFFD	5.923	2.178	1.000	9.000
EFFORTB	5.000	1.732	3.000	8.000
EFFORTC	4.462	1.330	2.000	6.000
EFFORTD	4.385	1.710	2.000	7.000
LUCKB	2.692	2.213	1.000	6.000
LUCKC	2.231	2.048	1.000	7.000
LUCKD	2.385	1.938	1.000	7.000
GENERALB	4.769	2.455	1.000	8.000
GENERALC	6.154	1.908	2.000	8.000
GENERALD	5.077	2.216	2.000	8.000
CONTROLB	3.154	1.725	1.000	7.000
CONTROLC	3.769	2.421	1.000	7.000
CONTROLD	2.923	1.891	1.000	6.000
ABILTBCD	3.282	2.009	1.000	7.667
TSKDFBCD	5.359	1.863	1.000	8.000
LUCKBCD	2.436	1.941	1.000	6.667
EFFORBCD	4.615	1.137	2.667	6.333
CTRLBCD	3.282	1.880	1.000	6.667
GENBCD	5.333	1.769	2.333	8.000

DIFCULTB	2.538	1.450	1.000	6.000
DIFCULTC	2.538	1.506	1.000	6.000
DIFCULTD	2.231	1.481	1.000	6.000
HOWUDIDB	1.462	0.660	1.000	3.000
HOWUDIDC	1.385	0.870	1.000	4.000
HOWUDIDD	1.385	0.650	1.000	3.000
SATISFYB	1.769	1.691	1.000	7.000
SATISFYC	1.846	1.676	1.000	7.000
SATISFYD	1.769	1.691	1.000	7.000
SATISBCD	1.795	1.681	1.000	7.000
AVGSATIS	1.880	1.112	1.000	4.778
TRYHARD	6.308	1.974	2.000	9.000
IMSTUPID	6.615	1.758	4.000	9.000
WANNAEAT	1.308	1.109	1.000	5.000
COMPTENT	3.769	2.455	1.000	9.000
DOINWELL	2.154	1.144	1.000	4.000
FEELUGLY	1.462	1.127	1.000	5.000
LIKETHIS	2.385	2.256	1.000	9.000
FEELFAT	1.769	1.536	1.000	5.000
OTHERWAY	7.154	1.994	2.000	9.000
NOTLUKGD	1.615	0.870	1.000	3.000
MALDAPSS	12.769	4.146	8.000	23.000
SSMALDAP	0.289	0.098	0.179	0.536
BULIT1	1.077	0.277	1.000	2.000
BULIT2	2.538	1.127	1.000	4.000
BULIT3	1.231	0.439	1.000	2.000
BULIT4	1.077	0.277	1.000	2.000
BULIT5	1.769	1.092	1.000	4.000

BULIT6	1.538	0.776	1.000	3.000
BULIT7	1.308	1.109	1.000	5.000
BULIT8	1.077	0.277	1.000	2.000

Means of All Variables in Study II for Each Group

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- DIAGNOSI=NO TASKGRP=FAIL ----------				
BULIT9	1.308	0.630	1.000	3.000
BULIT10	1.231	0.599	1.000	3.000
BULIT11	1.846	0.801	1.000	3.000
BULIT12	1.462	0.519	1.000	2.000
BULIT13	1.077	0.277	1.000	2.000
BULIT14	3.154	1.463	1.000	5.000
BULIT15	1.077	0.277	1.000	2.000
BULIT16	1.462	1.127	1.000	4.000
BULIT17	1.923	1.038	1.000	4.000
BULIT18	2.077	1.320	1.000	5.000
BULIT19	1.846	1.214	1.000	5.000
BULIT20	2.308	1.377	1.000	5.000
BULIT21	1.231	0.832	1.000	4.000
BULIT22	2.308	0.855	1.000	4.000
BULIT23	3.077	1.320	1.000	5.000
BULIT24	1.154	0.376	1.000	2.000
BULIT25	2.538	0.877	1.000	4.000
BULIT26	2.231	0.725	1.000	3.000

BULIT27	1.385	0.768	1.000	3.000
BULIT28	1.462	0.660	1.000	3.000
BULIT29	2.769	1.092	2.000	5.000
BULIT30	1.308	0.855	1.000	4.000
BULIT31	2.538	0.877	1.000	4.000
BULIT32	2.308	1.032	1.000	5.000
BULIT33	1.308	0.855	1.000	4.000
BULIT34	1.154	0.376	1.000	2.000
BULIT35	2.692	1.032	1.000	5.000
BULIT36	1.250	0.622	1.000	3.000
I	5.000	0.000	5.000	5.000
BULIT	58.077	11.228	42.000	81.000
A	1.308	1.109	1.000	5.000
B	1.308	0.855	1.000	4.000
C	1.154	0.376	1.000	2.000
D	1.250	0.622	1.000	3.000
ADAPTSS	15.846	4.200	8.000	24.000
ADAPATTR	16.077	5.590	3.000	24.000
ATTRADAP	0.661	0.262	0.111	1.095
MALATTR	35.692	11.898	23.000	57.000
ATTRMAL	0.463	0.170	0.288	0.781
SSADAPT	0.642	0.203	0.301	1.095

Means of All Variables in Study II for Each Group

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE

---------- DIAGNOSI=NO TASKGRP=SUCC ----------

AGE	18.692	0.855	18.000	20.000
HT	64.385	2.181	62.000	70.000
WRTRPTWT	131.154	17.597	118.000	178.000
TIME	16.923	3.367	9.000	21.000
XPECTA	3.462	1.450	2.000	7.000
XPECTB	4.077	2.326	1.000	8.000
XPECTC	4.000	2.309	1.000	7.000
XPECTD	1.923	0.760	1.000	3.000
TSKEFFA	3.077	1.115	2.000	5.000
TSKEFFB	3.615	1.660	1.000	6.000
TSKEFFC	3.769	2.421	1.000	7.000
TSKEFFD	1.846	0.801	1.000	3.000
SASONEA	6.846	2.478	1.000	9.000
SASTWOA	7.231	1.536	5.000	9.000
SASTHRA	6.385	1.121	5.000	8.000
SASFOUA	6.538	1.450	4.000	9.000
SASFIVA	6.615	1.850	2.000	9.000
SASSIXA	7.769	1.423	5.000	9.000
SASSEVA	6.923	1.320	5.000	9.000
SASEIGA	7.231	1.013	5.000	8.000
SASNINA	6.462	1.613	3.000	9.000
SASTENA	7.846	0.987	6.000	9.000
SASONEB	7.000	2.550	1.000	9.000
SASTWOB	7.462	1.613	5.000	9.000
SASTHRB	6.231	1.589	3.000	9.000
SASFOUB	7.538	1.330	4.000	9.000
SASFIVB	6.846	1.819	4.000	9.000

SASSIXB	7.692	1.974	3.000	9.000
SASSEVB	7.385	1.193	6.000	9.000
SASEIGB	7.308	1.109	5.000	9.000
SASNINB	6.846	1.625	3.000	9.000
SASTENB	7.846	1.144	5.000	9.000
TOTALXEF	3.221	1.369	1.250	5.250
XPECTBCD	3.333	1.604	1.000	6.000
TSKEFBCD	3.077	1.498	1.000	5.333
FIRSTSAS	69.846	9.433	50.000	86.000
SECNDSAS	72.154	10.189	56.000	86.000
AVGSAS	71.000	9.469	53.000	86.000
TOTALSAS	142.000	18.938	106.000	172.000
PREIMPA	6.846	0.899	5.000	8.000
PREIMPB	7.231	1.301	4.000	9.000
PREIMPC	7.154	1.625	3.000	9.000
PREIMPD	6.462	2.436	2.000	9.000
COLLEGE	8.077	0.862	7.000	9.000
FAMFRIEN	7.769	0.927	6.000	9.000
OPPOSEX	7.231	1.092	5.000	9.000
OVERTASK	7.154	1.405	5.000	9.000
GOODSTUD	3.462	1.391	2.000	6.000
CURRQCA	2.581	0.556	1.740	3.540
SATISQCA	1.462	0.519	1.000	2.000
IDEALQCA	3.152	0.300	2.700	3.700
EFFIIDLQ	6.538	2.106	2.000	9.000
POSTIMPB	7.385	1.121	5.000	9.000

Means of All Variables in Study II for Each Group

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- DIAGNOSI=NO TASKGRP=SUCC ----------				
POSTIMPC	7.769	0.832	6.000	9.000
POSTIMPD	7.769	0.832	6.000	9.000
TASKIMPO	7.221	0.955	5.500	8.875
OTHRIMPO	7.692	0.751	6.333	9.000
HOTSHOT	10.272	2.969	5.480	14.700
ANXIETYA	0.615	0.961	0.000	3.000
ANXIETYB	0.769	1.166	0.000	3.000
ANXIETYC	0.923	0.760	0.000	2.000
ANXIETYD	0.846	1.144	0.000	4.000
DEPRESSA	1.846	2.035	0.000	7.000
DEPRESSB	2.000	1.414	0.000	4.000
DEPRESSC	1.846	1.625	0.000	5.000
DEPRESSD	2.385	1.660	0.000	5.000
HOSTILEA	0.385	0.506	0.000	1.000
HOSTILEB	0.385	0.650	0.000	2.000
HOSTILEC	2.538	0.877	1.000	4.000
HOSTILED	0.385	0.650	0.000	2.000
FILLERA	1.615	1.193	0.000	4.000
FILLERB	0.692	0.855	0.000	2.000
FILLERC	1.308	1.182	0.000	3.000
FILLERD	1.308	0.751	0.000	3.000
BECK	4.231	4.456	0.000	12.000
AANXIETY	0.128	0.203	0.000	0.644

BANXIETY	0.162	0.248	0.000	0.644
CANXIETY	0.156	0.129	0.000	0.340
DANXIETY	0.180	0.260	0.000	0.927
ADEPRESS	0.192	0.221	0.000	0.775
BDEPRESS	0.203	0.145	0.000	0.412
CDEPRESS	0.189	0.168	0.000	0.524
DDEPRESS	0.244	0.172	0.000	0.524
AHOSTILE	0.055	0.073	0.000	0.143
BHOSTILE	0.055	0.094	0.000	0.290
CHOSTILE	0.374	0.134	0.143	0.608
DHOSTILE	0.055	0.094	0.000	0.290
BCDANX	0.166	0.140	0.000	0.432
BCDDEP	0.212	0.143	0.000	0.413
BCDHOS	0.162	0.086	0.048	0.341
AFILLER	0.342	0.267	0.000	0.927
BFILLER	0.117	0.145	0.000	0.340
CFILLER	0.274	0.253	0.000	0.644
DFILLER	0.268	0.161	0.000	0.644
BCDFILL	0.220	0.162	0.067	0.542
AFFECTOL	19.154	9.856	7.000	45.000
FIRSTA	1.000	0.408	0.000	2.000
SECONDA	0.923	0.277	0.000	1.000
THIRDA	0.923	0.277	0.000	1.000
FOURTHA	0.923	0.277	0.000	1.000
FIRSTD	3.154	3.023	1.000	10.000
SECONDD	4.615	4.114	1.000	12.000
TOTTRYS	11.538	5.753	3.000	21.000
DESTRYS	7.769	5.434	2.000	17.000

ABILITYB	7.308	1.797	3.000	9.000
ABILITYC	6.615	2.256	2.000	9.000

Means of All Variables in Study II for Each Group

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- DIAGNOSI=NO TASKGRP=SUCC ----------				
ABILITYD	7.154	2.410	2.000	9.000
TSKDIFFB	7.000	2.198	1.000	9.000
TSKDIFFC	6.154	2.410	1.000	9.000
TSKDIFFD	7.462	1.330	4.000	9.000
EFFORTB	6.231	2.386	1.000	9.000
EFFORTC	6.692	2.562	1.000	9.000
EFFORTD	7.000	2.708	1.000	9.000
LUCKB	3.769	2.587	1.000	8.000
LUCKC	4.077	2.290	1.000	8.000
LUCKD	4.000	2.449	1.000	7.000
GENERALB	7.615	0.768	7.000	9.000
GENERALC	7.769	0.927	6.000	9.000
GENERALD	7.769	0.927	6.000	9.000
CONTROLB	8.077	0.954	6.000	9.000
CONTROLC	8.154	0.555	7.000	9.000
CONTROLD	8.154	0.801	7.000	9.000
ABILTBCD	7.026	2.034	2.333	9.000
TSKDFBCD	6.872	1.636	3.333	8.667
LUCKBCD	3.949	2.352	1.000	7.333

EFFORBCD	6.641	2.390	1.000	9.000
CTRLBCD	8.128	0.602	7.333	9.000
GENBCD	7.718	0.768	6.667	9.000
DIFCULTB	6.846	1.725	3.000	9.000
DIFCULTC	8.308	0.855	7.000	9.000
DIFCULTD	6.615	2.219	3.000	9.000
HOWUDIDB	7.462	1.713	3.000	9.000
HOWUDIDC	8.462	0.660	7.000	9.000
HOWUDIDD	7.154	2.075	3.000	9.000
SATISFYB	7.769	1.641	5.000	9.000
SATISFYC	8.538	0.660	7.000	9.000
SATISFYD	7.462	2.145	2.000	9.000
SATISBCD	7.923	1.148	5.333	9.000
AVGSATIS	7.624	1.134	5.222	9.000
TRYHARD	4.154	2.444	1.000	8.000
IMSTUPID	2.692	1.797	1.000	7.000
WANNAEAT	1.077	0.277	1.000	2.000
COMPTENT	6.385	2.063	1.000	9.000
DOINWELL	7.231	1.301	5.000	9.000
FEELUGLY	1.385	0.768	1.000	3.000
LIKETHIS	5.923	1.605	2.000	8.000
FEELFAT	1.538	1.127	1.000	5.000
OTHERWAY	7.462	1.561	5.000	9.000
NOTLUKGD	1.385	0.768	1.000	3.000
MALDAPSS	8.077	3.252	5.000	16.000
SSMALDAP	0.181	0.074	0.111	0.364
BULIT1	1.231	0.439	1.000	2.000
BULIT2	2.692	0.751	1.000	4.000

BULIT3	1.154	0.376	1.000	2.000
BULIT4	1.077	0.277	1.000	2.000
BULIT5	1.462	1.127	1.000	4.000
BULIT6	1.308	0.480	1.000	2.000
BULIT7	1.077	0.277	1.000	2.000
BULIT8	1.077	0.277	1.000	2.000

Means of All Variables in Study II for Each Group

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
---------- DIAGNOSI = NO TASKGRP = SUCC ----------				
BULIT9	1.769	1.301	1.000	5.000
BULIT10	1.538	0.967	1.000	4.000
BULIT11	1.385	0.506	1.000	2.000
BULIT12	1.308	0.480	1.000	2.000
BULIT13	1.154	0.555	1.000	3.000
BULIT14	2.538	1.330	1.000	5.000
BULIT15	1.231	0.599	1.000	3.000
BULIT16	2.154	1.625	1.000	5.000
BULIT17	2.000	1.155	1.000	5.000
BULIT18	1.692	0.751	1.000	3.000
BULIT19	2.615	1.325	1.000	5.000
BULIT20	2.077	0.954	1.000	4.000
BULIT21	1.846	1.463	1.000	5.000
BULIT22	1.923	0.277	1.000	2.000
BULIT23	2.692	1.251	1.000	5.000

BULIT24	1.231	0.439	1.000	2.000
BULIT25	2.462	0.776	1.000	4.000
BULIT26	2.154	0.899	1.000	4.000
BULIT27	1.462	0.660	1.000	3.000
BULIT28	1.538	0.877	1.000	3.000
BULIT29	2.385	1.193	1.000	5.000
BULIT30	1.538	1.330	1.000	5.000
BULIT31	2.538	1.050	1.000	5.000
BULIT32	2.000	1.000	1.000	5.000
BULIT33	1.615	1.502	1.000	5.000
BULIT34	1.077	0.277	1.000	2.000
BULIT35	2.231	0.832	1.000	4.000
BULIT36	1.750	1.357	1.000	5.000
I	5.000	0.000	5.000	5.000
BULIT	57.462	13.339	40.000	80.000
A	1.077	0.277	1.000	2.000
B	1.615	1.502	1.000	5.000
C	1.077	0.277	1.000	2.000
D	1.750	1.357	1.000	5.000
ADAPTSS	19.538	3.620	14.000	25.000
ADAPATTR	68.615	6.239	58.000	81.000
ATTRADAP	0.847	0.077	0.716	1.000
MALATTR	11.846	7.057	3.000	22.000
ATTRMAL	0.439	0.261	0.111	0.815
SSADAPT	0.829	0.201	0.545	1.183

Appendix HH: Responses Made by Bulimic Women in Failure Condition to the Question, "How did you feel while you were working on the tasks?"

B01 Nervous. Hopeless.

B02 Discouraged; couldn't concentrate.

B03 (no answer; giggled)

B04 Frustrated.

B05 Does it mean that I don't concentrate well?

B06 I don't know.

B07 Frustrated; I wasn't getting them. Until the very last one - then I got suspicious. I thought maybe you were trying to put one over on me. So then I was more calm.

B08 Lousy!

B09 Angry.

B10 Pissed off. Stupid. Most stupid I've ever felt in my

whole life.

B11 I felt like I should do better.

B12 Horrible. Very anxious. Stressed; scared. Nervous.

B13 Depressed.

Appendix II: Responses Made by Control Women in Failure Condition to the Question, "How did you feel while you were working on the tasks?"

C01 I thought they were hard.

C02 Extremely exhausted. Had a tiring day. Not in the mood to take tests.

C03 (missing response)

C04 Sort of mad, because I wasn't getting them. But, I knew I was trying hard, so I wasn't worried about it.

C05 (missing response)

C06 Really stupid.

C07 A little frustrated.

C08 Like I wasn't doing very well, and I felt incompetent.

C09 Frustrated.

C10 Kind of bad.

C11 That I don't like these tasks.

C12 I felt a little bit anxious, but it didn't really matter.

C13 At first I felt inadequate. Then, after that, I just thought, it really wasn't a big deal.

VITA

The 10 page vita has been removed from the scanned document

The 10 page vita has been removed from the scanned document

The 10 page vita has been removed from the scanned document

The 10 page vita has been removed from the scanned document

The 10 page vita has been removed from the scanned document

The 10 page vita has been removed from the scanned document

The 10 page vita has been removed from the scanned document

The 10 page vita has been removed from the scanned document

The 10 page vita has been removed from the scanned document

The 10 page vita has been removed from the scanned document